ACADEMIC WRITING EXPERIENCES AND LITERACY DEVELOPMENT OF ENGINEERING STUDENTS AT A SOUTH AFRICAN UNIVERSITY OF TECHNOLOGY

by

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"We do not learn from experience...we learn from reflecting on experience."

-John Dewey-

DECLARATION

I, Nontsikelelo Lynette Buyisiwe Makhanya, student number 901362720, hereby declare that the dissertation for the degree of PhD in Higher Education is my own work and that all sources have been accredited in the text and have been duly referenced. The thesis has also not previously been submitted for assessment or completion of any postgraduate qualification to any university or college.

Signed: _____

Date: March 2023

DEDICATION

I give glory and honour to God the Almighty for providing me with the strength and wisdom that saw me through this process. I dedicate my work to my late parents, Mrs Nonceba Winnie uMaJikazana and Mr Innocent Boy Makhanya, and most importantly to my beloved little sister, Thokozani "Mana" Makhanya who succumbed to breast cancer and passed on the 30 September 2014. May Their Souls Rest in Eternal Peace. My baby sister supported me throughout this journey even when she was weak, frail and ailing. While I focused on the improvement of her health and wellbeing she was constantly concerned about my doctoral studies. She honestly believed in my strength, determination, and ability to obtain this degree.

I also humbly dedicate this hard-earned work to my two beloved daughters, Nana and Andiswa. Thank you for your love, support, understanding, and encouragement in my pursuit of knowledge. Whilst I could not spend quality time with you, particularly on important family days, you motivated me, and I humbly thank every member of my family for your understanding and patience.

You are all my shining stars.

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ABSTRACT

This study drew on the Cultural Capital Theory and the Academic Literacy Model to explore the academic writing and literacy development experiences of Engineering students at a selected university of technology in South Africa. The study sought to explore the literacy experiences of Engineering student participants over time to determine the efficacy of the knowledge and skills they acquired in relation to academic writing and literacy development. Three critical questions were posed:

- What are Engineering students' experiences of academic writing and literacy development at the selected university of technology under study in KwaZulu-Natal Province?

- How do Engineering students experience academic writing and academic literacy support offered by the Academic Literacy and Language Support unit at the university of technology under study?

- Why do Engineering students experience academic writing and literacy development the way they do at the selected university of technology under study?

Qualitative research methodologies were employed. This study was also underpinned by the interpretive paradigm which is characterised by the concern for the individual and the desire to understand the subjective world of human experience. Data were produced using in-depth semi-structured interviews and reflective journal entries and were analysed using thematic analysis. The findings revealed that, although the participating students were underprepared to engage with academic writing at university level, there was improvement in their academic writing skills over time. The study contributes to knowledge of our understanding of how to improve the academic writing capabilities and literacy development of students, including those who come from rural and low socio-economic backgrounds and whose academic development is often retarded by limited cultural capital. The study further highlights the role of IsiZulu (the predominant language in Kwa-Zulu-Natal province) in the academic writing and literacy development of rural students whose first language is IsiZulu. The study also highlights the value of the selected theoretical framing and the methodological approaches that were employed as these contributed significantly to the outcomes as described in this thesis. The unique contribution of this study to the pool of knowledge and scholarly endeavour is the

integrated approach that it proposes for embedding literacies within discipline-specific content at the institution of higher learning under study.

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ABBREVIATIONS AND ACRONYMS

AL	Academic Literacy
ALLU	Academic Literacy and Language Unit
AS	Academic Support
ALM	Academic Literacy Model
CHE	Council for Higher Education
DHET	Department of Higher Education and Training
DoE	Department of Education
ECC	Embodied Cultural Capital
ECS	English Communication Skills
HE	Higher Education
HESA	Higher Education South Africa
KZN	KwaZulu-Natal
ICC	Institutionalised Cultural Capital
LMS	Learning Management System
LoLT	Language of Learning and Teaching
MUT	Mangosuthu University of Technology
NLS	New Literacy Studies
OCC	Objectified Cultural Capital
TLDC	Teaching and Learning Development Centre
TPDU	Teaching and Professional Development Unit
SoTL	Scholarship of Teaching and Learning
UoT	University of Technology
WAC	Writing Across the Curriculum
WC	Writing Centres
WID	Writing in the Disciplines
WIL	Work-Integrated Learning
WrCr	Writing Centre

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CHAPTER 1

ACADEMIC WRITING AND LITERACY DEVELOPMENT IN HIGHER EDUCATION

1.1 Introduction

This study explored Engineering students' experiences of academic writing and literacy development at a selected university of technology in South Africa. According to Madjid, Emzir and Akhadiah (2017), academic writing is one of the conditions that university students must meet, but they must understand that it is not merely a process of connecting words in sentences and connecting sentences with sentences. They argue that academic writing aims at conveying information and ideas clearly, seeks to find ideas and give them meaning, and to then put them in writing. This notion is supported by the Academic Literacies Model (ALM) as proposed by Lea and Street (2006). This Model is one of the lenses that is used in this thesis as it espouses the importance of using textual conventions to help develop and enhance the critical thinking abilities of students who need to read and write as both social and academic practices. Writing activities are an integral part of the entire learning process that students experience during their university studies. In addition, students are required to produce academic papers in the form of a thesis or dissertation to obtain a degree (Madjid, Emzir & Akhadiah, 2017). A Council on Higher Education (CHE) (2013) report posits that a core challenge encountered by students in higher education settings is the development of academic literacy – "those aspects of literacy required by contexts of learning and teaching that are highly dependent on reading and writing as vehicles for meaning construction, and whose context is customarily that of formal education" (CHE, 2013, p. 57).

Reading and writing play a critical role in social and academic literacy practices and, as such, student learning in higher education institutions requires highly developed cognitive skills (Beekman, 2016; Dube, Potgieter & Underhill, 2016). As students transition from high school to university, they need to be acculturated into a new academic environment which is initially quite unfamiliar. Researchers have argued that students' inability to adapt to this environment often results in a high drop-out rate, particularly during the first year of study (Scott, Yeld & Hendry, 2007; Scott, 2008; Bharuthram, 2012; Maringe & Sing, 2014a).

As the academic writing process is developmental and not a once-off product, it is important to understand the context in which it occurs. The higher education sector is characterised by many features such as overcrowding, globalisation, internationalisation, and various policies related to higher education (Calvo, Celini, Morales, Martínez & Utrilla, 2020). Furthermore, the higher education space is shaped by a complex and diverse student population (Porter, 2018). Therefore, given the challenging nature of the higher education space at many levels, universities need to attend to various aspects that impact academic success such as the issue of inclusivity and students' writing and literacy capabilities. This means that proficiency in academic writing and literacy is pivotal in capacitating university students' epistemological participation in their studies.

To understand the academic writing experiences and literacy development of engineering students in a South African university of technology, it was necessary to delve into the development of the South African higher education system. In South Africa, higher education is largely a product of history and politics that played against each other over time (CHE, 2015). Moreover, the language debate in South Africa has been rigorously contested, particularly as the as apartheid government policies between 1948 and 1990 seemed unconcerned with the development of local (or indigenous) languages for academic purposes. For example, Alexander (2003) notes that the apartheid government's pronouncement of the Afrikaans language as the language of instruction in all black schools prompted the 1976 Soweto riots against the government. Alexander (2003) laments the destructive effects of the unjust imposition of a relatively unknown language on black school children, as Afrikaans (next to English) were declared the languages of instruction in the racially segregated classrooms of that time. Currently, the South African Constitution promotes eleven official languages that are all accorded equal status. However, except for Afrikaans and English, the successful introduction of the other nine official indigenous languages as languages of tuition with formal academic, business, and research status has been a contentious issue whose resolution has remained elusive to date (Language Policy Framework, 2020).

Mgqwashu (2014) argues for the development of academic literacy of African languages to support higher education studies amongst speakers of African languages. Arguing that literacy is a social practice, Street (2003, 2005), Gee (1996), and Mgqwashu (2014) maintain that the development of academic literacy in indigenous languages is part of the social justice project to ensure the rediscovery and validity of indigenous people's culture and lifestyles. However,

Mgqwashu (2014) argues that simply translating academic texts from English to isiZulu seems to compromise the latter students' epistemological access, which is an argument the suggests that the introduction of African languages as an educational imperative in terms of languages of instruction is not as simple as it may seem,

Lea and Street (1998) argue that proficiency in academic writing provides students with the epistemological access they require in education require and is a means of attaining social justice, as the use of a particular language of instruction in a university setting can either limit learning or provide opportunities for access to learning. In essence, the academic experiences of students in a university setting are about enhancing their knowledge, skills, practices, know-how, understanding, and proficiency related to their engagement with a subject direction of choice during their years of study in this academic environment. Therefore, it seems a travesty if their progress is retarded because of language barriers about which they have no choice.

1.2 Students' Transitioning from School to University

As students transition from high school to university, they need to be acculturated into a new academic environment that differs vastly form that of the school where they matriculated. Moreover, this new culture is unfamiliar to most. It has therefore been argued that the inexperience of new students upon entry into university has resulted in a high drop-out rate (Scott, 2008; Bharuthram, 2012; Maringe & Sing, 2014a; van Dyk et al., 2013; van Heerden, 2000; van Schalkwyk, 2008). In fact, almost all students encounter some level of difficulty in adjusting to the specific demands of academic literacy that is required at university level because they are compelled to engage in new and often unfamiliar literacy practices. These unfamiliar literacy practices are expressed through various discourses – ways of behaving, interacting, valuing, thinking, believing, speaking, and often reading and writing – that are associated with the particular roles of specific groups of people in higher education (Gee, 1996).

This study acknowledges that students and academics exist in the higher education system with diverse cultural capital that is derived from a number of different home languages and socio-economic backgrounds that explicitly affect their experiences of academic writing and literacy development. It is undeniable that the higher education context demands and shapes discourses and the development of academic writing and literacy skills that (Kachru, 1992) that are far

more sophisticated than what was experienced in the secondary school environment. It is therefore no wonder that it has been robustly argued that students from disadvantaged settings face diverse and often highly problematic challenges in their efforts to cope with the demand to acquire the necessary level of academic writing (Gee, 1996; Mgqwashu, 2014).

Figure 1: Exposing transitioning students to the tertiary environment during orientation

1.3 Literacy and Multilingualism

Khanyile (2015) argues that multilingualism is an effective instrument in the drive towards achieving desirable literacy levels in educational contexts. In the South African setting, however, students are often positioned as deficient English monolinguals rather than resourceful bilingual learners. Khanyile posits that this needs to be addressed as a learning and social justice imperative. In fact, multilingualism among South African students should be seen as valuable capital that will benefit the country and its citizenry at multiple levels. Albertyn and Guzula (2020) admit that multilingual classrooms boost learning but, in the same breath, they argue that poor language proficiency is often neglected and that this becomes a major cause of the high drop-out rate in schools and tertiary institutions. They argue that both language and pedagogy are major factors that drive education, but they argue that these need to be addressed to enhance the multilingual education of children. In their study, Antia and

Dyers (2016, p. 1) interrogated how "ideology and literacy practices" shaped students' perceptions of learning in an African language at a South African university. Based on their findings, they argue:

> …beyond the euphoria of using languages other than English in South African higher education, several issues related to entrenched language practices, beliefs, and language management orientations require attention if the goals of transformation in the HE sector are to be attained (Antia & Dyers, 2016, p. 1).

These authors are of the view that encouraging the diversification of languages in higher education as supported by the higher education policies of South Africa may increase the levels of participation by disadvantaged students in the system and may hence result in improvement in the output of graduates through the system.

While South Africa's current language policy promotes multilingual education, English remains the language of teaching and learning from Grade 4 right through to tertiary level. This means that English is more pronounced and highly valued as the sole medium of instruction at all phases in education except the Junior Primary phase, while many argue that this policy is enforced to the detriment African learners' home languages regardless of the fact that they are offered at school level as a Home Language in conjunction with English as the medium of instruction (or the language of teaching and learning) (CHE, 2013). In this context, the importance of acknowledging the role of indigenous languages in the education sphere cannot be overemphasized.

1.4 Statement of the Problem

Students are considered at risk of failure in any academic setting when they are unable to cope with and adapt to the new environment, especially when they transit from high school to university. Students who are unable to adapt usually have a high probability of dropping out of university or not completing their studies within the stipulated time due to a number of factors. Academic unpreparedness for university as a result of underdeveloped academic writing skills exacerbates students' challenges (Pineteh, 2014), and therefore the development of writing skills in a variety of genres in the higher education context cannot be overemphasised (Carstens, 2015). At this level, it is assumed that students can already manage their writing, or that they can easily be guided to read and write critically following academic conventions. In

academia, students are expected to possess a bank of general ideas about writing, have specific textual knowledge, and possess skills and strategies to engage in sound reading and writing practices that involve close attention to the basic academic standards of consistency and accuracy, particularly in their writing practices (Craswell & Poore, 2012). Writing for academic success therefore entails, amongst other things, the ability to identify strategies to ensure clarity in, conciseness, and the appropriate use of voice and tone. Spelling, grammar, proofreading, good referencing skills, and acknowledging the dynamics of plagiarism are important aspects of good academic writing. It was against this backdrop that my research sought to bring clarity to this topic under investigation and thereby to contribute to the understanding of what being academically 'literate' means at university level (McKenna & Clarence, 2017).

While it is clear that writing and literacy development is important for students' success, there is a serious lack of understanding how students from poor and low socio-economic backgrounds can be guided to develop skilful academic writing. It was therefore deemed necessary to explore the academic writing experiences of engineering students from low socio-economic backgrounds in a higher education setting. It was envisaged that such a study would assist in gaining in-depth understanding of the impact of academic literacy support for students through writing development interventions and by establishing whether the selected students achieved the desired outcome, which is the ability to produce comprehensible academic texts with limited grammatical errors in order to flourish in the Engineering field.

1.5 Aim, Objectives, and Research Questions

The overarching aim of this study was to explore the effectiveness of Engineering students' academic writing and literacy development at a selected university of technology in South Africa. To achieve this aim, I framed the following objectives:

1. To explore Engineering students' experiences of academic writing and literacy development at a selected university of technology in KwaZulu-Natal Province, South Africa.
2. To examine how Engineering students experience academic writing and literacy development with the support of an Academic Literacy and Language Support unit at the university under study.

3. To understand why Engineering students experience writing and literacy development the way they do at the selected university of technology under study.

The key research questions that were guided by the objectives were the following:

1. What are Engineering students' experiences of academic writing and literacy development at the selected university of technology in KwaZulu-Natal Province?
2. How do Engineering students experience academic writing and academic literacy support offered by the Academic Literacy and Language Support unit at the university of technology under study?
3. Why do Engineering students experience academic writing and literacy development the way they do at the selected university of technology under study?

1.6 Significance of the Study

The South African government has, for some now, taken various steps to address student success and curb high drop-out rates in higher education (NDP, 2011; DHET, 2013; HESA, 2014; CHE, 2015). For instance, the education budget is kept above 6% of the national budget to facilitate the implementation of various interventions aimed at turning access numbers into favourable throughput rates. The White Paper on Post-School Education and Training (Department of Higher Education and Training, 2013, p. 32) expresses an urgent need to ensure quality output in higher education. The Council on Higher Education (CHE), through the Quality Enhancement Project (QEP), also highlights the importance of institutional student academic support to enhance the development of "personally, professionally, and socially valuable graduate attributes among student cohorts" (CHE, 2015, p. 111).

This study is significant because it adds value to the higher education sphere in general, while it specifically makes a significant contribution to the Engineering discipline in the higher education sector as it enhances insight into and understanding of how students from low socio-economic backgrounds may develop academic writing and literacy skills in a university setting despite having low cultural capital. The findings of the study will bring awareness to numerous to writing experts, students, and academics across the board regarding academic writing and literacy development as a key requirement for academic success at tertiary level. The study was

conducted in a higher education setting twenty-seven years after the abolishment of apartheid and, more significantly, six years after the #Fees Must Fall and Rhodes Must Fall movements that shook the country. It is acknowledged that the language debate in South Africa has been both contentious and partisan. It first became prominent when it prompted the 1976 Soweto riots against the former National Party (NP) government's pronouncement of the Afrikaans language as the medium of instruction in all black schools, and this debate has permeated both political and social arguments about language instruction applications ever since.

The latter event set the tone for scholars and higher education institutions to reflect on and engage robustly in the decolonisation curriculum debate in the country. The 'fees must fall' movements (Rhodes Must Fall and #Fees Must Fall) six years ago more than adequately demonstrated that institutional structures need a makeover, be it partial or complete (Fomunyam, 2017). With the New Language Policy Framework for Higher Education (2020) aiming to promote the role of indigenous African languages in facilitating access and success and in aiding the intellectualisation of these languages in higher education settings (Madiba & Finlayson, 2002), this study's pertinence and positive contribution to the language debate are undeniable.

Moreover, the findings of the study will assist engineering lecturers to be cognisant of the challenges that students are experiencing in relation to academic writing and literacy development in this field, and it will thus encourage them to lean towards humanising pedagogies in their teaching. This should in turn enhance the learning experiences of Engineering students and improve their success rate.

Furthermore, the study will inform best practices in higher education institutions with specific reference to methods of teaching, learning, and assessment in the engineering field where language is forever pivotal. The study is also significant as the findings will assist lecturers in considering several factors when they plan and present lectures that will be delivered to a new generation of students who are informed by massification, shifting paradigms in higher education, teaching that embraces the needs of people in the 21st century, competitions, and contestations regarding teaching, and learning and assessments that utilise blended learning approaches. Academic writing and literacy development is therefore a critical scholarly topic as students need to be prepared for the world of work, entrepreneurial business, and research endeavours as the Fourth Industrial Revolution advances.

1.7 Limitations and Delimitations of the Study

The boundaries and restrictions that demarcated the scope of this research could not be overlooked. According to Leedy and Ormrod (2010), any study is impacted by peripheral problems that may not necessarily be linked in any way to the problem in question. This study adopted a case study style of research, therefore only one of many faculties was explored in the selected university of technology, which delimited the findings to one case. Data were obtained from senior students (third year enrolment) who were registered for Engineering diploma programmes in five departments. First and second year and postgraduate students were thus not involved in the study. Students enrolled in foundation programmes and from two other faculties, namely Management Sciences and Natural Sciences, also did not form part of the target group. Subjects for this study were drawn from students representing only the Engineering faculty in the university. The focus of the investigation was on the academic writing experiences and literacy development of the Faculty of Engineering students. The lecturers who were recruited did not reflect on their experiences in reflective journals, but the student participants did. Time constraints limited the engagement of other fields of study within the university.

Like any research study, this study also experienced various challenges. Logistical challenges occurred as the participants who were required to respond to interview questions often did not honour their appointments for one reason or another, thereby negatively affecting the research process and data generation. When these limitations were evident, they were addressed in a developmental manner and utmost care was taken to ensure that limitations were mitigated as much as possible. For example, two recruited participants did not arrive as planned for their interviews. Also, a lecturer and one student participant who had initially agreed to participate withdrew without any notification. It was argued that these 'would-be' participants felt that they were not obliged to partake, and room was given to such disappointments and frustrations. As this student participant had to be replaced, I referred to the replacement student with the pseudonym 'Saver'. To mitigate further risk of progress, provision was made to seek prior informed consent from potential participants and care was taken to explain and clarify voluntary participation to the rest of the participants.

1.8 Structure of the Thesis

Chapter 1: Introduction

In this chapter I contextualise the study and assert the claim that there was a need to explore the academic writing and literacy development of engineering students at the selected university with the aim of learning how students from low socio-economic backgrounds acquire academic writing skills and develop literacy.

Chapter 2: Literature review

In this chapter present the related literature I reviewed to determine which gaps this thesis needed to fill. I discuss the higher education status in South Africa that provides the context in which academic writing and literacy development is a necessity in South African tertiary institutions. I engage with literature that was produced at international, national, and regional levels. The literature affirmed that academic writing and literacy development is a valuable asset and vital to all students who pursue tertiary qualifications. It is clear that various challenges are experienced with academic writing at all levels and, more specifically, in the South African context in the post-apartheid era.

Chapter 3: Research methodology

Chapter 3 focuses on the research methodology that I employed. I explain the overarching philosophical orientation and theoretical framework that guided the research and discuss the research processes and methods. I explain the design of the data generation instruments, the measurement of the constructs, the research population, the sampling procedure that was employed, and the sample size and recruitment of participants. The chapter also presents the conceptual and theoretical underpinning and phenomenology with specific reference to Bourdieu's Cultural Capital Theory and its application to this study. Moreover, the importance of Lea and Street's (2006) Academic Literacies Model (ALM) is also elucidated as this was the secondary theory or model that underpinned the investigation.

Chapter 4: Data presentation

This chapter engages with and responds to some of the research questions that this study needed to address. It presents and analyses students' academic writing experiences and the development of their academic literacies after their enrolment at the institution under study.

The major themes that emerged from the analysed data are discussed in an attempt to classify the engineering students' experiences of academic writing and literacy development. The discourse also presents and analyses the challenges the engineering students experienced with respect to the topic under investigation.

Chapter 5: Discussion of results

In this chapter I discuss the finding by drawing on Bourdieu's Cultural Capital theory and the Academic Literacy Model (ALM). In respect of question 1 (*What are the engineering students' experiences of academic writing and literacy development of engineering students at a university of technology under study),* I discuss three main themes: (1) *Improvement in academic writing and literacy;* (2) *Coping strategies employed by students who engage with academic writing and literacy development; and* (3) *the position of the isiZulu language in academic writing and literacy development.* Based on question 2, I discuss how the engineering students experienced the role of the Academic Writing Support unit, and in terms of question 3, I explore why these engineering students experienced academic writing and literacy development the way they did at the selected university of technology under study.

Chapter 6: The study findings and recommendations for future investigations

In this chapter, I highlight the efficacy and value of the findings of the investigation. I argue that the findings enhance understanding of how students from rural and low socio-economic backgrounds may be helped to improve their academic writing and literacy skills at the university of technology under study. I highlight the role of isiZulu in academic writing and literacy development for rural students whose first language is isiZulu. Furthermore, I espouse the importance of the theoretical and methodological approaches the study employed. Moreover, I propose a model for an integrated approach to literacy development with specific focus on discipline-specific content.

1.9 Conclusion

In Chapter 1, I contextualised academic writing and literacy development in higher education. Having engaged with notions of academic writing and literacy development, I engaged with university students at entry level and the issues of literacy and multilingualism. I presented the statement of the problem, my aim, objectives, and the research questions, and discussed the

significance of the study as well as its limitations and delimitations. The general contention of the chapter is that I perceived the need to explore the academic writing and literacy development of Engineering students at the selected university, with the specific intention of learning how students from low socio-economic backgrounds could acquire academic writing skills and develop academic literacy.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

In this chapter, I review literature related to the topic under investigation and I engage with several issues related to academic writing and literacy development in higher education. Ultimately, the literature review served to identify gaps in the scholarly understanding of academic writing experiences and literacy development among students in the Engineering field.

While the focus of this investigation was on the academic writing experiences and literacy development of Engineering students at a South African university of technology, I also explored similar contexts globally and nationally. For instance, in the South African context I explored the post-1994 policy framework on Higher Education and Training and the aims and objectives of various policies regarding academic writing and literacy. In addition, contiguous concepts of academic access and success were explored and related to the focus of the study. The discourse focuses on different academic literacy models in engineering education and the 'soft skill' of writing in the Engineering discipline, while I also explore different perspectives on academic literacy support in higher education as well as its challenges, benefits, and possibilities. I commence this discourse by discussing pertinent aspects of the South African higher education context.

2.2 The South African Higher Education Context

Various lenses can be employed to view the South African higher education context and to understand academic writing and literacy development in this country. The pre-democratic higher education system in South Africa was fragmented as it had been created along racial and ethnic fault lines (Msila, 2007). Pre-1948, discriminatory higher education institutions were established for white male students only and were all English-medium facilities (CHE, 2015). After 1948, university access was extended to other subsections of society through the establishment of five categories of higher education institutions: English-medium universities, Afrikaans-medium universities, universities for different ethnic groups (particularly Indian and

Black students), distance education institutions, and technikons (CHE, 2015). While these institutions may have facilitated access for students of different ethnic backgrounds, this racial segregation, or separate development, ensured the separation of quality and resources.

The apartheid government administered a higher education system that was fragmentary at best and racially discriminatory at worst (Msila, 2007). It was a system of uneven quality "beset by duplications and inefficiencies" (HESA, 2014). In 1993, the national participation rate was only 17%, with Black Africans at 9%, Coloureds at 13%, and Indians and Whites at 40% and 70% respectively (HESA, 2014). Of a student body of 473 000 students, only 52% were students of colour (African, Coloured, and Indian). Women made up only 43% of the student body (Ibid). Moreover, academic literary development in these various HE systems was equally differential.

It must be acknowledged that the need to transcend colonial and pre-democratic systems is not peculiar to South Africa, despite different trajectories. Most of colonial Africa had fragmentary educational systems in which different races received both separate and unequal educational opportunities (Shabani, 1997; Ndlovu, 2012). Indigenous Africans were, in most cases, at the bottom ramp of the system where they received the least amount and quality of education (Shabani, 1997). Once a Permanent Secretary of Education in the Kenyan Government, Masiga commented on her country as follows:

> "For a nation that had its population deprived of proper education for [so long], the question of equity in education must be ranked as one of the fundamental rights we must strive to uphold…We must ensure that as many… as possible benefit from education up to the highest level…and increase higher education opportunities for previously disadvantaged communities" (cited in Shabani, 1997, p. 10).

This may well be referring to the situation the 1994 government was faced with in South Africa. Fortunately, with the 1994 political transition, an opportunity window was opened for change in several sectors. Pityana (2003, p. 2) calls it "a time of optimism". Through different legislative and institutional frameworks such as the National Commission on Higher Education (1996), the Higher Education Act (1997), White Paper 3: A Programme for the Transformation of Higher Education (1997), and the National Plan for Higher Education (2001), the democratic government aimed at transforming the higher education system through ensuring that:

- Universities had to open their doors to students of all races;

- The curriculum was comprehensively re-designed;
- There was training for growing numbers of different types of graduates essential for socio-economic development;
- Scholars would be produced who would be able to tackle South Africa's problems; and
- There would be a profound reconstitution of the academic workplace.

The new government wanted to make lasting change and bring an end to a system that privileged some at the expense of others in 15 different departments of education and 36 fragmented universities (Pityana, 2003). This type of system was now conflicting with the new constitutional provisions that emphasised equality, non-discrimination, and the intention to improve the quality of life of all citizens through the provision of access to opportunities for every South African. In HE, whereas the objective was on integration and equity as espoused by the National Commission on Higher Education (NCHE, 1996), the focus was on increasing access to previously underrepresented groups, particularly Black female students (DHET, 2013; HESA, 2014). Therefore, through various interventions, a series of changes have been witnessed in the South African HE context.

The South African higher education system has justifiably celebrated perceptible improvements in equity access since 1994. In the White Paper for Post-School Education and Training (2013), the Department of Higher Education and Training (DHET) acknowledged the "unprecedented" rapid expansion of enrolments in universities and colleges, desegregation, and the opening of opportunities for black and female students since 1994 (DHET, 2013). This success story has been hailed elsewhere (CHE, 2007; Msila, 2007; Lewin & Mawoyo, 2014; CHE, 2015). Lewin and Mawoyo (2014) state that, in 2011, Black students made up 81% of the student body. In 2014, the total enrolment headcount of all HE institutions was 983 698 (HESA, 2014). Noticeably, in 2019/2020, first degree HE enrolments nationally increased substantially and stood at 1 690 335 and 1 734 775 respectively and for the Foundation degree during these years it stood at 33 645 and 31 520 respectively. This increase could be because of funding interventions by the DHET such as the National Students Financial Aid Scheme (NSFAS) for needy and indigent students coming from struggling households and other factors, like the non-affordability issue in higher education.

However, as noted by many such as the DHET (2013), the quantification of physical and formal access can lead to premature celebration, as it hides many underlying challenges. For instance,

only 27% (1 in every 4) of undergraduates complete their studies in regulation time; 15% of students graduate each year, and more than 50% drop out before they graduate (CHE 2013). Accordingly, Lewin and Mawoyo (2014, p. 9) argue that "even though physical access to higher education indicates high enrolments, attention must still be paid to ensuring that those admitted to HE institutions actually complete their studies". It became clear soon enough to any responsible authority that achieving physical equity access to many more students is one thing; ensuring that those who have access achieve qualitatively is quite another (CHE, 2015).

Currently, the debate in South African higher education has moved from increasing student access to increasing student success (DHET, 2013; HESA, 2014; Lewin & Mawoyo, 2014). According to the CHE (2013, pp. 16-17), it is widely accepted that "student under preparedness" is the dominant learning-related cause for patterns of poor performance in HE. There are many assumptions surrounding the issue of students' under preparedness, which student support programmes must aim to address. Boughey (2010) observes that one of the conceptions is of students who "lack the conceptual background and language proficiency necessary to succeed in tertiary education". This suggests that interventions need to be structured to give the student the necessary skills to bridge this 'articulation gap'. On the other hand, McKenna (2010) theorises a more ethereal concept of epistemological access. She argues from the concept of academic literacy – discipline-specific values, attitudes and beliefs – that any student who fails to 'crack the code' of the academic literacy of an epistemic community will, of necessity, fail to enter that discipline (McKenna 2010). Thus Morrow (2008) argues that, without rigorous intervention, many students fail to gain epistemological access to the academic discipline of their choice; hence they drop out or become poor quality graduates.

2.3 An International Perspective on Higher Education

International literature on academic writing and literacy development shows an array of views. For example, issues to deal with include higher education as a life-changing space (Archer, 2010; Stefanie & Ridout, 2018), the coping levels expected of students (Salam et al., 2020), collaborative engagement of faculties, academic support, and library services (Wingate & Tribble, 2012), and embedding literacies with discipline knowledge (McWilliams & Allan, 2014).

2.3.1 Higher education as a life-changing space

According to Stefanie and Ridout (2018), higher education is an extremely important and life-changing time for most students as they invest in it not only financially, but also emotionally with their time and effort. Academic writing is integral to the success of this life-changing space. The most basic goal for students is to obtain their degrees and lead a fairly productive life. However, some scholars argue that there is a need to communicate mutual expectations more clearly between students and lecturers although students are expected to be wholly responsible for their actions and not to depend entirely on their lecturers. Of course, students and lecturers equally hold the responsibility for success. Differences in student and lecturer perceptions and expectations make it difficult to appropriately assess learning and teaching. Future research should therefore attempt to compare students' expectations of the factors that may influence their success with their actual performance (Fraser & Killen, 2003).

Learning to write in an academic discipline is not a purely linguistic matter that can be fixed outside the discipline as it involves an understanding of how knowledge in the discipline is presented (Wingate & Tribble, 2012). It involves what Lea and Street (1998) call "academic socialization" which aims at "identifying academic conventions and inducting students into using them" (cited in Wingate & Tribble, 2012, p. 488). It is noteworthy that, in their view, academic socialisation is encapsulated by the Academic Literacies Model referred to earlier. This means that academic literacy has a wider and broader outlook which takes issues such identity, power relations, and institutional practices into consideration. Two dominant views of academic socialisation are identified in Lillis' (2006, p. 32) discourse. One such view of academic socialisation entails implicit work and conversations as part of academic experiences without much or any intentionality of adopting any specific teaching or practicing of academic writing techniques. Wingate and Tribble (2012, p. 487-8) assert that such "academic socialisation cannot be called an instructional approach, as the development of writing is left to the students' ability to learn from the community by observation".

A second comprehension of academic socialisation is the intentional and conscious instructional approach. This entails intentionally developing and applying strategies that teach writing as a response to the crudity and insensitivity of a specific study skill approach. This approach to academic socialisation requires the collaborative effort of a department or faculty in exercising their agency to induct students into the new culture of the academic literacy within

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the discipline. Hence, it is also important for faculty writing support agents and library staff to assist students. In her effort to offer more effective academic writing support to students, Wingate (2012) undertook a longitudinal study in which each stage was a writing development initiative that aimed to create an instructional model that could be applied across all disciplines. She sought to propose practical solutions for a mainstream writing pedagogy which would available to students from all backgrounds but was limited to the UK higher education system. Universities around the world run literacy programmes that are generic, but some are discipline-specific to meet the needs of students from diverse backgrounds who come to a university with different forms of capital−for example economic, social, and linguistic capital (Bourdieu, 1986).

Figure 2: Students engaging with a writing assistant at a writing development centre

2.3.2 A literacy development model

According to El-Baba et al. (2021), an evaluation report that was issued by the Academic Literacy Programme organisers of the one of the universities of technology in Durban, South Africa indicated that an academic literacy programme was adopted and launched in 2016. The primary purpose of this programme was to provide academic language and literacy support services to the community of MUT in order to improve students' overall academic performance.

It was also evident in the report that the Academic Literacy and Language unit's academic literacy interventions include the following:

An Academic Literacy course: This is a non-credit-bearing course at the university under study that was designed to introduce students to the depth and quality of literacy required for academic study at university level. The current course introduces and exposes students to the contextual use of language in disciplinary discourses, extends their skills and capacities in oral presentations, and enhances writing and reading of a variety of texts for a variety of purposes.

Figure 3: A student being supported by a writing assistant at the Writing Centre

Embedded Writing Support: Informed by Lea and Street's (1998) comprehension of the concept of academic socialisation, the institution under study embarked on a project that focused on initiating its students into the literacy conventions and approaches that explicitly teach the characteristics of writing in particular genres and disciplines. Corresponding to this line of reasoning, the Marketing Department piloted its first writing support programme in 2020 with the goal of helping students to learn appropriate writing skills and comprehend the writing expectations within their various departments and disciplines.

Extra-curricular activities: The third initiative within the Academic Literacy space at the institution under study was the introduction of extra-curricular activities, such as writing and reading competitions. Inherent in these competitions are the values and benefits they hold for participating students. It is common knowledge that writing competitions offer participants the

opportunity to delve into unfamiliar territory given the predetermined nature of the scope or interest of such competitions. Secondly, writing competitions offer the students ample opportunity to develop research and analysis skills. Research skills are undoubtedly some of the undisputed and indispensable skills necessary for a successful and pleasant tertiary experience. The primary driver of this initiative at the institution is the Writing Centre. As evident in the El-Baba et al. (2021) evaluation report, in their effort to deliver on their mandate, which includes the coordination of a writing and reading competition, the Writing Centre offers pedagogical support for members of the institution's academic and support staff through a variety of workshops and one-on-one sessions. It also offers writing support to faculty members and students through the blended mode.

This institution's academic literacy model is presented in the spirit of multiple approaches, with each intervention being tailored to the unique demands of a specific assignment or students' academic literacy and language needs. The interventions also consider the context or field within which the course is located, and acknowledges its wider discipline-specific discourse community. Underpinning the entire model is the need for institution-wide support. Interestingly, student participants expressed that they had come to university expecting differences between previous writing practices and academic writing practices and were prepared for challenges to their self-confidence which, in the South African context, directly or indirectly relates to student readiness for higher education. The university's online academic literacy course adopts a practical approach using techniques and skills from various disciplines, with particular emphasis on language development, reading, writing, and thinking skills. The Blackboard Learning Management System (BLMS) is a tool for the transmission of such interventions to enhance teaching, learning, and assessment.

Figure 4: Writing competition awards ceremony for university students across faculties

2.3.3 Academic literacy framework

The academic literacy framework of the selected university is presented as a multiple approach with each intervention being tailored to the unique demands of a specific assignment or students' academic literacy and language needs. The course then addresses discourse in a specific discipline and for a particular community.

1. **The Framework**
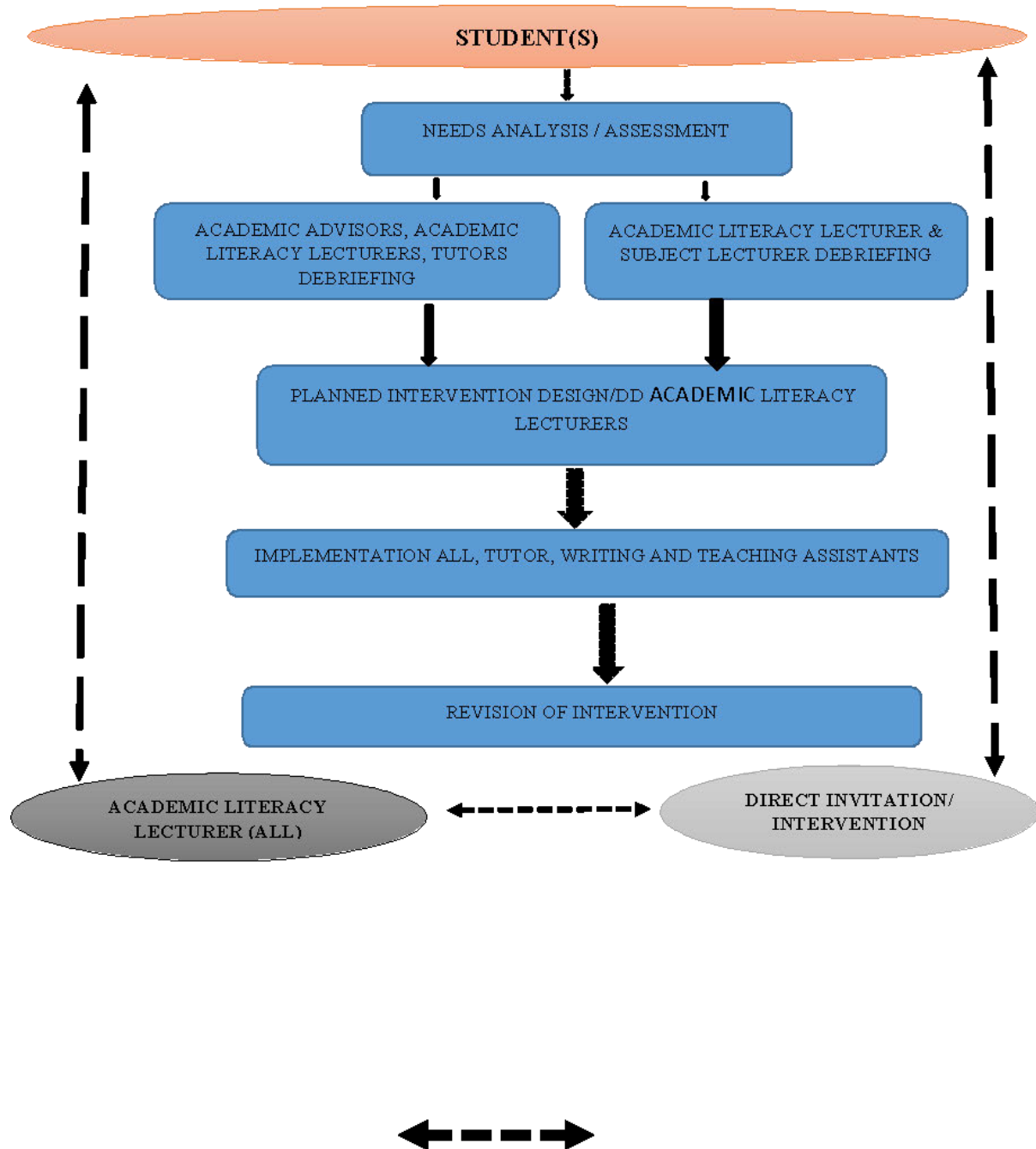
Figure 5: The literacy support framework model

As indicated in the discussion, the figure above illustrates the framework that primarily focuses on students and the best approach to support them for academic success. It starts with the assessment of students' needs, and the outcomes then guide the specific academic literacy intervention that is developed. Upon completion of the needs assessment process, members of the academic literacy and language unit meet for a debriefing on the needs and the way forward.

An expectation following this move is that the Academic Literacy lecturers and the subject lecturers meet for a debriefing. These debriefing meetings should be followed by a planning meeting between the lecturers and the Deputy Director of the unit. The planned intervention is then implemented by the unit comprising the lecturers, tutors, and teaching assistants. Upon the completion of the intervention, a debriefing session is scheduled to evaluate the effectiveness of the intervention. The unit develops intervention methods to equip students to respond to discipline-specific tasks.

2.3.4 Embedded academic literacy

There is an extensive body of literature that engages with the concept of embedded academic literacy which is generally understood to be different to the 'generic academic literacy approach'[1] which was construed by Friedrich (2008) as a "one-size-fits-all approach". The benefits of the generic academic literacy model speak to its relevance in some contexts. Regardless of the benefits as reflected in the footnote, research has overwhelmingly argued in favour of the benefits of embedded academic literacy (Hill, Tinker & Catterall 2010; Leach, Zepke & Haworth 2010; Salamonson, Koch, Weaver, Everett & Jackson 2009). Embedding academic literacy refers to "the process of building academic research, reading, and writing into the curriculum and linking it to discipline content and assessment" (Black & Rechter, 2013; Salamonson et al., 2010, p. 413). It is a very focused and directed approach to academic literacy with the objective of equipping students with the skills to meet specific module and discipline expectations and requirements. It is noteworthy that Leave and Wenger (1991), in their earlier writings, drew attention to some of the strengths of embedded academic literacy. Their arguments support the development of a 'communities of practice model of discourse within different faculty programmes. This articulation affirms the growing acknowledgement that students need to learn about the writing styles within their discipline while paying attention to the diversity of text types across disciplines.

Just like many other models, the embedded academic literacy model demonstrates a variety of approaches or ways in which it could be applied. According to McWilliams and Allan (2014),

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[1] Regardless of the shortfalls of the generic academic literacy model, it is noteworthy that there are several benefits associated with generic academic literacy instruction. Some of these benefits relate to the generalisability of core skills, the lack of writing skills among subject specialists, the importance of getting the basics right first, and the cost-effectiveness of a general approach to teaching academic writing.

this variety of approaches could be summarised under the headings of logistics, student demographics, and discipline considerations. The following clarifies these considerations:

> "Logistics include face-to-face time, with classes ranging from a once-off session of one hour to a full program of 12 hours over a semester; whether an intervention is credit-bearing or not; and whether the programs are voluntary or compulsory. The nature of the intervention might be tailored to the demographic breakdown of a particular class, taking into consideration students' maturity, socio-economic background and/or ethnicity, sometimes with attendant language issues. A related issue is the varying degrees of cultural capital students bring to their studies. Discipline considerations include the level of course, whether at pre-degree, undergraduate or post graduate level; and the nature and complexity of the assignment task, such as essay, report or literature review. For further discussion, see, for example, Hyland (2002), Watt (2005/2006), Gunn, Hearne and Leach et al. (2010) and Sibthorpe (2011). From the literature, it would appear that most institutions are peopled with passionate, hardworking learning advisors who are prepared to adopt a flexible approach. Leach et al. (2010) explore how a number of different institutions have developed their own particular strategies to teach or embed literacy skills" (McWilliams & Allan, 2014, p. 5).

Evidence from the literary review demonstrates that the multiple approach to embedding academic literacy is a widely adopted approach at institutions of higher learning. This is because it offers a holistic approach to the implementation of embedded academic literacy. Hence, it is arguable that academic literacy may have a higher level of efficiency if a variety of approaches are adopted that are consistent with the discipline's requirements.

McWilliams and Allan's (2014) best practice model on embedding academic literacy skills is derived from the authors' extensive experience of embedding literacy interventions within different disciplines at a range of universities in both New Zealand and Hong Kong. The above model is aligned with a constructivist approach to education as outlined by Dewey (1958), Vygotsky (1965), and Kolb (1984). Wingate (2018, p. 14) proposes three essential ingredients for effective academic literacy support: curriculum-embeddedness, genre analysis, and, to facilitate the first two ingredients, collaboration between English for Academic Purposes (EAP) and subject specialists to support students with adequate academic literacy instruction across the curriculum.

2.3.5 Coping mechanisms

Coping skills can be understood as personal and social behaviours that can assist individuals in dealing with potential stressors they encounter in their daily lives and the stress reactions that may result from these situations. Stress among students has largely been associated with their workload and environment. Among first-year students, this will most likely include a disconnection from their comfort zones. D'Zurilla and Sheedy (1991) state that conditions where students lack stress or are overly stressed can negatively affect their learning process. This implies that some stresses are desirable while others may be undesirable. The interest of the latter was study focused on undesirable stresses and how students could develop coping mechanisms around such stresses. Carlson (1999) views stress as a manifestation of a psycho-physiological reaction towards the demands of excessive workload. Students in the Engineering department, just like every higher education student, are expected to perform with excellence to ensure their competency after graduation. According to Archer and Lammin (1985), factors such as examinations, competing for a good grade, time constraints, lecturers' demeanour, and the environment of the lecture halls are the main contributors to academic-related stress. They also note that, with respect to personal-related stress, the primary causes of stress are intimate and social relationships, family-related issues, financial challenges, and interpersonal conflicts with friends.

At the selected institution under study, task-oriented coping was the most common coping method among the students, irrespective of year of study and gender. In a survey it was found that this coping style was significantly higher among first-year students, which boded well for these students in terms of their ability to adapt to the new environment and the prevention of a high early drop-out rate. There was no significant difference in the coping strategies between male and female students. This study finding suggests that educational managers may successfully provide counselling and interventions for those students who seek emotional-oriented coping support. Further emphasis should be placed on enhancing awareness of the positive coping methods that can be adopted in response to stress, as it is necessary for the long-term benefit of students as well as improved services for the well-being of a student body and, ultimately, the nation (Salam et al., 2019). The students involved in the latter study were drawn from different backgrounds. Their knowledge in academic writing varied based on different practical shortcomings. It was understood that mastery of academic writing needed patience. The results showed that the exercise was productive and beneficial to both lecturers

and students as they were aware that teaching and learning academic writing skills were not quick processes and took time to master. In essence, this exercise requires patience and diligence to make sure that academic writing skills are appropriately imparted to students by competent lecturers.

In a study that was conducted to understand whether first-year students' and lecturers' expectations of university education were realistic or not, and to determine the relationship between observable variables of interest in the Psychology Programme at Aston University, Birmingham, UK, it was found that improvement of students' ability in academic writing occurred periodically during what was termed Cycle I, Cycle II, and Cycle III. Eight students in Cycle I managed to get good grades at a rate of 26.67% of a total of 30 students. In this Cycle, most students still had difficulty preparing a good academic report. Most students had not prepared and thus failed to develop good academic writing skills. In any such programme the lecturer must assist students in determining relevant reference sources. It was thus prudent to limit the scope of topics about Engineering Sciences in accordance with the study programme. In Cycle II, the number of qualified students with good grades increased to 24 students or 80% of the total number of students. In this Cycle, the development of academic writing had been completed in accordance with the composition of academic writing. As a result of the capacity to compose academically written texts, the development of academic writing concluded this Cycle.

Data from the experimental results in Cycle III showed that 100% of the students had finally managed to obtain a value that met the standard required to indicate success, which was more than or equal to a mark of 70%. In this Cycle, students had developed the concept of academic writing and demonstrated good writing systematics. For instance, the use of mind maps was effective in outlining the content of discussions or the texts that had to be developed. The process of finalizing reference sources for academic writing had also already begun. However, the outcome of the data analysis revealed that some Engineering students had struggled to develop academic literacy skills. A lack of interest in either literacy skills or engineering studies was observed among some of the students. It was therefore hypothesised that some students have the mind-set to prepare and study engineering successfully while others do not have this demeanour. It was thus concluded that teaching academic literacy skills by English teachers at the beginning of the first year in an Engineering department at an HEI might not succeed. According to the indicators, most such students struggled with academic literacy skills such as

research and academic writing skills. In another study, it was concluded that document formatting was meant for students with digital skills as others struggled with this capability (Hatakka, 2016). Also, students demonstrated a total lack of interest in learning academic literacy and such students will continue to struggle to acquire these skills, especially in colleges where Engineering is offered as a discipline (Cilliers, 2012).

2.3.6 Collaboration

According to Carsten (2014, p. 111), one of the key principles that is believed to facilitate curriculum responsiveness includes collaboration between subject and language specialists. The notion of collaboration in promoting language across the curriculum is not new. Cited in Carsten (2014), Butler (1998), who investigated collaborative language teaching at the then North Gauteng Technikon, asserts that "collaborative teaching is a *strategy,* or the implementation of syllabuses" (1998, p. 43). In agreement with Reece and Walker (1997), Butler construes collaborative teaching as 'team teaching'. Reece and Walker (1997) define team teaching as a situation where "two or more teachers co-operate in the planning, presentation, assessment, and evaluation of a course..." (Ibid).

Although the notion of collaborative teaching is not new, the Cape Peninsula University of Technology (CPUT) in South Africa became one of the first tertiary institutions to implement collaborative teaching on an institution-wide scale and reported on a research project that was aimed at documenting the process (Carsten 2014, p. 115). At this institution (CPUT), the Department of Languages and Communication, which had previously been the disciplinary home of language lecturers, was decentralised around 2002 as a result of institutional restructuring preceding a merger (Boughey, 2012, p. 134). This resulted in language lecturers being moved to academic departments across a range of faculties (Jacobs, 2007b, p. 36), and in turn compelled language lecturers to embed their teaching of academic literacies in the mainstream curricula of the disciplines. In so doing, they were compelled to collaborate with subject lecturers in these disciplines instead of offering academic literacy modules alongside the various subject modules.

In an Australian university, a collaborative three-way partnership approach to assessment was utilised. The suggested design utilised the combined skill set of a lecturer, librarian, and first-year learning advisor. The team approach was developed by three academics with each member

drawing on individual expertise and contributing to devising assessment tasks, lectures, and tutorials and presenting these online or face-to-face for informal support, evaluation, and review. The findings of the study pointed to the successful collaborations among teaching academics who utilised the basic enablers for a successful collaborative relationship. In addition to the above collaboration, members of staff on a university campus also require communication, shared values, benefits, recognition, and the balancing of the power asymmetrically. This learning curve is an example of how an ongoing positive relationship between the lecturer, librarian, and a first-year learning advisor (FYA) could be strengthened through collaboration. It also exemplifies how librarians can be regarded as partners with lecturers rather than their 'servants' (Malefant & Demers, 2004). The members of the team have many similar skills and discipline backgrounds which ensure that each is on a level playing field during interactions.

In the latter study, of the overall 17 registered participants, 13 completed the engineering workshop. This was rated as a high attendance percentage. It was also reported that those who did not complete the training were still positively enthusiastic. Moreover, the research data showed that the participants experienced growth in writing output, confidence, and self-efficacy over the course of the workshop. These research results suggest that there are bright chances to extend the training to senior undergraduate and graduate students as well as to faculty members and other staff members who need to write on a regular basis as part of their work at the university. There were indications that there was change accompanied by a wider vision in their writing or their approach to writing. In conclusion, the workshop was deemed to be a great success.

Figure 6: E-Librarian training tutors and training and admin staff

2.4 A Southern African Perspective

At regional level, the literature on academic writing and literacy development reveals an array of views. In summary, the themes derived from data are time management, embracing multilingualism in teaching and learning, curriculum review of academic literacy, collaborative work among faculty and academic support staff, the development of language repertoires, and the strengthening of academic writing approaches. Scholars recommend that institutions of higher learning invest funds in academic development to assist staff and students. Furthermore, it is argued that the development of students' academic literacy skills and language repertoires will improve their academic writing skills. As such, writing centres and academic literacy development units should support such initiatives in selected disciplinary modules. Plagiarism can either be intentional or unintentional, hence punishment or sanctions as a means of curbing plagiarism can be catastrophic. South African universities should acknowledge, appreciate, and recognise multilingualism and African languages as additional languages of teaching and learning. Haggis (2006) refers to the need for institutions of higher learning to scrutinise how traditional practices and curricula affect academic literacy development. The latter scholar also argues that software detection and sanctions do not constitute education but serve to propagate social injustices and inequalities at South African higher education institutions (Haggis, 2006).

2.4.1 Academic writing efforts

The findings of a study that aimed to explore University of Botswana undergraduate students' and lecturers' perceptions of the effectiveness of academic writing activities and instruction in the COM 112 course showed that academic reading posed a challenge to the students and that there was a need for concerted efforts to explicitly teach academic reading across the curriculum. The process approach to writing and the writing activities that the students had to complete were found to be useful. However, the time allocated for teaching academic writing was found to be inadequate, and it was suggested that it should be increased. It was suggested that the answer could lie in the collaboration and communication of discipline lecturers and academic literacy lecturers (Elton, 2010) and open dialogue with high school teachers who lay the writing foundation. In this author's view It will be interesting to find out whether discipline lecturers see the value of explicit teaching of academic reading and whether they are willing to collaborate with lecturers in the academic literacy course. Much of the literature on first-year undergraduates' academic writing often highlights inadequacy in knowledge and the use of conventions and expectations of academic writing (Lillis & Scott, 2007; Ivanic & Lea, 2006; Krause, 2001; Leki & Carson, 1997).

2.4.2 Time management

In a study conducted on the time management challenges on students' academic performance at a rural university in Limpopo, South Africa, it was concluded that time management at universities is an individual decision. The findings of the study confirmed that there was a serious lack of time management on the part of students. Work overload and stress made it difficult to address tasks adequately, hence their poor academic achievements. The reason is that universities expect university students to be mature and responsible enough to manage their time effectively. A positive correlation exists between the level of time management and student performance. However, poor time management is associated with stress and work overload that contribute to a high chance for dropping out. Social media has exacerbated the situation, leading to poor performance. As a result of the above observations, the latter study recommends that students should put mobile phones and tablets away or switch them off while studying. Students have been advised to associate with peers who are excelling academically.

Counselling coordinators and psychologists should orientate new students through workshops and intervention programmes throughout their first academic year.

Teaching academic writing is a challenging and complex task as students come from various backgrounds with multifarious problems. It is important that lecturers and students are aware that teaching and learning academic writing is a process that takes time to master in the English language. Hence, all parties concerned must be patient and diligent in making sure that academic writing skills are smoothly imparted to students. The academic writing project not only benefits the students but also benefits the lecturers, as they can make use of the project to improve the delivery of their lectures. Effective academic writing skill is a key requirement for success at university because academic disciplines consistently require this in all forms of assessment (Hyland, 2011; Evans & Green, 2007; Zhu, 2004; Krause, 2001; Lillis, 2001; Leki & Carson, 1994).

The findings of the current study suggest that meaningful and successful engagement with the development of isiZulu as an academic language is important so that it becomes part of the academic output. But the success of this endeavour will depend entirely on implementing strategies to develop its capacity for academic discourse, which will be the secondary discourse after the primary discourse of the home. Madiba (2014) studied the intellectualisation of indigenous languages, which the author refers to as "using simple vernacular discourse" and argues that it is untrue that African languages have not developed twenty-seven years after democracy in South Africa. He believes that African languages are now partially intellectualised because there is already a research standard in African languages that is found in subject disciplines, and they can be used by people to deconstruct various disciplines like mathematics and the sciences.

Intellectualisation (of a language) means the planned process of accelerating the growth and development of our indigenous languages to enhance their effective interface with modern development theories and concepts (Madiba & Finlayson, 2002, p. 40). What counts as knowledge is important in a higher education context (Mgqwashu, 2013, p. 90), but African indigenous languages are still marginalised in most higher education institutions (HEIs) even though they are officially recognised by the South African Constitution (Act 108 of 1996). Hill and van Zyl (2002) make an important point about the value of African languages in engineering practice in the South African context. This emanates from a survey that was

conducted on the language practices of 58 engineering personnel working at a South African university. This survey proposes that a high standard of English is crucial for professionals in any field with a policy of 'English only' by management and inter-departmental levels and in written communication. Hence my justification for the significance of the present study.

2.5 Academic Literacy for Epistemological Access and Success

2.5.1 Epistemological access

Epistemological access is the precursor to student success. Hutchings and Garraway's (2009), *Beyond the University Gates* shows that foundational or extended curriculum programmes in universities is aimed primarily at achieving epistemological access and closing the articulation gap in underprepared students. They argue that physical access must be complemented by something more substantial to ensure that students are prepared for academic success in their programmes of choice (Hutchings & Garraway, 2009). This suggests that any academic literacy and language unit that offers academic support has the responsibility to close the articulation gap by addressing issues related to redress in the education spectrum at a university.

In McKenna's (2009) book, *Cracking the Code of Academic Literacy,* the author explains the mechanics of achieving epistemological access. According to her, academic literacy is not one but many things, but essentially it is the language of academic disciplines. McKenna (2009, p. 14) notes that, as far as many disciplines in HE are concerned, academic literacy is "no one's mother tongue" and, if it is to be accepted ideologically into some disciplinary 'tribe', a student has to acquire this language. Academic access as a code language of epistemological access in many disciplines has to do with "ways of using language but also [with] the beliefs, attitudes and values of the group' (McKenna, 2009, p. 10). While many students come with no knowledge of specific disciplinary literacies, some come with literacy practices that closely approximate the code of the literacy of the discipline they want to join. Others, on the other hand, will keep on using wrong literacy practices until they are kicked out by the disciplinary 'tribe' (McKenna, 2009, p. 9). It is therefore the responsibility of HE institutions to ensure that every student who gains access through the 'university gates' acquires the values, beliefs, and attitudes that are necessary for the discipline they want to join if they are to succeed and travel beyond the university gates.

In 2011, Bozalek, Garraway and McKenna (2011, p. 3) compiled a series of case studies on how the extended curriculum programmes in various universities have the potential to enhance epistemological access for students. They admit that many of these foundational programmes enabled students to "learn to become successful participants in an academic practice of their choice" (Bozalek, Garraway & McKenna 2011, p. 3). Many of the case studies they conducted showed that students in the Sciences and Technology disciplines would benefit a lot from extended curriculum programmes if they were structured in a way that bridged the articulation gap that debilitated students.

A report presented to the National Assembly Portfolio Committee of Higher Education and Training (Higher Education Council of South Africa, 2014) also observes the need to bridge the articulation gap between students and various critical skills disciplines in HEIs if student success is to keep pace with access. It argues that access and success among Black students must be improved, as they fall under the group whose previous educational experiences excluded them from being inducted into dominant ways of constructing knowledge (HESA, 2014, p. 3). As such, the reaffirmed objectives of both DHET and the National Development Plan suggest that these underprepared students need special programmes aimed at enhancing their level of coping with the demands of university study. Furthermore, the Council for Higher Education (2021, p. 23) states that the role of language in contributing to effective learning and teaching (for example, in terms of academic literacy, epistemological access, multilingualism, and the development of all South African languages) is actively considered. It is a fact that there has been an outcry in the higher education sector for the consideration of previously marginalised languages to be elevated as scientific languages and intellectualised to become languages of tuition in the future. Breaking the barriers and policies of the past has become critical. In fact, the institution under study is currently in the process of considering the relevance and significance of the decolonisation mandate and discourse in its reviewed language policy as a work in progress in terms of responding to the present status quo in South Africa. In the international context, Marinkovich, Sologuren and Shawkyl (2018, p. 200) are of the view that, when talking about academic genres, disciplines, and curricula, it is necessary to define academic literacy as "a process that allows students to gradually integrate themselves into the discourse community to which they aspire to belong".

2.5.2 Academic literacy

Academic writing, to start with, is an activity that is integral to teaching and learning in higher education (HE). As a result, it is difficult to provide a definition of what it is on its own. Academic writing refers to a style of expression that researchers adopt to define the intellectual boundaries of their disciplines and their specific areas of expertise through writing. In this context, Evans (2013, p. 85) states that "writing is important in academia". Besides it being one of the foremost ways in which communication takes place, it is also a tool of assessment and, therefore, it is crucial to progression. However, writing is not something that comes naturally to all. It is something learned and practised consistently until developed to an appropriate level for each context. After this complex nature of writing, particularly academic writing, several scholars such as Butler (2013), Archer (2008), and Lillis and Scott (2007) argue that teaching university students academic writing can assist them not only to succeed, but to flourish in their studies and in areas of special interest.

Academic literacy, which is a tool that assists students in the acquisition of generic skills required in the process of learning, thus becomes a central feature in HEIs. Since the 1990s, academic literacy researchers have revealed shortcomings in academic writing instruction in most universities, especially in the UK, and this propelled a global evolution in countries such as the United States of America (USA) that took drastic steps to emphasize the importance of research on this neglected skill (Archer & Richards, 2011). In the South African context, the first writing centres opened their doors in the mid-1990s, and these were located largely within academic development units. These writing centres were closely aligned with academic student development work that focused on disadvantaged, underprepared, and predominantly Black students who entered higher education during the transition from apartheid to democracy (Archer & Richards, 2011; Clarence & Dison, 2017).

Academic writing development in the South African higher education context is growing exponentially as universities respond to the changing dynamics of the higher education landscape. Such universities are the University of the Western Cape (UWC), Stellenbosch University, Durban University of Technology (DUT), Northwest University (NWU), the University of the Witwatersrand, Cape Peninsula University of Technology (CPUT) and many others.

In the South African context, instructional academic literacy models vary from institution to institution; some take a generic stance, whilst some take the embeddedness approach. To cite an example, the University of Pretoria (UP) academic literacy model and philosophy that underpin academic literacy at this institution reflect and adopt academic literacy that is embedded within different disciplines. The idea is to embed academic skills in the first-year curriculum, then continue their application, reinforcement, and further development throughout the degree programme. The rationale behind this approach is that different academic disciplines are characterised by specialised vocabulary, concepts, and knowledge, as well as a variety of meaning-making activities (genres, rhetorical structures, argument formulations, narrative devices, etc.) and ways of contesting meaning. For example, to promote the teaching of academic literacy skills in the discipline of Marketing, it is suggested that an instructional model following the epistemology of Marketing should be adopted.

The philosophy that underpins this model is the New Literacy Studies movement (Gee 1991; 1996; Kress, 1997; Lea & Street, 1998; 1999; Street, 1998; Carstens, 2012; Boughey & McKenna, 2016). The New Literacies Model is a move away from a one-dimensional deficit model to a conceptualisation of academic literacy as three overlapping frameworks which include study skills, academic socialisation, and academic literacies (van Dyk & van de Poel, 2013).

Monroe (2003) concedes that the growing prominence and institutionalisation of 'writing across the curriculum' (WAC) and 'writing in the disciplines' (WID) programmes throughout the United States and abroad has occasioned considerable renewed reflection during the past decade. Although WAC and WID are sometimes used synonymously or interchangeably, and both terms usefully suggest the importance of writing in all fields, these two approaches have very different implications for the role of writing and writing instruction in higher education institutions. While WAC emphasises the commonality, portability, and communicability of writing practices, WID emphasises disciplinary differences, diversity, and heterogeneity. That is, WID emphasises what remains incommensurable and irreducible in writing practices both within academic fields and from one field to the next. Taken together, the two terms honour the importance of writing and communicating effectively with audiences situated both within and beyond the fields of academic specialisation.

Genres or modes vary across disciplines, subjects, and fields (Street, 2007). With reference to the study in question, and in terms of the Engineering field at this UoT, the genre for Engineering students at S3 and S4 would entail the preparation of written reports after students' engagement in the field or laboratory, assignments, experiential training, or service-learning experiences. During the Work Integrated Learning (WIL) exposure to companies and firms, students regularly write reports, which they submit to their industry mentors as well as to the WIL coordinator appointed by the Department. The coordinator is responsible for the marking and moderation of such reports. It is the student's responsibility to tap into all the opportunities and interventions provided by the institution to prepare for the world of work using critical and creative abilities cognitively and mentally that might have been developed contextually.

2.6 Perspectives on Academic Literacy Support that Informed the Study

Issues around student writing and academic literacy are conceptualised and framed discursively. It is important to debate how these issues are understood and represented in the discourses and practices of a relevant institution and how they are enacted in interactions among lecturers, support staff, and the institution (Archer, 2007; Bailey, 2009). This is clearly the motivation for such a research project, as writing is an important skill that is often neglected. Heller (2008, p. 50) argues that, according to Bourdieu's (1982), literacy can be understood as "a field or market that is…a discursive space in which certain resources are produced [and] attributed with value". It is therefore circulated in a regulated manner which allows for competition over access and is typically unequally distributed.

McKenna (2004), van Dyk et al. (2013), and Evans and Morrison (2011) contend that academic literacy comprises the norms and values of higher education as manifested in discipline-specific practices. Students are expected to embrace these practices and their underlying epistemologies without any overt instruction in, or critique of, these ways of being. Furthermore, the development of academic literacies is an essential graduate attribute for all students (Paxton & Frith, 2006). The concept of 'graduateness' that has been coined therefore means that students should be trained and equipped in all areas of tertiary development, over and above the hard-core skills of a particular discipline. Therefore, I argue that university lecturers should not expect error-free and perfectly completed products from students; rather, they should position themselves part of the preparation of students' work and guide them along

the reading and writing processes that they need to engage in. Some universities have demonstrated that embedding academic literacies in discipline-specific curricula is more effective than teaching academic literacy by means of broad, generic reading and writing skills courses. The University of Pretoria in South Africa is an example of a tertiary institution where this former practice has achieved much success.

Lea (2004) and McWilliams and Allan (2014) contend that when these literacies are viewed as sets of practice, the focus shifts towards ways in which students learn to participate and make meaning of their reading and writing in various and relevant academic contexts. Academic literacies require critical thinking, database searching, familiarity with academic conventions such as referencing, the use of formal register, and the ability to manipulate a range of academic genres that restrict how meanings can and should be constructed and conveyed. In a study that was conducted by Jacobs (2007) in a university of technology context, common understandings of academic literacy practices through collaborative partnerships were negotiated, and transdisciplinary engagement and the integration of discourses (Gee, 1996) between language specialists offering AL and disciplinary specialists were the drivers of these processes.

Themes emerging from data collected and analysed over a period of three years through individual narrative interviews, focus group discussions, free writes, stimulated recalls, visual presentations, and individual project portfolios ultimately informed an unfolding model for the process of integrating academic literacies into disciplines. Kvale (2014) and Rubin and Rubin, (2011) concur that interviews involve one-on-one conversations between the researcher and the participant and can be structured or unstructured and can be conducted in person or remotely. The present study focused on interview data from which themes that emerged from the reflections of students were derived to answer the research questions and address the research objectives. The Communication Skills module, which was a largely generic, stand-alone subject, was taught as a mandatory offering at the university of technology under study, and it is still offered as a programme at some universities of technology. Jacobs (2007, p. 9) states that, in partnerships where deep levels of integration have been achieved, language lecturers, rather than inducting themselves into the discourses of the disciplines, 'lift' disciplinary specialists out of their discourses. Her findings suggest that the higher education spectrum needs to create discursive spaces for the collaboration of language lecturers and interdisciplinary specialists.

Jacobs (2007) used the New Literacy Studies (NLS) Model and the Rhetorical Studies Theory to frame this study that explored literacy issues in a tertiary context. The institutionalisation of the AL curriculum and the adoption of an integrated approach are entrenched in the teaching of AL, while reading and writing as social practices developed through the ways in which various disciplines use language. However, the gap that I identified is that language application policy formations and collaborations within the institution under study were not applied appropriately or effectively. This occurred regardless of the fact that a large majority of the students enrolled at this institution come from disadvantaged backgrounds. It therefore seems an oversight that little is mentioned about students' academic literacy development that involves improved reading and writing as social practices that have application in tertiary education progression (Lea & Street, 1998, 2006; Lillis, 2006). Developing appropriate reading and writing skills is undeniably an important skill that students need to master if they wish to succeed, and also if the institution is serious about improving throughput rates (Pineteh, 2014). The current study therefore focused on investigating the phenomenon of embedding language in disciplines without specific emphasis on key genres, such as the writing pedagogy.

At the inception of the study, I was critically aware that reading and writing, as key literacy development components, are an integral part of student development. This is implicitly embedded in the mandate that students need to master a variety of writing genres in higher education. In this context, academic writing supersedes all required and acquired soft skills as assessment and evaluation ultimately take place through tests and examinations in standardised forms that are peculiar to the universities where they are conducted. As the study focused on the Engineering discipline, Engineering students' writing experiences were the underlying core of my quest for knowledge, and I decided to focus in particular on students who were in their third year of study. This focus was pivotal for various reasons that I shall elucidate later. To attain the aim and address the objectives and research questions posed by the study, I also assessed the impact of the Academic Literacy and Language Support unit to determine to what extent it supported academic writing development among Engineering students. I also needed to determine if this unit was successful in achieving its key goals in regard to the different writing genres I would explore. The research design that I employed was therefore informed by the level of the academic progression that the Engineering students had attained, and I used interviews and reflective journal entries to collect the data that were required to support my endeavours to address the aim and objectives of the study.

Niven (2005) attributes the problem of the under preparedness of students for writing at university level to the wide gap between writing expectations and demands between school and university. This author conducted interviews with disciplinary (or content) lecturers at the end of each semester over the study period, which was useful in informing me of the academic progress and engagement of students that were selected for this particular purpose. Chokwe (2013) and Pineteh (2014) agree that, in South Africa, there are growing concerns about the high levels of poor student writing skills in schools and in higher education. Pineteh (2014) in particular, asserts that students enter higher education with weak literacy skills, and they therefore struggle to cope with institutional literacy requirements, particularly when they are required to engage in disciplinary discourses and intellectual academic writing. Based on the findings of Pineteh's (2014) study on academic writing challenges at a South African university of technology, it has been claimed that the academic writing challenges that students experience at universities of technology are a consequence of their poor linguistic and general literacy backgrounds, their negative or, at best, apathetic attitude and commitment towards academic writing, and the privileging of middle-class literacy practices in South African higher education institutions. The academic writing challenges that undergraduate students demonstrate manifest in a lack of academic conventions, poor analysis and illumination of writing topics, and the inability to conduct research and apply and evaluate knowledge critically across different contexts. These findings were elicited by using, among other things, qualitative research methods to collect empirical data from students and lecturers. The methods used most commonly have been semi-structured interviews involving students at various levels of achievement. A particular focus of Pineteh's (2014) study was to obtain first-year students' reflections while they were engaging in discussions with four Communication lecturers.

Concurring with earlier propositions, Pineteh (2014, p. 12) explored strategies that included the integration of academic literacies in disciplinary curricula. Based on the findings of this particular study, recommendations for intensive academic reading and writing workshops and increased formative feedback were offered. Pineteh argued that the Communication lecturers helped the researcher to gain access to the multiple realities and subjective meanings of academic writing at the institution where the study was conducted. Having taken cognisance of the latter recommendations, I realised that the current study needed to be conducted urgently to inform the university from a scholarly perspective of the dire urgency to improve students' writing skills and experiences. It was felt that this, in turn, would inform better pedagogical approaches and practices across the disciplines offered at the institution. My motivation was

enhanced by my understanding that one of the most effective means of supporting students in developing academic literacies is through embedding academic writing programmes in faculty courses, as proposed by McWilliams and Allan (2014). Furthermore, it was and remains my contention that embedding academic writing interventions in subject disciplines is a practical way of helping students make explicit connections between the discourse variables of the target subject or discipline, and the demands of a given assignment.

In my examination of the best practice model and based on my understanding of the critical pragmatic approach that I employed to frame this study, I took cognisance of the scholarly debate that espouses institutional support as a key indicator of the success of embedded literacy initiatives. For instance, the importance of enhancing the knowledge and skills of support staff is affirmed at directorate level at this institution which is an approach that is clearly related to government policy and educational practice guidelines. The problem of poor academic writing support is not unique to South Africa. For instance, according to Strauss (2013), academic literacy support is not always accorded high priority in New Zealand. Moreover, in many institutions in Australasia and beyond, learning development is seen as a 'quick fix' student service rather than as a more pedagogically grounded approach that focuses on developing academic literacies. In this context, McDonald and Allan (2014, p. 7) argue that, if academic literacy learning and application are to be successful, the literacy programme content that is offered needs to fit a discipline-specific context. In this regard, they endorse the student-centred focus, but contend that this approach implies the recognition that not all students arrive at university with the same levels of cultural capital, as so aptly argued by Bourdieu (1986).

Some researchers agree that, over and above the acquisition of the basic language skills of listening, reading, and speaking, underprepared students find it particularly difficult to cope with writing tasks in the higher education context and therefore their experiences of academic writing tasks tend to be negative (Niven, 2005; Chokwe, 2013; Pineteh, 2013; van Heerden, 2000; van Schalkwyk, 2008). In this context, I need to reiterate that what is missing is knowledge about *how* these students cope in their studies in a particular discipline given the notion that most are perceived as unprepared. It is inarguable that university education demands independent learning and critical thinking skills, and McKenna (2003) and Jacob (2007) concur that collaboration between language lecturers and specialists in the various disciplines that are offered at tertiary institutions may assist faculties to inform practice in the facilitation and access of students into the disciplines' discourses in the integration of language and content.

Discourses in this context, according to Gee (1996), should address ways of behaving, interacting, valuing, thinking, believing, speaking, and often reading and writing that are accepted as instantiations of the roles played by specific groups of people. Discourses have to be taken into account, while consideration of the cultural background of students is important as most now have to learn in the language of a culture that is different from the language adopted by the higher institution of learning (Kachru, 1992).

The discourses associated with various disciplines need to be acknowledged and recognised as they play a significant role in the transference of academic language skills to students (Gee, 1996). To address this need, Mgqwashu and Bengesai (2015) explored the possibility of creating an analytical framework for the discursive construction of teaching and learning. They based this approach on the more dominant representations of academic literacy and involved students from an Engineering faculty at a South African University. They found that some discourses that emerged could potentially exclude social agents (both students and academics) from effectively participating in the teaching and/or acquisition of academic literacy. One conclusion was that disadvantaged students tend to struggle with the conceptual methodologies of these discourses at tertiary education level. It is therefore prudent to consider Scott's (2013) call for a systemic change in curriculum design in terms of pedagogical approaches that will accommodate struggling and disadvantaged students and allow them to unlock their potential.

In South Africa, writing centres have been established with the intention of utilising them as agents of change. As I had been closely aligned with such a centre, I engaged lecturers and third-year Engineering students in semi-structured interviews in the hope that this research would shed light on their reading and writing preferences, thereby assisting in informing better practices by the targeted faculty and academic support services. It is envisaged that the results of this project will also take forward the Writing Centre project, which is a new initiative in the institution that focuses on students' and academic staff members' writing skills. This centre currently supplements the academic literacy skills development of all registered students and gives precedence to the development of writing skills.

The ability to read and comprehend complex texts at university level goes hand in hand with the ability to write well. Students' voices become critical and should be pivotal in efforts to enhance the manner in which they represent themselves through their writing and the nature of the writing they should produce as demanded by their respective institutions (Ivanic, 1998;

Lea, 1998, cited in Gravett & Geyser, 2004, p. 71; Lillis, 2003). It is clear that the growth in student numbers at higher education institutions in the 21st century has increased not only the participation rates of students, but also the language barrier rate that is experienced at all tertiary institutions in South Africa. This reality translates into language challenges and leaves many questions unanswered. It is noteworthy that both national and international scholars agree that the speaking and writing abilities of students at tertiary level need improvement and further development, particularly as both are important social tools that graduates need to succeed in academia and the world of work. Universities thus need to respond appropriately and without further hesitation to the changing demands and expectations of present and future students, particularly in terms of the many issues associated with the languages of tuition issue that permeates higher education debates. Therefore, the establishment of writing centres, which are at the forefront of the many transformational spaces and places of hope for struggling students in academia, has become an increasingly popular trend in the higher education environment in South Africa. In fact, most higher education institutions have shared remarkable success stories of best practices in learning initiatives and the best social practices to adopt to ensure student success and progress (Archer & Richards, 2011).

The demand is clear: student academic writing development is a must, especially for underprepared students who come from so many diverse backgrounds. However, the question must be posed that, if students cannot write well at university and their writing development is found to be inadequate for the purpose of higher education progression, does that mean that these students are unable to learn? Furthermore, does this mean that academic writing, or a lack of skills in this regard, will forever hinder academic progress? These questions are predominant in academic writing discourse and research. Furthermore, as academic writing has become an increasingly debated topic among scholars, the best theoretical model/s to use to illuminate research outcomes in this filed have also been hotly debated. For instance, it seems that, currently, there is no point in supporting the deficit model as it supports remediation rather than the development of the learner's reading and writing skills (Street, 1984). Moreover, when reading and writing literacies are viewed as sets of practices, the focus shifts towards ways in which students learn to participate and make meaning within an academic context (Lea, 2004). It is therefore commonly accepted that teaching writing and learning to write are both central in educational endeavours to develop a literate citizenry. It must also be accepted that writing development occurs slowly over time and that it is a process in which students confront different contexts, tasks, audiences, and purposes. Also, the basic education schooling system

cannot be blamed for the unpreparedness of novice students as many factors impact learners' under preparedness for university study. Only one of many considerations is the cultural capital that they bring−or fail to bring−to university, notwithstanding the fact that they are diverse human beings who are representative of one nation.

2.7 Engineering Education and the Acquisition of 'Soft Skills'

Universities around the world attract, admit, and place a multitalented cohort of students in a variety of programmes. Students registered for gateway or 'killer courses' in STEM fields like Engineering and many tend to ignore the need for soft skills such as communication, computer literacy, professional etiquette, behavioural and time management skills, and problem-solving skills (Makhathini, 2017, p. 3). Makhathini (2017) offers a South African perspective on the competency and deficiencies of Engineering students who often focus on their major courses, regardless of the fact that the above-mentioned skills play an important role throughout their working life. In her paper titled *Work integrated learning competencies: Industrial supervisors' perspectives,* Makhathini (2017) sought to identify the strengths and potential shortfalls of work integrated learning (WIL) for students placed in the engineering sector. In a pool of 106 students that were placed for WIL Practical 1 in 2015, workplace supervisors were asked to complete an assessment feedback sheet, which contained a summary of their views regarding the students' performance after completion of the first six months of training. The results showed that most students met the standard expectation for cognitive or 'hard' skills, but seemed to lack the behavioural or 'soft' skills. Interestingly, this study established that more than 70% of the students seemed to be unsuitable for an engineering career, mainly because of a lack of appropriate behavioural skills such as attitude, teamwork, social ethics, and communication.

It is argued that soft skills should be embedded in the Engineering curriculum to ensure its development. Schulz (2008) concurs with Makhathini (2017) about the importance of enhancing and developing the soft skills of Engineering students and adds that these skills fulfil an important role in shaping an individual's personality. He argues that soft skills are not limited to communication but are an extension of many areas of the character and personality of an individual. He highlights three very different skills categories, namely personal qualities, interpersonal skills, and additional skills or knowledge. Embedding the training of soft skills into hard skills courses is a very effective and efficient method of achieving both an attractive

way of teaching a particular content and a way of enhancing soft skills (Schulz 2008, p. 146). It has been found that integrative teaching methods and approaches in higher education seem to yield positive individual and collective results. For instance, in the international context it is noteworthy that the Victoria University's Bachelor of Engineering (Civil Engineering) course philosophy is based on the recognition of society's need for well-rounded engineers who have sound technical and communication skills and a firm understanding of the environmental, economic, social, and political environments in which they must operate (O'Brien, O'Brien, Venkatesan, Fragomeni & Moore, 2012).

2.8 Gaps in the Literature that this Study Needed to Fill

The literature review that I conducted clearly exposed gaps related to academic writing in general and some limitations in South African higher education in terms of reading and writing development in particular. There is an obvious dearth of research on writing pedagogy that focuses on universities of technology both locally and globally, which is a notion that is supported by Chetia (2015). Many scholars agree that higher education environments should integrate multiple resources to support student learning and development so that students are familiar and comfortable with writing conventions, yet such literature is still lacking in the larger pool of knowledge. This study thus endeavoured to fill this gap by shifting its focus away from purely academic universities and to attend to issues that relate to the academic writing skills of Engineering students at a university of technology. I believe that this was a sound decision as I had observed that, as much as academic literacy experts engaged with and cited studies that were undertaken in countries abroad such as the UK, the USA, New Zealand, and Australia, these studies lacked investigations into poorer communities such as those found in South Africa.

The study by Chetia (2015) referred to above sought to contribute to the current academic debate on the paradigm of decolonisation of the curriculum and the lack of transformation and progress regarding this campaign in this country. To compare and augment the findings of the latter study, I therefore decided pertinently to explore the lived writing experiences of Engineering students in the specific higher education setting of a university of technology, investigate the impact of student academic literacy support at this institution, and focus on Engineering students' writing development that was presumed to be inadequate considering the low throughput rate of these students in this higher education institution. I therefore reiterate

the argument that university lecturers should not expect or demand error-free and finished written assignments from students, but they should rather be part of the preparation and guidance process that support students in the writing process. I believe that this study will contribute significantly to this gap that I identified in the literature.

When the study was conceptualised, I was inspired by the notion that, rather than teaching academic literacy in a generic writing skills course, it should be embedded in academic literacy support for students in discipline-specific curricula. My motivation to explore this latter approach was enhanced when I came to understand that, over the last 20 years, in Australasia and further afield a large body of literature has emerged that focuses on the embedding of academic writing development skills in faculty or subject programmes in tertiary institutions (Macmillan & Allan, 2014). The explicit aim of this approach is to sensitise students to discourse specifics in their discipline so that writing development becomes an integral part of student development in a variety of genres in higher education (Wingate, 2011; Wingate & Tribble, 2012). As this field is too extensive to cover in a single investigation, I demarcated my study to the Engineering discipline at a university of technology, and more specifically to third-year students and their lecturers.

To fill the gaps in the pool of research knowledge, I based my hypothesis for the formulation of this study on the notion that I had garnered from the literature that universities of technology ought to redesign the concept of academic literacy to suit the context and the needs of 21st century students and the workplace environments where they will find employment. I was also enthused to follow this line of enquiry by the knowledge that the institution in question is currently engaged in embedding academic literacies within disciplines and in processes that will strengthen collaboration among discipline lecturers for the development of discipline-specific academic literacy courses that will be assessed through formative and summative assessment practices in the future. Sciences, Engineering, and Management at-risk modules are targeted through collaboration among faculties to improve throughput rates.

As was alluded to earlier, academic writing supersedes all required and acquired soft skills. Examinations in standardised forms of assessment that are similar in nature but peculiar to each university are administered to ensure quality assessment and the progression of successful students. More specifically, Engineering students' writing experiences were the focus and the underlying core proposition of my quest for knowledge, and I involved students that were in

the third year of their studies. The academic writing skills and literacy development that informed the research design were thus based on the level of progression of the students that were recruited from the Engineering Faculty. Reflective journal entries and semi-structured interviews were used as the data generation tools. Moreover, given the diversity of higher education institutions, it is undesirable that writing pedagogy is based on one theoretical framework as the one-size-fits-all approach is not appropriate in this environment. This research study was thus informed by an academic literacy model based on e students' unique experiences. The phenomenological approach was used as a qualitative method, while Bourdieu's cultural capital paradigm was also employed to underpin the investigation.

2.9 Conclusion

Literature related to the topic under investigation was reviewed in this chapter with the purpose of establishing any gaps that this research had to fill. I discussed the higher education context in South Africa and focused on the need for academic writing and literacy development and focused on the need for appropriate literacy development programmes in the university of technology under study. Furthermore, I engaged with relevant literature that had been produced at both international and national levels and found that the reviewed literature was in agreement that academic writing and literacy development is a valuable asset that is vital to all students, and even members of staff. The literature revealed various challenges associated with academic writing at international, national, and regional levels, and I managed to establish a glaring gap regarding academic reading and writing development that this thesis had to address. More specifically, I was prompted to explore the viability of an integrated approach that would embed literacy acquisition within discipline-specific content instead of the broad literacy training practices that had been adopted earlier by the university of technology under study.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

In the previous chapter, I presented the literature review and discussed the gaps in the relevant pool of knowledge that this research study endeavoured to fill. In the current chapter, I present the research methodology that I employed to execute and bring this study to fruition. According to Paltridge and Starfield (2007, p. 119), the research methodology that a researcher employs is usually conceptualised as:

> "…the theoretical paradigm or framework in which the student is working… [It refers] to the stance he or she is taking as a researcher (e.g., choosing a quantitative or qualitative paradigm) and the argument that is built in the text to justify these assumptions, theoretical frameworks and/or approaches as well as the choice of research questions or hypotheses."

Following Paltridge and Starfield's (2007) understanding, I focus on the paradigm of the study, the theoretical framework, the location of the study site, population and sampling, data production, data analysis, the trustworthiness of the study, and ethical considerations.

3.2 The Interpretivist Paradigm

Having to choose among several paradigms, I finally determined that I would underpin this study with the interpretive paradigm, which is characterised by a concern for the individual (Cohen et al., 2011). Guba and Lincoln (1994, 2005) discuss four paradigms: positivism, post-positivism, critical theory, and constructivism. They distinguish among these paradigms by referring to their ontological, epistemological, and methodological assumptions. For example, they argue that, ontologically, positivism assumes one objective reality that can be objectively understood by using quantitative methods. This theoretical position is not suitable for the interpretivist paradigm as the central endeavour of the interpretivist paradigm is to understand the subjective world of human experience (Cohen et al., 2011). Cohen et al. (2011) further contend that interpretivism also considers the social context of information, how it is developed and construed by people, and the way in which it is influenced by and in turn influences a particular social setting. As this study aimed at exploring the experiences of participants in the Engineering discipline, the interpretivist paradigm was suitable as I could tap into the personal

narratives of the participants to elicit thick and rich data. I believed that it would be important to gain a better understanding of the students' writing experiences and literacy development from what they themselves understood. I allowed them to use their own voices freely during semi-structured interviews and I also utilised the entries that they had recorded in their reflective journals over a period of six months to augment the data.

In essence, the central endeavour of the interpretivist paradigm is to understand the subjective world of human experience−that is, how a human participant experiences and understands the reality of the world of interest in which he or she finds themselves.

To answer the research questions, a qualitative approach was adopted. The qualitative approach provides multiple ways of understanding the inherent complexity and variability of human behaviour and experience. Most theorists on research methods are in agreement that research questions are a product of the researcher's general worldview. According to Saunders, Lewis and Thornhill (2016, p. 124), this "system of beliefs and assumptions about the development of knowledge" is referred to as the research philosophy. This philosophy influences how the researcher perceives and understands the world, and includes his/her perception of possible research problems and solutions. Guba and Lincoln (1994, p. 107) refer to this as the research paradigm; i.e., "a set of basic beliefs […] [or] a worldview that defines, for its holder, the nature of the 'world' and the individual's place in it, and a range of possible relationships to the world and its parts". This involves the nature of the reality of that world (also referred to as ontology), the possibility of knowing that reality (also referred to as epistemology), as well as how credibly knowledge about or the truth of that reality can be achieved (also referred to as the methodology).

The study was thus beyond positivist or quantitative theorising, as these are biased towards numerical data and generalisable phenomena (Mason, 2002). The interpretivist position allowed the study to produce in-depth data that were utilised to explore the academic writing experiences from the viewpoints of both student and lecturer participants (Merriam, 2008). My position was that, while learning can occur from developments in other contexts, the dynamics of a phenomenon as investigated in this study setting would be contingent upon historical developments and the interaction of different institutional arrangements and actors down historical epochs. Moreover, I understood that the development of academic writing and literacy within the higher education setting is context specific and time sensitive. This means

that Engineering students can only develop specific literacies within the Engineering department over extended periods of exposure to subject content. Therefore, to ascertain how this reality impacted reading and writing development, a discursive engagement between the researcher and the researched (human participants who could be associated with the realities of physical and socio-economic environments) was pivotal. I thus embraced Guba and Lincoln's (1994, p. 110) contention that it is only through this "value-mediated transactional interaction between the two that reality can be re-constructed from individual narrations and the constraints of historical contexts". When I conceptualised this approach, I understood that an individual's experiences and knowledge of the world come only from actively being in the world. It is this 'being' that consciously brings 'the act of being' in touch with the world and with ourselves and makes it possible to function effectively (Davis, 1995, p. 122). I therefore set out to understand the students' and lecturers' perceptions, perspectives, and understandings of the writing and literacy development phenomenon in the Engineering discipline context.

I also understood that conscious experiences are uniquely featured as they are experienced as people living through them or performing them as they are experienced from the subjective or first-person point of view. The lived writing experiences of the Engineering students in the higher education setting under study were therefore explored in terms of: (i) what they experienced regarding academic writing and literacy development at the selected university of technology under study; (ii) how they experienced academic writing and academic literacy support offered by the Academic Literacy and Language Support unit at this particular university; and (iii) why they experienced academic writing and literacy development the way they did, at the selected university of technology under study.

3.3 Theoretical Framework

3.3.1 Bourdieu's Cultural Capital Theory

In this study, I drew on a combination of Bourdieu's Cultural Capital Theory (1973) and the Academic Literacies Model (ALM) as advanced by Lillis and Scott (2007). To commence this discourse, I shall present a discussion of each before showing their application to the study.

The cultural capital concept is primarily associated with the works of Bourdieu and Passeron (Bourdieu 1973, 1977, 1984, 1986; Bourdieu & Passeron, 1977). These scholars have driven

the discourse on cultural capital through their engagement with and attempts to comprehend the societal strata of their generation and the sustaining forces of such echelons. Puzzled by the consistent middle-class student's prospects and success in enduring through school while working-class students had higher drop-out rates, Bourdieu and Passeron (1977) embarked on unravelling the underlying explanation for this reality. They conclude with the following argument:

> "Not only do the more privileged students derive from their background of origin, habits, skills, and attitudes which serve them directly in their scholastic tasks, but they also inherit from its knowledge and know-how, tastes, and a 'good taste' whose scholastic profitability is no less certain for being indirect (Bourdieu & Passeron, 1979, p.17). This implies that the concept or reality of cultural capital fundamentally replicates itself considering that those embodied with any form of cultural capital naturally transmit such to their off springs and generation thereafter."

Dumais (2015) argues that, although education is supposed to serve as a vehicle for social mobility where students can work to their natural aptitudes, the educational system actually reproduces the existing social class structure. He argues that the one important mechanism through which this reproduction occurs is *cultural capital*. He bases this argument on the fact that cultural reproduction always takes the form of an early introduction to a certain way of life, taste, appreciation of a specific lifestyle, and a vision. Wildhagen (2010) confirms the above statement as to how cultural capital shapes educational experiences and outcomes. In "How Cultural Capital Shapes Educational Experiences," Wildhagen (2010) explores how cultural capital influences academic achievement and educational experiences. Cultural capital refers to the cultural knowledge, skills, and values that are valued by society and can be acquired through socialization and education. He further argues that students from higher social classes have more cultural capital than those from lower social classes. This is because they are more likely to have parents who possess higher levels of education and cultural knowledge, and they have greater access to cultural resources such as museums, concerts, and books.

As a result, students from higher social classes are more likely to succeed in school because they are better equipped to understand and navigate the academic environment. They are also more likely to have the social and cultural resources necessary to gain admission to prestigious universities and obtain higher-paying jobs.

Wildhagen (2010) further also debates how cultural capital can be transmitted through schools. For example, schools with a strong academic tradition and a culture of high expectations can provide students with the cultural capital necessary for success. However, schools that lack these resources may perpetuate existing social inequalities by failing to provide students with the cultural capital necessary to succeed in higher education and the workforce. Overall, his work highlights the importance of cultural capital in shaping educational experiences and outcomes and suggests that efforts to reduce educational inequalities must address the cultural resources available to students.

Bourdieu (1973, p. 80) describes cultural capital as "linguistic and cultural competence and that relationship of familiarity with culture which can only be produced by family upbringing when it transmits the dominant culture". Linguistic and cultural competence, as argued by Bourdieu, also denotes one's ability to "code and decode the vocabulary of a particular class" (p. 80). Such a vocabulary could be developed and built over time through formal and informal acquisition. With reference to Cole's (2019) comprehension of the same phenomenon, cultural reproduction is a product of the ongoing accumulation of knowledge, behaviours, and skills that a person can tap into to demonstrate cultural competence and social status.

Bourdieu classifies the discourse of the Cultural Capital Theory into three categories, which he argues are the embodied, objectified, and institutionalised forms of cultural capital (Bourdieu, 1977). In his article titled *Intergenerational reproduction of cultural capital*, he presents these three states of cultural capital in the process of intra- and inter-generational transmission of resources. In this article, he discusses the impact of parental, institutionalised, embodied, and objectified cultural capital on children and the extent to which the effect of one type of cultural capital is mediated by another. The three categories are explained briefly.

3.3.1.1 Embodied cultural capital (ECC)

As aforementioned, embodied cultural capital (ECC) is a multifaceted form of cultural capital. Bourdieu (1986) conceptualises the ECC as the "long-lasting dispositions of the mind and the body". It is a form of cultural capital that is, by and large, acquired in the process of nurturing a child. According to Kraaykamp and Eijck (2010, p. 210), "the creation or conception of cultural capital is closely related to cultivation or *Bildung dsd,* which presupposes a long-lasting process of embodiment or incorporation that requires personal effort". This implies that,

inherent in the comprehension of the ECC, is the active participation of the individual as it requires a personal effort. This also suggests, as already intimated by various studies in this field, that such cultural capital may not be transferable and may only be acquired. As opposed to transferability as it applies to issues of inheritance, acquisition in this context presupposes a long-lasting endeavour or process of learning, embodiment, or incorporation that demands a personal effort. Bourdieu's conception of ECC establishes a persuasive and resilient bond between the individual's body and the acquired capital. He unambiguously asserts that ECC could be conceptualised as "external wealth converted to an integral part of the person, into a habitus and, as a result, cannot be transmitted instantaneously (unlike money property rights, or even titles of nobility) by gift or bequest, purchase or exchange" (Bourdieu, 1986, pp. 244-245). The conversion of such external wealth into embodied capital is a very personal (both conscious and unconscious) process that engages the individual through and through. The explication of this process is well captured by the following assertion by Kraaykamp and Eijck's (2010, p. 210):

> "Embodied cultural capital is accumulated in a lifelong process of socialization and it takes place in large part unconsciously. An early cultural socialization provided by parents is likely to leave its marks during the rest of one's life (e.g., pronunciation that reveals class or region of origin). And it is exactly because the accumulation of embodied cultural capital covers the entire socialization period, thereby creating cultural distinctions that feel like natural differences, that the reproduction of embodied cultural capital is the best hidden form of intergenerational capital transmission. This makes the process of its reproduction all the more powerful."

In summary, the ECC is an acquired capital that, according to Prieur and Savage (2011), could be determined or appraised as attitudes, preferences, and competences. In simple terms, Kraaykamp and Eijck (2010) refer to ECC as "one's tastes, ways of speaking and carrying oneself, and general knowledge of the culture valued by the dominant classes".

3.3.1.2 Objectified cultural capital (OCC)

It is evident from available literature that the concept of cultural capital has been broadly explored and interrogated. In spite of that, assertions from scholars substantiate the view that studies of cultural capital generally revolve around the elaboration and interrogation of the effects of parental cultural capital in institutionalised education as well as in its embodied

cultural participation or taste (de Graaf, 1986; Kalmijn & Kraaykamp 1996; Aschaffenburg & Maas 1997; van Eijck 1997; de Graaf et al., 2000; Sullivan, 2001). The discourse about the objectified form of cultural capital seems forgone, as it results in a narrow and incomplete exploration of issues related to cultural capital. This view is strongly echoed by Ganzeboom et al. (1990), Halle (1992), and Pellerin and Stearns (2001) who express their displeasure that studies focusing on cultural goods as a component of cultural capital (the objectified state) are rarest in comparison to other forms of cultural capital. This is even more concerning when scholars such as Sullivan (2001) draw attention to the element of misrepresentation and mis-conceptualisation of cultural capital through such partial operationalisation of cultural capital.

In simple terms, the concept of objectified cultural capital (OCC) is embedded in identifiable objects, which Bourdieu (1986, p. 243) terms "cultural goods". These are empirical entities or articles that are bequeathed as some form of acknowledgement or recognition within a given culture. It is noteworthy that, inherently, such objects or entities may be devoid of such capital; hence, they require the embodiment of cultural capital in order to be appreciated. According to Saraceno and Alberto (2014, p. 4), "such cultural goods can be transmitted both for economic profit (as by buying and selling them with regard only to others' willingness to pay) and for the purpose of symbolically conveying the cultural capital whose acquisition they facilitate". Examples of such objectified capital include works of art, literature, and artefacts.

Building on the notion of transfer of OCC, it is widely accepted among scholars that the possession of OCC is primarily influenced by parents' cultural capital. As an integral part of a family's identity, the parent actively or passively transfers the objectified capital to their children. Andersen and Jaeger (2016) affirm Bourdieu's stance that "cultural capital is possessed by families and individuals and is transmitted from parents to children through investments and socialisation". Similarly, Kraaykamp and Eijck (2010, p. 209) argue that "possessing cultural goods (objectified state) is mostly affected by parents' cultural possessions". Such inheritance of parents' cultural capital and their success in influencing recipients' dispositions and endowments is what Bourdieu calls *habitus.* Individuals must know how to mobilise culture to serve their interests, which is dictated by habitus. In essence, habitus is the internalised mental dispositions through which individuals perceive the world.

3.3.1.3 Institutionalised cultural capital (ICC)

In his famous publication titled *Forms of cultural capital,* Bourdieu (1986) asserts that cultural capital is convertible under certain conditions into economic capital and may be further institutionalised in the form of educational qualifications. Bourdieu's assertion is indeed an acknowledgement of the third form of cultural capital which has received substantial attention from scholars over the years. He explains institutionalised capital by using the analogy of the attainment of an academic qualification:

> "…with the academic qualification, a certificate of cultural competence which confers on its holder a conventional, constant, legally guaranteed value with respect to culture, social alchemy produces a form of cultural capital which has a relative autonomy vis-à-vis its bearer and even vis-à-vis the cultural capital he effectively possesses at a given moment in time" (Bourdieu, 1968).

Prieur and Savage (2011) are in agreement that institutionalised cultural capital (ICC) is a form of cultural capital that is symbolised by educational qualifications and credentials. Saraceno (2014, p. 4) understands ICC as "consist[ing] of institutional recognition, most often in the form of academic credentials or qualifications, of the cultural capital held by an individual". In the latter author's view, institutional recognition serves the purpose of simplifying and improving the process of translating cultural capital into economic capital.[2] Prieur and Savage (2011, p. 570) understand ICC as "widely shared, high status cultural signals (attitudes, preferences, formal knowledge, behaviour, goods and credentials) used for social and cultural exclusion".

Aside from the aforesaid functionality of the ICC, amongst others (which may not be exclusive of each other), there exists an integral relationship between the ICC and the other forms of cultural capital. The glaring relationship amongst these forms of cultural capital is embedded in the idea of cultural capital as understood through variables such as cultural and linguistic competence or experiences. Hence, the fundamental difference between ICC and other forms of cultural capital is that institutionalised capital, in the form of educational credentials, becomes a unanimously accepted demonstration of specific qualities, competences, and experiences. An example of such commonality is evident in Kraaykamp and van Eijck's (2010, p. 214) assertion that "… both embodied and institutionalised cultural capitals represent skills, tastes, or attitudes that require the investment of time and energy". In essence, ICC could be further understood as the legalised (official), collective, and widespread recognition of an

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[2] This is often achieved via the utilisation of qualifications as an experience-based model that sellers can use to describe their capital and buyers can use to describe their needs.

objectified and embodied form of cultural capital. The legal component of ICC is exhibited in its authority to categorise individuals or groups of people based on their acquired ICC, while the legitimacy of such categorisation reflects the collective and widespread nature of ICC.

Similar to the idea of transferability of objectified cultural capital, it is widely argued that embodied and institutionalised cultural capitals are quite complementary at the intra-generational level (DiMaggio & Useem, 1978; Lizardo & Skiles, 2008; Kraaykamp & van Eijck, 2010). This has led to multiple arguments elucidating the relationships between parents' ICC and that of their children's. For example, it is argued that parents' schooling levels have a direct bearing on their children's cultural appreciation and participation. The Figure below illustrates the connections among different cultural capitals.
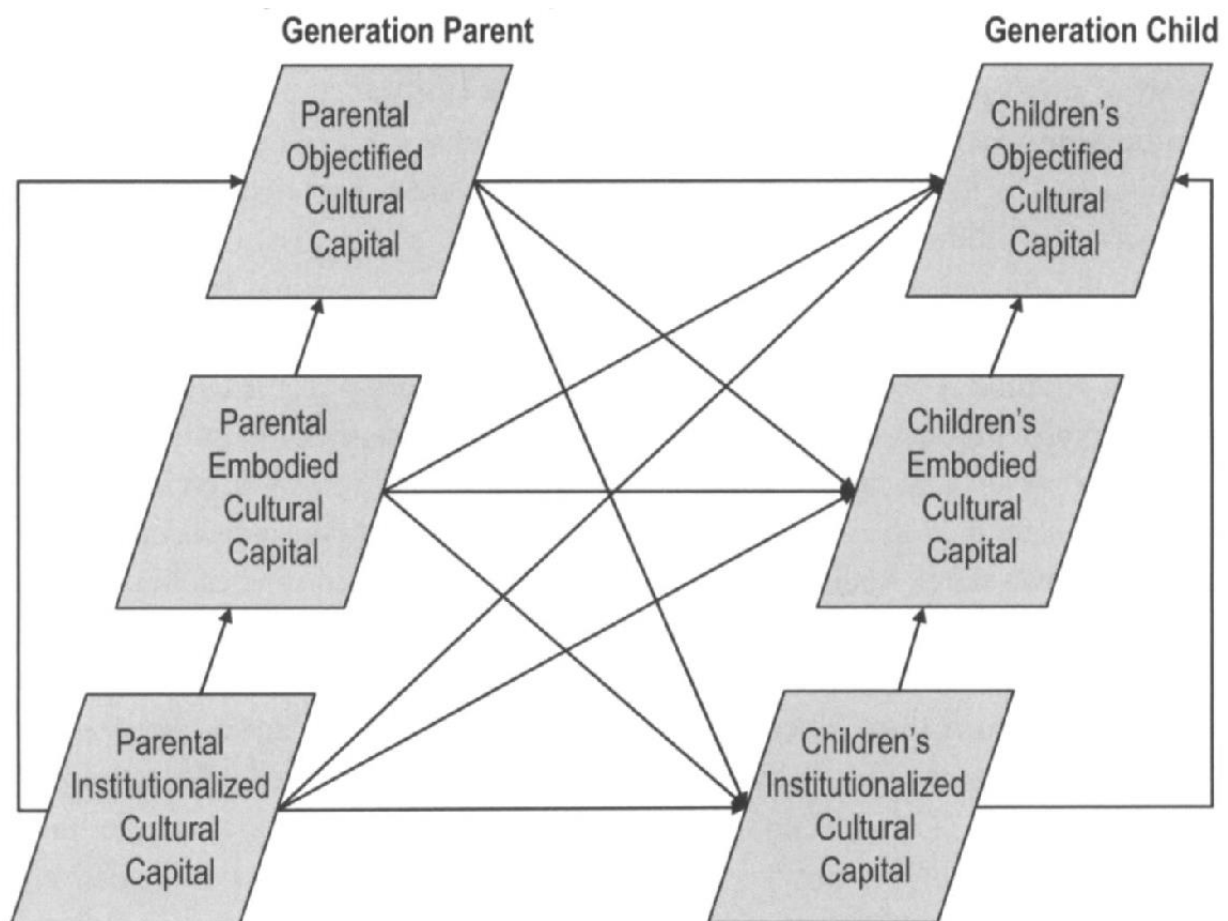
Figure 7: The generation parent-generation child element of transferability

It is argued that parental capital, which guides and shapes their children's exposition and experiences, has a significant impact on children's ability to, or not to, achieve the disposition required for the integration, internalisation, or acquisition of certain cultural capitals.

Bourdieu (1977) further argues that, beyond the transferability of cultural capital, schools are designed to sustain the culture of the dominant class. Consequently, schools are structured in a way that guarantees the success of students from dominant categories. Aschaffenburg and Maas (1997) and Graaf et al. (2000) further affirm this view in their argument that students who are privileged in terms of dominant linguistic styles, aesthetic preferences, and forms of interactions are positively sanctioned by their teachers. This occurs for the reason that children from privileged homes are endowed with the cultural elements that facilitate compliance with the demands and ethos of higher education. Such children, through admirable education and access to better resources, are exposed to the expected principles of higher education, while poor students lack such cultural capital. Consequently, working class students often do not comprehend the system that is based on the dominant culture, which positions them at a disadvantage in school. As a result, they are not often considered as favourable by teachers due to the mismatch between poor students' cultural resources and those demanded by the school. It is, however, noteworthy that Bourdieu (1977) acknowledges the possibility that members of the lower classes can acquire cultural capital just like that possessed by the dominant class, but he argues that this capital will be different from the cultural capital of the middle and upper classes. It should be noted that, at the university under study, students come from diverse cultural and socio-economic backgrounds and that many are recruited from deep rural areas in the KwaZulu-Natal Province where poverty is a predominant feature.

3.3.1.4 Critique on and the evolution of Bourdieu's Cultural Capital Theory

There is a high level of consensus among scholars that cultural capital has received a great deal of attention over the years. The attention it has enjoyed is of course due to the novelty of the concept of cultural capital in the reproduction of classes and social order. Similar to other theories, there are ardent proponents of this theory and the preceding sections of this chapter engaged with the views of some of these proponents.

This section will unpack some of the reservations, criticisms, and anomalies of the Cultural Capital Theory. Scholars such as Lamont and Lareau (1988) and Kingston (2001) provide

outstanding critiques of the Cultural Capital Theory. Lamont and Lareau (1988), in their thesis titled *Allusions, gaps and glissandos* on cultural capital, draw attention to a misunderstanding that they argue is embedded in this theory, with attention directed at the analysis and application of the relevant concepts in the theory.

One of Bourdieu's (1977) noteworthy, but unresolved, claims in the explication of the Cultural Capital Theory is his argument related to the impact of the cultural bearings of the dominant class on educational attainment. Kingston (2001), in his writing titled *The unfulfilled promise of cultural capital theory,* poses a valuable question in an effort to ascertain the relationship between cultural capital and educational attainment. He seeks to comprehend the presumed relationship between cultural capital and academic success by questioning the extent that the endowments of cultural capital statistically account for the relationship between social privilege and school success (Kingston, 2001, p. 91). This is because any claim that attempts at establishing a pivotal role of a person's social status and school performance ought to demonstrate that such cultural capital substantially advantages the socially privileged in school performance. Consequently, he argues that it was essential that the relationship between cultural capital and social privilege in schools be interrogated.

Xu and Hampden-Thompson (2012) argue that "the cultural capital variables had virtually no impact on the relationships between teachers' perceptions and students' grades" and that, in addition to this, it has been established that teachers largely emerge from the modest class of cultural capital. It is argued that teachers' modest nature of cultural capital does not offer them a natural disposition to reward social status or the dominant class. This view is strongly supported by Graaf and Ganzeboom (1993) in their historical analysis of Sweden and the Netherlands that led to the discovery of a steady decline on the impact of parents' educational attainment over the educational and occupational accomplishment of their children (De Graaf & Ganzeboom, 1993; Erikson & Jonsson, 1996). The outcome of Graaf and Ganzeboom's study offers a point of departure in their quest for a critical interaction and comprehension of Bourdieu's theory of cultural capital. It strongly supports the claim that teachers do not necessarily play the role of guaranteeing the success of students from the dominant class or elite status that the Cultural Capital Theory assigns to them. At minimum, the burden of proof rests on the proponents of Bourdieu's Cultural Capital Theory to demonstrate the relationship between academic achievement and teachers' reward of the dominant cultural capital.

While there is indeed criticism, proponents of Cultural Capital Theory can rightly complain that quantitative, survey-based research misses the meanings and subtleties of the social interactions that are involved in the conversion of cultural capital into social privilege. As Lareau and Horvat (1999, p. 38) note, "The translation of the theoretical model into 'variables' has often decontextualised key concepts from the broader theoretical mission". With this understanding, this thesis generally accepts Bourdieu's (1977) understanding that elite children, strongly socialised at home into their class culture, come to school with dispositions that distinctly 'fit' the cultural biases of this institution and are rewarded in school for their particular cultural orientations. Moreover, schools have been fashioned to guarantee the success of students from privileged groups. Students who hold the dominant linguistic styles, aesthetic preferences, and styles of interaction (habitus) are therefore positively sanctioned by their teachers. These cultural elements of family life facilitate compliance with the requests of higher education (Aschaffenburg & Maas, 1997; Lareau & Horvat, 1999).

Reservations about Bourdieu's (1977) cultural capital theory are posited within the positivist, quantifiable fashion in which opponents see that his analysis of educational success and social status falls short in the assertion and appreciation of other variables that impact students' academic success. For example, some argue that Bourdieu's cultural capital theorising reinforces a separation of the intellect from primary experience. Hence, cultural phenomena are objects to be understood positivistically and possess no distinctive truth claims (Robbins, 2005).

In an engaging case study, Lareau and Horvat (1999) analyse parents' involvement in the schooling of their third-grade children. This qualitative study considers the neglected 'fluid interplay' between agency and structure that is inherent in Bourdieu's work. Lareau and Horvat (1999) make the obvious and sensible points that cultural resources are socially significant only if they are effectively used and, moreover, that their significance depends on the social context. In their view, all resources that "facilitate parents' compliance with dominant standards in school interactions" become cultural capital. Such resources include suitable vocabulary and a sense of entitlement to interact with teachers as equals, as well as the time, transportation, and childcare arrangements necessary to meet with school officials. Lareau and Horvat's (1999) fieldwork suggests that there is a racial cleavage in parents' ability to get what they want for their children, and that the cleavage is only partially mediated by class. But perhaps equally notable is the variation in parents' ability to 'play their hands'; that is, their specific mixture of

cultural resources. For instance, they found that some Black parents skilfully manipulated a situation to get what they wanted, while others did not get their way and were seemingly unwelcome for their aggressive, demanding style. Individual temperament clearly played an important role in how parents intervened or stayed uninvolved.

Still, Lareau and Horvat's (1999) analysis valuably suggests that the educational services that a child receives are affected by parents' interests, personal styles, temperament, race, and class, as well as by teachers' characteristics and the social setting of the school. Such 'contextualised' understanding underscores the complexity of home-school relations. Recognising this complexity, however, undercuts the sense that cultural capital represents some generalised currency that accounts for the social stratification of academic success. Indeed, it suggests that many facets of culture are largely unrelated to exclusionary class or race practices and are academically consequential.

3.3.2 The Academic Literacies Model (ALM)

Lea and Street's Academic Literacies Model (ALM) is the secondary theory or model that this study utilised. The ALM, as designed by Lea and Street (2006), focuses on the textual conventions of the disciplinary courses and genres. For example, writing spaces in universities are inherently contested and regulated support spaces of hope for students who visit these facilities as referrals for epistemological reasons, and so on. Issues around student writing and academic literacy are conceptualised and framed discursively, and thus it is equally important to engage with how student writing is understood and represented in the discourses and practices of the institution and enacted in interactions between lecturers, support staff, and the institution (Archer, 2007; Bailey, 2009).

The ALM has three facets, namely the study skills model, the academic socialisation model, and the New Literacies Studies (Lea, 2006) that generally inform the Academic Literacies perspective that considers reading and writing as social practices that vary with context. The study skills model (SSM) is concerned with the use of written language at the surface level and concentrates upon teaching students' formal features of language such as sentence structure, grammar, and punctuation (Lea & Street, 2006, p. 369). It aims to fix, remediate, and assume student writing as a technical skill, thus assuming a reductionist view. The SSM pays little

attention to context and is implicitly informed by autonomous and additive theories of learning (such as behaviourism) which are concerned with the transmission of knowledge.

The Academic Socialisation Model (ASM) assumes student writing as a transparent medium of representation. It focuses on student orientation to learning and their interpretation of learning tasks, for example deep and surface learning. Lillis and Scott (2007, p. 6) echo that the educational domain has been the predominant focus of academic literacies to date. Scholars such as Kaburise (2012), Cliff and Yeld (2006), Leibowitz (2001), Lea and Street (1998), and Taylor et al. (1988) have presented different definitions and understandings of academic literacy. A review of these definitions of academic literacy demonstrates three broad spectra or perspectives on academic literacy. These spectra, according to Van Dyk and Van de Poel (2013), include an extreme view that upholds the skills-based approach. This view considers academic literacy as four distinct 'skills' that can be taught in isolation, as stated by Bachman and Palmer (1996, p. 75). Another zealous perspective is the New Literacies Studies, which focuses on the social and cultural embeddedness of literacy practices and the concept that multiple literacies exist in various contexts (cf. Gee, 2008; Leibowitz, 2001; Boughey, 2000; Lea & Street, 1998). This third spectrum constructs academic literacy as 'being able to use, manipulate, and control language and cognitive abilities for specific purposes and in specific contexts' (van Dyk & van de Poel, 2013, p. 56). This understanding expresses the crucial role played by one's context, experiences, and reality in the development of academic literacy. In line with the appreciation of these components of academic literacy, van Dyk and van de Poel's (2013, p.47) description of academic literacy as "the knowledge and skills required to communicate and function effectively and efficiently in different academic communities and achieve well-defined academic goals" has been adopted. Consequently, academic literacy is deemed the embodiment of the social, cognitive, and linguistic dimensions of knowledge acquisition and knowledge sharing. A deep-seated implication of this evolved understanding of academic literacy is that knowledge acquisition and learning require a process of acculturation and integration that enables students to understand and transfer knowledge and skills from one context to another while moving between or among different discourse communities (Nizonkiza & van Dyk, 2015, p. 152). Scholarly writings on academic literacy illustrate various intricacies (social, cognitive, and linguistic) that make students' navigation of literacy requirements complex. Therefore, the integration of students' experiences, dialect, and ability to comprehend becomes very important in academic literacy.

Universities' writing centres reportedly play a distinctive role in students' literacy development. By and large, South African universities' writing centres are places of support for students in their academic development. According to North (1984, cited in Archer & Richards, 2011, p. 9), writing centres are spaces where students learn not only how to produce better writing, but also how to become better writers. The development of their writing skills in this context entails a demonstration of their ability to integrate the social, cognitive, and linguistic aspects of themselves into their writings and their respective academic journeys. However, regardless of the centrality of writing centres to students' literacy development, they seem to remain largely undervalued and misconstrued in the academic environment. This has consequently led to a glaring lack of integration between various departments and universities' writing centres. This lack of integration is expressed in writing centres' persistent independent delivery of their services away from other academic departments and units.

The student population at most universities in South Africa and around the world has grown rapidly as a result of massification and open access to higher education contexts and environments globally. There is also a noticeable phenomenon of pedagogical shifts in universities in the higher education sector. Presently, universities admit students who come from diverse socio-economic, religious, language, class, race, age and gender profiles and these institutions now embody a global realm of highly digitised spaces and settings. The student population at the selected university for purposes of this research are mainly drawn from the province of KwaZulu-Natal in South Africa. It is situated near Durban and enrols students who attained a National Senior Certificate (Grade 12). This institution focuses on the three academic literacy models, namely the study skills model, the academic socialisation model, and the academic literacies model which is informed by and has its epistemological origins in the New Literacies Studies Model (Lea, 2006).

Most student participants attended township schools and spoke English as their second language. IsiZulu is the most predominant home language among the student body and they use it in general communication and social contexts. Township schools are graded by the Department of Basic Education as Quantile 3 schools because of their geographical location and proximity to basic amenities. The following information is offered to sketch the background of the schools where the majority of the students at this institution matriculated.

3.3.2.1 Quintile categories of schools in the South African context

A quintile is a portion of $1/5^{th}$ (20%) of the whole. Statistically, it means that a population or sample is divided into five equal parts. In the schooling context, primary and high schools in each province are classified into five groups from the poorest to the most affluent. Quintile 1 is a group of schools in each province that caters for the poorest 20% of schools. Quintile 2 caters for the next poorest 20% of schools, while Quintile 5 schools represent the least poor. Schools receive funding from the government according to their Quintile category. Quintile 1 (poor) schools receive the highest allocation per learner, while Quintile 5 schools receive the least. The latter schools function primarily on the school fees that parents pay.

3.3.2.2 No-fee schools

The schools in the lower quintiles (1 to 3) are declared no-fee schools and therefore do not charge school fees. These schools get all their funding from the government. Quantile 4 and 5 schools receive limited funding from the government and are therefore compelled to levy school fees for maintenance and general management. Every year the Minister of Basic Education determines the national quintiles for public schools that must be used by the MECs to identify schools that may not charge school fees. MECs must subsequently identify and publish a list of these schools in their provinces. Parents and the entire school community must be informed of a school's quintile rating and the amount of money the school will receive. Provincial Offices should communicate this information through their District Offices to schools in writing. Should parents and the School Governing Body (SGB) think that they are not classified under the appropriate quintile, they have the right to lodge a dispute. Provincial and District offices must inform parents and schools of the dispute procedures to be followed.

3.4 Academic Writing Development

Since the 1990s, academic literacy researchers have revealed shortcomings in writing instruction in most universities, especially in the UK. This propelled an evolution globally in various countries, particularly the UK the USA, who have taken drastic steps to encourage research into this neglected skill. In the South African context, the first university-based writing centres opened their doors in the mid-1990s. These centres are commonly located within academic development units. These writing centres are closely aligned with academic student

development work and originally focused on disadvantaged, underprepared, and predominantly Black students who came into higher education during the transition from apartheid to democracy (Archer & Richards 2011; Clarence & Dison, 2017).

Academic writing development in the South African higher education context is growing rapidly as universities respond to the changing dynamics of the higher education landscape. These are the University of the Western Cape (UWC), Stellenbosch University (SU), Durban University of Technology (DUT), Northwest University (NWU), the University of the Witwatsrand, and many others. Some of these universities have established faculty writing centres, for example the University of Pretoria's (UP) Faculty of Humanities Writing Centre and the North-West University's Faculty of Humanities Writing Centre.

Learning to write in an academic discipline is not a purely linguistic matter that can be fixed outside the context in which the writing is required (Tribble, 2012). It is also important for faculty writing support and library discipline and requires an understanding of how knowledge in the discipline is presented to assist students. I therefore propose an integrated institutional model in this thesis to serve this purpose. In her effort to offer more effective academic writing support to students, Wingate (2012) undertook a longitudinal study comprising of various stages. Each stage was a writing development initiative that aimed to create an instructional model that can be applied across specific disciplines. Based on the findings, she proposes practical solutions for a mainstream writing pedagogy which is available to students from all backgrounds in the UK higher education system. Similarly, based on an institution's background and context, the model that I propose recognises students' backgrounds, identities, and institutional power relations that can be incorporated in learning materials that are useful for distant learning courses in urban, rural, and semi-urban or township schools. This model is an important contribution to literacy development as it prioritises history, context, student population, and location.

Student academic writing development is important, especially as far as the underprepared students are concerned. When students are unable to write well at university and their writing development is deemed inadequate for higher education progression, it suggests that the institution is unable to accommodate their needs and even hampers their academic progress significantly. Street (1984) discusses academic writing and academic literacy programmes as a deficit model that supports remediation rather than development. Therefore, reading and

writing literacies should be presented as sets of practice whose focus shifts towards ways in which students will learn to participate and make meaning within any academic context (Lea, 2004). Teaching writing and learning to write is pivotal in education as it enhances the development of a literate citizenry. However, developing appropriate reading and writing skills in the higher education context occurs over time as students encounter different contexts, tasks, audiences, and purposes. The need for such programmes cannot be overemphasised, as they are critical in all disciplines.

3.5 Application of the Theoretical Lenses

This study aimed to explore and understand Engineering students' writing development and experiences through the lenses of the Cultural Capital Theory and the Academic Literacy Model (ALM). Broadly speaking, cultural capital refers to one's ability to 'code and decode' the vocabulary of a particular class and this ability is entrenched in the social, cognitive, and linguistic dimensions of academic literacy. Cultural capital was therefore used to assist in my exploration and understanding of the capitals that Engineering students brought with them and needed to develop while at university.

The ALM, which focuses on the textual conventions of disciplinary courses as discussed by Lea and Street (2006), was used to help me to follow the participating students' progress (or possible lack thereof) in terms of their academic writing and literacy development. In this instance, my focus was on determining how the integrated teaching of academic writing and literacy development took shape. I adopted the stance that all teaching should focus on achieving holistic development based on three academic literacy models, namely the study Skills Model, the Academic Socialisation Model, and the Academic Literacies Model. The latter derives its position and epistemological origins from the New Literacies Studies (Lea, 2006) approach.

3.6 Location of the Study

This study was conducted at a university of technology in the KwaZulu-Natal Province of South Africa. The university is located in a township setting where most students come from disadvantaged communities of low socio-economic status. This university also attracts students from rural villages in the Northern KwaZulu-Natal region and from semi-urban areas. Most of

these students use the local language, IsiZulu, as their first language. Whilst English is the dominant language of teaching and learning, research, assessment, examination and administration, isiZulu language remains the dominant social language used at this selected university of technology under study, mainly on campus and in the community surrounding this institution.

3.7 Population of the Study

Population in research terms is defined as "the target group about whom we want to develop knowledge, but cannot study directly, therefore a sample is drawn from that population" (Punch, 2009). Punch further maintains that, in research, a population is a precise group of people or objects that possess the characteristics and knowledge that are questioned in a study. This current study involved eight participants comprising four students and four lecturers. The four students were engaged in reflective journal entries, which they submitted at the end of every week for six months before they were interviewed. After the students' interviews, four lecturers from the Engineering faculty were interviewed with the purpose of determining whether the students' academic writing and literacy skills and abilities had improved.

3.8 Sampling Mechanisms

A sample is defined as a smaller group drawn from a larger population from which data are collected and analysed, and inferences are then made regarding the population (Punch, 2009). Purposive sampling is used when a researcher handpicks the cases to be included in the sample on the basis of the researcher's judgement of their typicality and their possession of the particular characteristics and knowledge that are sought (Cohen & Manion, 2011). In this study, I utilised purposive or deliberate sampling, which means that the sample that I recruited was drawn from the population in a deliberate or targeted way according to the requirements of the research topic, aim, and objectives (Leedy, 2010; Leedy & Ormrod, 2011).

I recruited senior third-year students from the Faculty of Engineering as my student research participants. I purposely focused on students who had been exposed to academia for over five semesters of teaching and learning at the institution and who were about to exit as they were registered for a three-year diploma in the faculty. The identified departments were as follows:

Chemical Engineering, Mechanical Engineering, Civil and Survey, and Building and Electrical Engineering. Each participant represented a department within the faculty. The five students who were identified were deemed to understand research processes and were able and willing to sustain a weekly submission of journal entries. Having purposely selected the faculty and the various departments, the choice of participating lecturers depended on the ones who were available and showed interest in the study. The initial intention was to recruit ten participants: five students and five lecturers, each representing a department in the faculty. However, one student and one lecturer from one department were unable to sustain attendance and they withdrew from the study, as was their right.

The participants' demographics are presented in Table 1 below. Fictitious names (or pseudonyms) are used throughout the thesis, but the actual race, gender, first language, schooling background, department, years of study, and citizenship of the participants are accurately indicated. Table 2 provides information about the lecturers who participated in this study. Pseudonyms are also used but data in terms of their race, gender, first language, and industrial experience prior to lecturing, department, years of teaching experience, and their citizenship are accurate.

Table 1: Student participants' demographics

No.	Name	Race	Gender	First Language	Schooling Background Rural / Urban	Dept.	Year of study	Citizenship
1.	POET	Black	Male	IsiZulu	Urban (former Model C)[3]	Construction Management	S4	RSA
2.	GENT	Black	Male	IsiZulu	Urban (Township)	Survey	S4	Swazi
3.	SAVER	Black	Female	IsiZulu	Urban (Township)	Chemical Engineering	S4	RSA

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[3] Model C schools were accorded the status of being the "ideal type" post-apartheid school, with the assumption that schools of this type are available for all in some unspecified future, as long as principals, teachers, students and parents work hard enough and were governed by finances, resources under strict conditions and could accommodate learners across all races as long as parents played a participatory role (see, Christie & McKinney, 2017).

No.	Name	Race	Gender	First Language	Industrial experience prior to lecturing	Dept.	Years of teaching experience	Citizenship
4.	WILL	Black	Male	IsiZulu	Rural	Electrical Engineering	S4	RSA

Table 2: Lecturer participants' demographics

No.	Name	Race	Gender	First Language	Industrial experience prior to lecturing	Dept.	Years of teaching experience	Citizenship
1.	TPA	Black	Female	IsiZulu	Yes	Chemical Engineering		RSA
2.	SMS	Black	Male	IsiZulu	Yes	Electrical Engineering		RSA
3.	TYG	Black	Female	IsiZulu	Yes	Survey		RSA
4.	FRE	Black	Male	Shona	No	Mechanical Engineering		Zimbabwean

3.9 Research Methods

One of the common challenges of most scientific inquiries face is the choice of the most suitable methodological approach that will meet the aim and objectives of the proposed study. This primarily means deciding whether to use a quantitative, qualitative, or mixed methods approach in a study. Although any of these research approaches may have been adequately employed in other similar studies, the nature and objectives of this study informed the researcher's adoption of a qualitative approach for data generation and analysis. Prior to the in-depth discussion of the adopted research methods, it is necessary to briefly examine other methods and why they were considered unsuitable for this study.

3.9.1 Quantitative research methodology

Quantitative research approaches that are situated within the positive paradigm are research methods that primarily rely on and deal with information that is collected and analysed numerically. One of the fundamental expectations in a study's adoption of a quantitative research method is the generalisability of the findings of the study. Findings from a quantitative study are expected to be applicable and relevant to other similar situations and population/s.

Therefore, sampling becomes a very important component of a quantitative study. This is because an appropriate sampling method ensures that all the relevant categories are represented (or have an equal chance of being represented) in the study sample, and that the sample is large enough to adequately represent the views or characteristics of the population.

Additionally, quantitative methods of research are employed to confirm or refute existing hypotheses by developing hypothesised relationships and proposed outcomes for the study. Onwuegbuzie and Collins (2005, p. 283) iterate this view by asserting that quantitative researchers "…tend to make statistical generalisations, which involve generalizing findings and inferences from a representative statistical sample to the population from which the sample was drawn". In essence, the quantitative method of research often claims that the experiences of the study sample are equally the experiences of most the entire population.

As was alluded to previously, this study was exploratory in nature. Consequently, rather than the quantitative generation of statistical data via rigid approaches, this study was appropriately approached using qualitative research methods due to the researcher's ability to critically engage with the subjects from who data would be collected. Moreover, the qualitative research methodology was adopted as it would facilitate a robust interrogation of the research questions that had been set.

3.9.1 Qualitative research methodology

The qualitative research methodology is a complex approach to research as it generates multiple meanings and insights. In simple terms, Kothari (2004, p. 5) understands qualitative research methodology as follows:

> "[It is] concerned with the subjective assessment of attitudes, opinions and behaviour. Research in such a situation is a function of researcher's insights and impressions. Such an approach to research generates results either in non-quantitative form or in the form, which are not subjected to rigorous quantitative analysis."

Qualitative research methodologies are established in the interpretivist paradigm. Furthermore, this approach is recognised as the anti-positivism worldview, and the interpretivist paradigm, according to Cock (1989, p. 104), is the view that "truth must be discovered by thought rather than by sensory observation". He argues that researchers are confident in the discovery of

"some truth" of an event based on the personal understanding of the research participants. A central point in the interpretive paradigm is undeniably the significance that it places on unique details and the potential to gather data to exhaustion for analysis and interpretation. This calls for researchers to pay attention to the probable tangled web of issues in gathered data rather than the mere regurgitation of participants' responses and views. Grant and Giddings (2002, p. 16) express this clearly in their assertion that the researcher ought "to interpret the significance of their self-understandings in ways the participants may not have been able to see".

The interpretive paradigm is deeply rooted in the principle of the existence of multiple truths (Erlingsson & Brysiewicz, 2013). It acknowledges the uniqueness and relativity of truth and the meaning of an individual's experiences. This element of relativity within this paradigm consents to multiple interpretations of the same reality or event. In contrast to the positive paradigm that argues for an objective truth that is assumed to be external to the researcher and study participants, the search for subjective truth is entrenched in the interpretivist paradigm. The element of subjective truth is emphasised in the interpretive worldview through its "emphasis on the individual's interpretation and construction of meaning" (Mack, 2010, p. 7). In harmony with this understanding, Tuli (2011, p. 103) asserts that the interpretivist paradigm "portrays the world as a social construct [that is] complex and ever changing".

As qualitative research methodologies are entrenched in the interpretive paradigm, they (qualitative research methodologies) celebrate the richness, depth, nuance, context, multi-dimensionality, and complexity of the interpretive paradigm (Mason, 2002, p. 1). Rather than the quest for objective truth, the qualitative research method seeks to unravel the unique value of individual participants' experiences and understandings of reality. This approach to research is concerned with subjective assessment of attitudes, opinions, and behaviour. Research in such a situation is a function of the researcher's insights and impressions and the qualitative approach in research generates results that are either in non-quantitative form or in a form that is not subjected to rigid quantitative analysis (Kothari, 2004, p. 5). Although qualitative methodology celebrates flexibility in its analysis of data, it is nonetheless systematic and rigorous in the analysis of the generated data.

Bearing in mind that the nature of qualitative methodology is subjective, it is appreciative of individual participants' experiences and understanding of reality. In this context, Erlingsson and Brysiewicz (2012, p. 94) and Denzin and Lincoln (2011, p. 3) argue that it "embraces the

ontological assumption of multiple truths or multiple realities, i.e., that each person understands reality from an individual perspective". Furthermore, qualitative procedures make possible the appraisal of unquantifiable facts about the subjects under investigation. Accordingly, Bruce and Berg present the following argument:

> "Qualitative techniques allow researchers to share in the understanding and perceptions of others and to explore how people structure and give meaning to their daily lives. Researchers using qualitative techniques examine how people learn about, and make sense of, themselves and others" (2001, p. 7).

Along these lines, qualitative methodologies are thought to be "concerned with understanding the ways people construct, interpret, and give meaning to their experiences" (May, 2003, p. 199). Embedded in this conception is the understanding that there is a strong possibility that the same event could generate a variety of responses and feelings from different people.

Denzin and Lincoln (2011, p. 3) also highlight the point that qualitative research is multidimensional, given that it integrates "multiple methodological practices, empirical materials, [and] perspectives that enhance the rigor, breadth, complexity, richness, and depth" of a study. Included in the methods of data generation that are frequently associated with qualitative research methods are in-depth interviews, focus group discussions, observations, narratives, artwork, and the analysis of documents. According to Snape and Spencer (2003, p. 5), qualitative methods are generally appropriate in addressing and engaging with research questions that require in-depth exploration and comprehension of the views and perceptions of participants to address the focus of the study.

This study explored the academic writing experiences and the literacy development of Engineering students at a university of technology in South Africa. I engaged in an in-depth exploration of selected peoples' comprehension of their experiences and the interpretations they attached to their participation in academic support initiatives and how these experiences impacted their (or their students') literacy development. The qualitative methodology facilitated me intensive interrogation and comprehension of the students' experiences and the use of this approach enabled the illumination of a sincere and deep understanding of the research participants' standpoints regarding their literacy development and their experiences of academic writing. My scholarly interrogation of individual participants' insights and experiences helped me to unearth a rich and contextualised comprehension of the students'

academic writing and literacy development as well as the challenges they experienced in the development of academic writing skills along this journey.

This study adopted a theoretical approach that was largely socio-cultural and I drew from Bourdieu's Cultural Capital Theory in the data generation and analysis processes. Bourdieu argues that, above and beyond economic factors, cultural habits and dispositions inherited from one's family are fundamentally important in achieving success at school (Bourdieu & Passeron, 1979, p. 14). This suggests that the academic writing and literacy development space should be regarded as a phenomenon that resonates with the concept of 'field' (Bourdieu & Passeron; 1990). For the purposes of this research, I engaged Bourdieu's theoretical framework that highlights the concepts of 'field', 'capital', and 'habitus' as pivotal in this theory and this allowed me to explore the academic writing experiences and literacy development of Engineering students in a South African university.

Albright and Luke (2008, p. 50) argue that discursive spaces are spaces of struggle where, according to Bourdieu, certain resources are produced that have intrinsic value and are circulated in a regulated way. This process allows for competition over access and, typically, unequal distribution. Writing spaces in universities are inherently contested and regulated support spaces of hope for students who visit these facilities as referrals for epistemological and other reasons. In an earlier discussion I clearly stated that issues around student writing and academic literacy are generally conceptualized and framed discursively. It was therefore important to engage in a debate on how these issues could be understood and represented in the discourses and practices of the institution and how they might be enacted in interactions among lecturers, support staff, and the institution (Archer, 2007; Bailey, 2009).

3.9.2 Case study research

Case study is a qualitative research strategy that focuses on the in-depth, holistic, and in-context realities of one or more cases. Such an interrogation typically uses multiple sources of data. I thus engaged in an in-depth exploration of the study topic by utilising the case study tenets with particular attention to: What a case study is; the attributes and tenets of the case study method; the characteristics of a case study; the advantages and disadvantages of a case study design; types of qualitative case study research; and data generation using a case study design (Punch, 2009, Creswell, 2003, 2013, Denzin and Lincoln, 2018).

Baxter and Jack (2008) define a case study is a research method that involves an in-depth investigation of a specific phenomenon, individual, group, organization, or event. This method is useful when the research question is complex and cannot be easily answered through quantitative research methods. Second, a case study involves a comprehensive examination of the subject of interest, often using multiple sources of data and methods of data collection. This in-depth investigation may involve the use of surveys, interviews, observations, and archival data. Third, contextual analysis is a critical component of case study research. This involves an analysis of the context in which the subject operates, including social, economic, and cultural factors that may influence the research question. Fourth, case studies often emphasize understanding complex social phenomena. This is because the in-depth investigation allows researchers to explore the nuances of the phenomenon, individual, or event, which may not be easily captured through quantitative research methods.

Finally, case studies are flexible and adaptable to different research questions and contexts, which allows researchers to tailor their approach to fit the needs of the study. Overall, case study research is a valuable research method for exploring complex social phenomena and is particularly useful when the research question is complex and cannot be easily answered through quantitative research methods.

Dating back from the 1960s, case study research gained popularity in the field of social sciences as a method for exploring complex phenomena in real-life situations. Case studies involve in-depth investigation of a single individual, group, organization, or event, and are often used to generate hypotheses or theories. One of the earliest and most influential proponents of case study research was Robert K. Yin, whose seminal book "Case Study Research: Design and Methods" was first published in 1984. Yin emphasized the importance of careful case selection, multiple sources of evidence, and detailed data analysis in producing reliable and valid case study findings.

Other influential researchers in the field of case study research during the 1960s and beyond include Robert Stake (1995) who developed the concept of "intrinsic case studies" (i.e., studies that are undertaken for their own sake, rather than for their potential to generalize to other cases); and Michael Quinn Patton (1990) who emphasized the importance of developing a clear theoretical framework to guide case study research.

Overall, the 1960s marked a significant turning point in the history of case study research, as researchers began to recognize the value of in-depth, contextualized investigations of real-world phenomena. Since then, case study research has become a widely used method across a range of disciplines, including sociology, psychology, education, and business management.

3.10 Data Generation

Leedy and Ormrod (2011) state that qualitative researchers draw their data from many sources that may include people, objects, textual materials, and audio-visual and electronic records. In this study, data were produced by using reflective journals and semi-structured interviews. These are just a few examples of the many qualitative approaches available for data generation. Qualitative research aims to understand and interpret social phenomena by generating data from subjective experiences, perspectives, and meanings of participants. Data generation involves selecting appropriate methods to collect data that reflect these subjective experiences, perspectives, and meanings. Krueger and Casey (2015) state that focus groups involve group discussions, typically with 6-10 participants, and are useful for exploring group dynamics and social norms.

3.10.1 Reflective journal writing as a data generation tool

3.10.1.1 Advantages and disadvantages of reflective journals

Evidence from the literature review demonstrated that the multiple approaches to embedding academic literacy is a widely adopted approach at institutions of higher learning. This is because it offers a holistic approach to the implementation of the embedded academic literacy approach. Hence, it is arguable that academic literacy may have a higher level of efficiency if a variety of approaches are adopted that are consistent with the requirements of the discipline under investigation.

Reflective journal entries are pieces of writing by participants or researchers in practical settings and this form of data generation is a form of narrative research (Connelly & Clandinin, 1990). Writing entries in a reflective journal is an essential part of documenting the practices and experiences of a variety of professions such as nursing, research, education, and psychology. In agreement with Moon (2006), O'Connell and Dyment (2011) and Bashan and

Holsblat (2017) state that some of the advantages of the use of a reflective journal in teacher education include strengthening the relationship between the instructor and the trainee and improving the learning of student teachers and instructors. It also improves the learning process. Within the context of research, the use of a reflective journal by participants offers the researcher the opportunity to hear the voice of the participants as they record their innermost thoughts and experiences frankly and honestly when they write in a journal. Phelps (2005) asserts that journal writing is not only an important means for the generation of data in qualitative research, but it also enables 'us' – researchers – to learn about ourselves. In her opinion, the data that journal entries provide elicit significant insights that are not always achieved by means of other data generation instruments.

In the context of the current study, the journal entry approach for data generation was adopted as it offered the researcher rich opportunities to gain insight into the subjective experiences of each student in relation to his/her academic writing experiences and literacy development as an Engineering student in the selected institution of higher learning. For the researcher, the content subject lecturers test knowledge and understanding of the subject matter. The student participant had to expect anything, or any kind of question based on his knowledge, that is, from a test or tutorial what is needed her is for him/her to apply knowledge.

Secondly, the adoption of this method of data generation was also informed by the opportunity it offered the participating students to thoroughly engage with the study and its objectives. I envisaged that my request to the students to engage in personal reflective journal writing would offer them a valuable opportunity for introspection that would enhance their meta-cognitive abilities and encourage the promotion of self-motivation and responsibility for their studies. According to Farabaugh (2007), reflection aided by journal writing enables students to become more aware of their thoughts, position, and feelings in relation to learning and to the learning community. I therefore anticipated that the act of journal writing and the thoughts and insights it would elicit would serve as an instrument that would stimulate improvement in the students' learning through self-criticism and self-analysis.

In essence, a journal is a diary of events. It is a book (fancy or simple) in which one keeps a record of what takes place and in which one reflects on one's experiences of the day or week (Merriam-Webster, 2021). Reflective journal writing is also a teaching strategy that can be used to encourage students to record 'uncensored' feelings and experiences in their own writing

style for further reflection and analysis (Heath, 1998). I therefore requested each of my student participants to use a reflective journal in which they needed to record their thoughts, questions, problems, and ideas about reading, lectures, and applied practices related to academic writing and literacy development over a pre-determined period of time.

3.10.1.2 Why I used reflective journal writing

After a brief consultation with the students in the form of initial interviews on student academic writing, I provided them each with a notebook and reflective journal entry templates where such entries had been recorded as an example of reflective journal writing. The student participants wrote in these journals and reflected on their experiences of academic and literacy development issues over two semesters (six months) and submitted their entries to me on a weekly basis. The journals were collected at the beginning of each week and sometimes at the end of the week depending on the availability and submissions made by the student participants. I also elicit information related to their weekly engagement with the writing tasks by asking their respective lecturers for information that was relevant to their weekly academic readings. The students' reflections and achievements (or not) were noted and transcribed weekly. I also focused on the challenges they faced regarding academic writing requirements in the Engineering modules they were registered for. Such reflections were also extended to their previous and present experiences of the Academic Literacy and Language unit, particularly as PreTech or Foundation year students.

3.10.2 In-depth semi-structured interviews as a source of data generation

3.10.2.1 Advantages of semi-structured interviews

Interviews can be an important part of a qualitative research project "as they provide the opportunity for the researcher to investigate further, to solve problems, and to gather data which could not have been obtained in other ways" (Cunningham, 2018, p. 93). The interview is essentially a qualitative data gathering technique that guides the interviewer in directing the interaction and inquiry in either a very structured or an unstructured manner, depending on the interview's purpose (Kumar, 1996). There are three types of interviews: unstructured, semi-structured, and structured (Yuan, 2011). Unstructured interviews are those that are conducted to bring some preliminary issues to the surface so that the researcher can determine what

variables need further investigation (Yuan, 2011). Semi-structured interviews are designed to have only a number of predetermined questions that are relatively open-ended while the subsequent interview questions are raised during the interview (Wengraf, 2001). In contrast, structured interviews are designed with all interview questions being pre-formulated when the researcher knows clearly what information is needed (Kajornboon, 2005). The semi-structured interview allows the development of a framework that supports probing to highlight any in-depth issues that need to be explored in more depth.

David and Sutton (2004, p. 87) concur that "semi-structured interviews are non-standardised and are frequently used in qualitative analysis". According to Newton (2010), the interviewer does not do the research to test a specific hypothesis. Hence an interview guide is used and additional questions that have not been anticipated in the beginning of the interview can be asked. The flexibility of semi-structured interviews enables the researcher to improve questions to guide and focus on the sub-topics that the interviewee is most knowledgeable about (Yuan, 2011). Furthermore, the semi-structured interview offers the researcher the opportunity to ask interviewees questions and follow-up questions as deemed appropriate verbally to elicit deeper responses during the interview session (Bryman, 2004). For this reason, the semi-structured interview was highly appropriate for this research to gather the required qualitative data. The semi-structured interview format was adopted for the following reasons:

- It provided me with the opportunity to generate rich data;
- It helped me to gain insight into the respondents' perceptions and values; and
- The data that were generated could be analysed in various ways.

A further advantage of this format was that in-depth information and details could be secured. I developed an interview guide to ensure consistency in the approach that I used when the semi-structured interviews were conducted. The interview guide contained a list of questions that needed to be explored and that ensured that respondents in the same cluster were interviewed following the same pattern of questioning.

I employed face-to-face in-depth semi-structured interviews. According to Bradley (2009), semi-structured interviewing allows a respondent the time and scope to talk about their opinions on a particular subject. The focus of this type of interview is decided by the researcher, but there may also be new areas forthcoming that the researcher may want to explore. For the

purposes of this research, I focused on the participants' experiences and was able to obtain rich information regarding their opinions, views, and comments about academic literacy. The duration of the interviews was between 60 to 90 minutes. They were tape recorded and transcribed verbatim to facilitate data analysis.

3.10.2.2 The disadvantages of semi-structured interviews

One disadvantage associated with interviews is that interviewees may respond according to the perceived needs of the researcher, and they may therefore not reveal their true perceptions of a particular issue. Also, some interviewees withdraw from a study just before the interview and this compels the researcher to recruit a new interviewee, or to process the body of data without the contributions of all the envisaged participants (Rubin and Rubin, 2012).

3.11 Data Analysis

Creswell (2013) understands data analysis as a process of evaluating, organising, and deciphering study data. Data analysis is a practice in which raw data are ordered and organised so that useful information can be extracted from it (Ramohlale, 2014). Various types are data analysis processes are available to researchers, but I decided to employed thematic analysis as the best option for this study. Braun and Clarke (2006, p. 79) explain that thematic analysis as a "method for identifying, analysing, and reporting patterns (or themes) within the data". The iterative process in the coding of transcripts facilitated the generation of similarities, differences and relationships between and across responses. This approach was important in the thematic analysis of the qualitative data that had been generated in this study. Similar to Braun and Clarke (2006), thematic analysis is understood by Fereday and Muir-Cochrane (2006, p. 3) as the "search for themes that emerge as being important to the description of the phenomenon".

I followed Braun and Clarke's (2006) advice and analysed the data according to following stages:
- Verbatim transcriptions of the interview responses;
- Reading the transcripts repeatedly and comparing the textual content with the audio-taped recordings to ensure similarity;

- Iterative reading of the transcripts to identify the underlying meanings and creating codes;

- Formulating themes and sub-themes from these codes; and

- Using theory and literature findings to compare and understand the findings that emerged from the data.

The data analysis process was conducted in the following phases:

- Phase 1: Reading of transcripts

- Phase 2: Identification and coding of themes

- Phase 3: Generation of a summary table for themes and illustrative quotes

- Phase 4: Repeating phases 1-3.

The process of re-reading and re-coding of transcripts continued until no new themes emerged from the transcripts. This kind of thematic analysis is known as 'hands-on analysis'. Hands-on analysis is a process of reading, re-reading and 'immersing' oneself in the text (Alhojailan, 2012, p. 9). This type of analysis typically includes immersion in the data, coding sections of text, and then combining codes into categories/themes. The researcher asks questions pertaining to the text and searches for patterns of similarity and differences that connect different elements in the data, such as passages in a transcribed interview and reflective journals. The analysis process swings back and forth between the text, the researcher's knowledge/experience, theories, and previous research in a spiralling process that builds new understandings. This is often referred to as the hermeneutic circle or spiral (Erlingsson & Brysiewicz, 2013, p. 96).

3.11.1 Thematic data analysis

3.11.1 Analysis of reflective journal data

Data emanating from the student participants' reflective journal entries were analysed thematically. The students had been required to reflect continuously (over a six-month period) on a set of six questions:

- What was the highlight of the reading you embarked on this week?

- Was there any aspect that surprised you or caused you some anxiety in the test or tutorial?
- How do you cope with your academic writing in discipline-specific tasks?
- Was there any aspect of a writing task that you understood well?
- What were the three most important aspects you benefitted from in class or a tutorial in relation to the writing process?
- How has the Academic Literacy and Language Support unit impacted your academic life as a student? Elaborate.
- What general aspects would you include based on your academic writing experiences as an engineering student?

For example, based on question three: *How do you cope with your academic writing in discipline-specific tasks?* a student reflected as follows in one of the weekly submissions:

> I try my best. If I'm given an assignment, I do it, not in own time. I can say as I do it on time. I start doing research and every own that assignment and write a compile, somewhere, where can I get all the information? After I got the information, I try to compile this assignment. Writing it, I do, I can say. YouTube also helps me a lot in my assignments because there are videos showing how this assignment must be done. YouTube just helps me in how to attend this thing because it does not look like the same as what I'm given in the assignment, but I try to figure it out. How can I compare this to this? …So how can I do this assignment for myself… (Participant: WILL).

Another participant stated:

> Oh, one thing that I always ensure is that I always start earlier; early to preparations of whatever task I was given or assignment, I will always start early. Whenever I get a task, I will ensure that I move, I'm ahead of the lecturer. I because we do not actually have any books prescribed for us, so whenever I get some one thing that we must read, I ensure that I move one ahead to the lecturer … (Participant: POET).

Another participant offered the following information:

> I usually do brainstorming and stuff before I present my work. For example, if I am given a project, let us say I am designing a neat exchanger, I do the research first. Brainstorm. Then I do research around the points that I have made and stuff, so that helps a lot, that helps a lot in my writings and stuff. I compile them, yes. After submitting, I make sure that I consult a person that can, you know, look at the work, if I have left some information very important information

for that project, and then I add, I subtract, stuff that I needed, I will make sure of that... (Participant: SAVER).

Analysis indicated that there were some commonalities or codes in the three participants' responses that helped in theme development. For example, common words/phrases were: researching, preparation, brainstorming, consulting, reading a lot, and prior to lecturer's introduction of a new chapter. Organising the responses in this manner helped me in discerning that the students' academic writing and literacy development involved a level of coping. Coping is thus presented as a theme, and this means that coping in academic writing and literacy development is useful in Engineering education for the development of academic writing and literacy development.

Another theme that emerged regarding improved writing proficiency across the board was engagement with YouTube online videos for self-study. Also, some students tended to consult their lecturers when they were uncertain, while some were aware of interventions offered by the Academic Literacy and Language unit. However, it seemed that this unit was approached rather peripherally and was not utilised optimally. The students also referred to various other their coping strategies when they had to complete academic writing tasks and they discussed the benefits they received from service departments like Communication and the Academic Literacy and Language unit. Their interactions with lecturers over the years through lectures, workshops, laboratory sessions, and individual consultations were themes that emerged as a result of their reflections on their Engineering experiences as students at the university of technology under study.

3.11.2 Analysis of semi-structured interview data

Prior to the interviews and in the presence of the interviewer, the participants agreed that they gave their consent for participating in the study and that they were willing participants who understood the voluntary nature of their involvement. The duration of interviews was between 60 to 90 minutes per participant. The interviews were conducted mainly in the English language and the responses were tape recorded and saved on a memory stick for ease of transcription. Pseudonyms were given to all the students and lecturer participants. Only eight of the originally recruited participants contributed to the data generation processes. A number of factors contributed to the non-availability of the two participants who had withdrawn, such as clashing

time frames and a lack of commitment to the research project. Emails and phone calls were used to remind these two recruits of the interview times that had been scheduled, but all my efforts were fruitless. Therefore, only eight interview transcriptions were produced.

Interview data were evaluated to determine the accuracy of the transcriptions and to explore how the students' writing experiences and perceptions impacted their learning in general and their developing writing proficiency in particular. Elements that were focused on included appropriate language usage and successful writing for the Engineering qualification they required. The interview questions had been properly formulated for scholarly inquiry and were relevant to the research topic. To ensure validity, the participants who had been recruited were available at times that could be arranged and at venues that were conducive for a safe interview environment. I ensured that my time was adjusted to accommodate the interviewees' availability. After having engaging all the participants, I explained the research process and circulated the informed consent forms for affirmation and to make sure that the research results and findings would not be compromised by unethical participation issues. Moreover, the reliability of the coding system was determined during the interview sessions to ensure that all the interview responses were recorded and clear. A primary sound recorder and a backup sound recorder were used in the process to mitigate any risk that might have caused the loss of valuable content.

In terms of the reflective journals, most of the student participants completed their weekly entries throughout the semesters, but there were times when the participants could not submit due to strike action and vacation periods. I did my best to monitor and check the academic progress of the student participants to determine if they showed any improvement in academic literacy development, with specific focus on their discipline-specific academic writing. Tasks that were handed in were assessed for linguistic coherence and logical argument. The participating lecturers were contacted whenever necessary and, if I could not to locate a student, the interventions by lecturers were appreciated.

I informed the participants at the outset that their participation would be required throughout the research period. For instance, their student cards would be verified for identification purposes and, in the case of new developments or changes as the research process progressed, they were briefed or debriefed as required.

In the following chapter, I present the key data that were elicited from the students during the semi-structured interviews. These data are unitised under case-important themes and example statements underscoring these themes are provided in the students' own words. These statements were elicited in response to particular interview questions at particular points in the conversation. As the data analyst, I had to devise an efficient plan for sampling key codes and themes from the content of a large body of data that had emanated from the semi-structured interviews. To ensure reliability and meaningfulness, recordings of the interviews were meticulously transcribed. Pertinent excerpts from these transcriptions are quoted in the thesis as defined units of analysis. This means that the content of the interviews was classified into categories so that the meaning of the discussions is maintained and explicated. The issue of recording and instructions will be discussed in more depth later in this chapter.

To reiterate, the student participants' interview data were analysed thematically. To this end, the students' authentic views and perceptions had been obtained according to a set of structured questions. To illustrate, one of these was the following question:

> *What are your academic writing and literacy development experiences as an*
> *engineering student at the university of technology under study? Explain.*

Based on this question, one student participant mentioned the following:

> Well, I think my experience with academic writing is generally fair. Well, with our course having more of the communication part, it kind of brings that literacy part of communication as a student. So, uhm, there are courses, okay, we have communication from S1 to S4, so the literacy part of it, I guess it's a builder because there outside, when you go to the field, it will be more about how you communicate with people out there. Well, and when it comes to reading, uh, I think we have…the resources are enough. Like, it's just that they are not readily available in our hands like…uh…Wi-Fi. Like, for example, because it's not everyone who likes to, the generation that we live in is more used to e-technology, so it's easier reading digitally then having to go look for an old big book in the library (Participant: GENT).

Another student participant stated the following:

> When I was at S1, I think that is where I, uh…see that it is bad, that in my academic writing, but now when I'm doing S3 I find it easier because that is where I was enjoying the course and see that everything has its way. I have found how university treats you and how to be a university student in university (Participant: WILL).

Another student participant offered the following comment:

> Oh okay, uhm…well, I can say that since I have come from high school, my academic literacy has improved, starting from one of the academic literacy lecturers who taught us how to actually understand without looking or searching for a particular term in the dictionary. So she taught us many things about understanding English without having to really understand English terms, how to write properly in everything, how to communicate properly… Yeah, she taught us how to speak actually, so from there on we started, uhm, exercising or practicing language in the form of our field. From there on we now know how to speak, like professional regarding our construction field, how do we access problems there, how do we do reports there. She teaches us all things so our foundation when we entered pre-tech [was good] (Participant: POET).

The comments of the three participants revealed some commonalities in relation to the improvement of academic writing and literacy skills. For instance, they shared similar experiences as they transitioned from high school to university and in their need to acquire basic communication skills in English at the foundation and first-year levels of their studies.

3.11.3 Main themes

3.11.3.1 Overarching theme: Academic writing and literacy development

Key to understanding the academic writing and literacy development of engineering students and how their challenges had impacted their learning was that their earliest encounters with this topic had to be explored, i.e., I had to interrogate their first-year entry and foundation level experiences. In the higher education sector, students are continuously required to engaged in writing tasks in the form of assignments, projects, and proposals. As most students enter university without any prior proficiency in these skills, they have to be trained and guided towards academic reading and writing excellence. In this process, students' improvement of academic writing and literacy skills relies on both the academic and practical writing support that lecturers offer. Moreover, external guidance and the necessary interventions also seem important as students transition to university from high school. In the current study, the participants attested to the fact that their academic trajectory had been made possible by supportive academics who understood their need to improve their writing and reading skills.

3.11.3.2 Sub-theme 1: Transitioning from high school to university

According to Hood, Fan and Kennedy (2009), transitioning from high school to an institution of higher learning is a daunting psychosocial experience for most students. The connotation of the term 'transition/ing' as applicable to a person's life suggests that such a person may be in a state of uncertainty, ambiguity, and indecision at some point or points in this process. In the context of higher education, a student in a state of transitioning may be considered to be in a state of disconnectedness from the structures of higher education. In this regard, Bonica (2008) notes that close academic and personal support may be required to enable such students to connect with the university setting. As a point of departure in the transition discourse, it is important to note that transition/ing should not only occurs along changes inside the classroom, but that it is also a phenomenon that occurs outside the classroom. Moreover, any change influences the academic achievement of students (Gouws, Kruger & Burger, 2010) either positively or negatively.

In the transitioning context, students' epistemological access to university does not necessarily guarantee epistemological success for everyone, and therefore the university accepts that students' challenges vary from student to student. For instance, the challenges of child-headed households have been highlighted by various authors such as Meintjies and Hall (2009) and Setlalentoa (2013, p. 350-1). The latter authors state:

> "The majority of the educators (75%) mentioned the problem of child-headed families as a challenge to them and some of their learners. This is a problem [that is] unique to South Africa. The approximate number of child-headed households in South Africa is 122 000."

The latter authors also assert that poor motivation among learners and a lack of basic study skills hamper their attainment of academic success in higher education settings. It is therefore imperative that universities, and more particularly the one under study, put measures in place to assist students in assimilating change and adapting to their new environment. This also strengthens to argument that the linguistic capital of all students needs to be strengthened and nourished so that they are enabled to master the art of writing in academia.

3.11.3.3 The acquisition of basic skills in the first year of study

Basic skills are those foundation skills that any person requires to reading and write, do mathematics, and use English as a second language. Such skills are also learning and study skills that are pivotal in students' ability to succeed in college-level work (Boroch et al., 2007, p. 4). However, these skills are regularly overlooked or disregarded by faculty and departmental staff. It is a widely held view that basic skills ought to have been learnt prior to students' university enrolment and, as a result, such skills are too frequently viewed as the responsibility of a limited cohort of a college's faculty and staff members, which includes English and Mathematics lecturers, as well as support services and departments. According to Boroch et al. (2007, p. 8-9), this isolation may "…[extend] to sub-units within each of those programmes, segmenting the faculty who teach [sic] basic skills courses from those who teach [a] 'transfer-level' curriculum". They further argue that, while specialisation is a crucial factor in the success of certain developmental education activities, students' basic skills belong to the entire institution. This is because they are registered in all manner of classes and therefore the development of their academic skills is the responsibility of all faculty and staff members. Currently, in my experience many faculty staff and administrators share a broad-based concern about the erosion of academic standards based upon the inability of large segments of our student populations to utilise adequate reading, writing, and mathematical reasoning skills. They firmly assert that it is the responsibility of all faculty members who teach in all disciplines at all levels to communicate appropriate expectations to students and to utilise effective methods for communicating information, supporting students' growth in reading and writing skills, developing students' critical thinking processes, and evaluating students' work with the aim of advancing the overall state of students' basic literacy skills.

The figure below is a visual presentation of students' perception of their experiences of academic writing and literacy development at a research-focused university. According to the responses of some of the participating students, time management, communication, and basic language skills had been acquired and benefitted them in their various tasks that had to be completed in various departments.
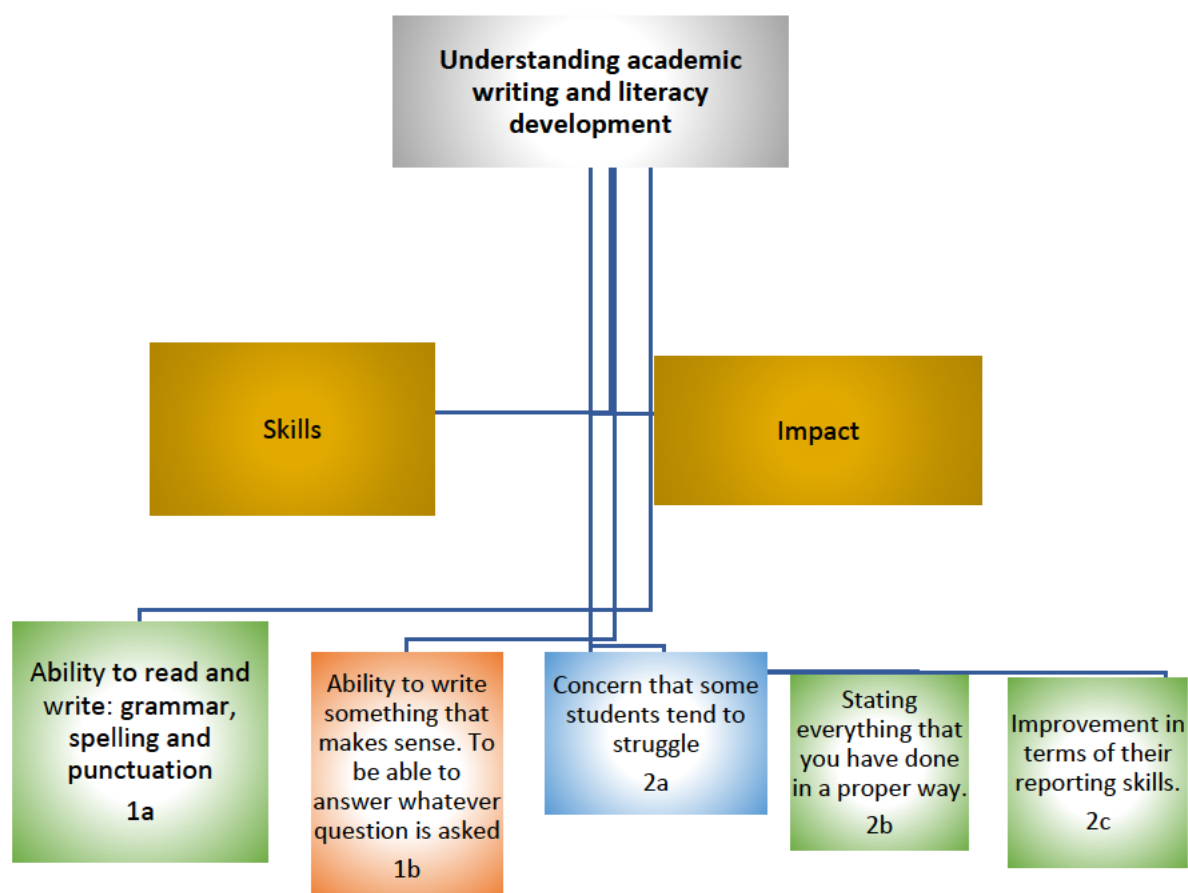
Figure 8: Participants' responses to academic writing and literacy development

3.12 Trustworthiness of the Study

Leedy and Ormrod (2011, p. 157) maintain that the utilisation of rigorous and thorough methods to generate and analyse data requires that the researcher takes steps to remain as objective as possible throughout the project. The uniqueness of qualitative research as was used in this research is embodied in its methodological procedures. Two data generation instruments, namely reflective journal writing and interviews, were used to determine differences and similarities in the cases under study. It was important for me as the researcher to consider all the factors in situ and to understand the interaction among these factors. Detailed data were therefore gathered by means of open-ended questions, and direct quotations are provided to demonstrate the key themes that emerged from the data.

The validity of the data that were generated in this study is conferred by my in-depth and rigorous reflections to unearth the real meaning provided by the respondents. The extent of the data that were generated and analysed in a procedural manner affirms the rigorous nature of this research. Moreover, the qualitative method was carefully considered and selected as it was ultimately deemed to be the most appropriate for maximising the validity of information that I would gather. The data were generated within a certain timeframe while pertinent secondary sources were timeously and comprehensively accessed to augment the primary information that I had accessed. The generation processes of the qualitative data were also reliable as the aim of the qualitative method was to elicit the opinions of experts and relevant participants for deductions that would address the research objectives.

As a research instrument, the interview data were to determine their accuracy in measuring the phenomenon of language experiences in relation to student learning and success in a higher education context. Exploring interpersonal dynamics among a group of four student participants was important. Cohen, Manion and Morrison (2007, p. 149) argue that one way of controlling reliability is to have a highly structured interview with the same format and sequence of words and questions for each participant. However, in this study I administered semi-structured interviews based on an interview schedule of pre-devised questions as one way of ensuring reliability. I am satisfied that reliability was achieved in light of the scholarly endorsed methods of data generation that I had used. I can state without fear of contradiction that the nature of the data I had generated was consistent and did not distort the findings. Moreover, purposive sampling was used as the technique of choice to select suitably knowledgeable participants from five departments in the Engineering faculty. I specifically selected undergraduate students who were in their third year of study and who would soon be involved in relevant internship programmes.

The relevance of the interview questions was tested as they would be posed to elicit thick data from Engineering students regarding their writing experiences and perceptions of their own academic writing development and capabilities, with specific attention to appropriate language usage and successful achievements in the higher education context under study. The interview questions were appropriately formulated to ensure that they were relevant to the research topic. To ensure validity, participants who were within the researcher's reach were recruited. They were thus accessible on site and interviews could be scheduled based on their respective availability for these sessions.

After all the participants had been engaged, I explained the research process to them and disseminated the informed consent form for signing to make sure that the research results and findings would not be compromised by unethical participation. Moreover, the reliability of the coding system was determined during interview sessions to make sure that the views of everyone who participated was recorded and evaluated. In terms of the reflective journals, the student participants wrote entries weekly throughout the semesters as mentioned above. The researcher monitored their academic progress to determine of improvement had occurred regarding academic literacy development, with particular attention being given to discipline-specific academic writing. Tasks that had to be completed were duly evaluated for linguistic coherence and logical flow of meaning using academic language.

The researcher informed the participants at the outset that they would be monitored throughout the study period. Their student cards would be checked for identification, and they would be debriefed should there be any new developments or changes as the research process progressed. This was process was executed diligently and continuous. Discussions that arose from the students during the interviews were unitised to identify commonalities that could be converted into important themes. For this purpose, codes that were detected in statements and responses to particular questions or that were made at particular points in the conversation. Therefore, as the analyst who would engage consistently with the transcription to evaluate the data, I had to devise a plan to effectively sample the content of the in-depth interviews. To ensure reliability and meaningfulness, my process of recording the data focused on the use of defined units of analysis so that I could classify the interview content into categories. In this manner the meanings emanating from the discussions were illuminated and evaluated.

An audio recording of each semi-structured interview was made to ensure the accuracy of data capturing. Member checking was also conducted as a means of maintaining validity. This means that the data and my tentative interpretations were referred back to the participants from whom they were derived. They students were asked if the results reflected what they had said and if they were therefore plausible. This continuous and consultative process was invaluable in achieving the results that rendered the data that were obtained trustworthy. Moreover, the thick data that were elicited are reflected in the selected verbatim extracts that are presented in this thesis as per my original plan. In essence, I generated authentic interview data from the

participating students themselves and these data clearly and unambiguously narrate the students' lived experiences of academic literacy development.

3.13 Ethical Considerations

Before this study was conducted, written permission was requested and secured from the university under whose auspices this study was undertaken. It was understood that the generation of data from people will always raise ethical concerns that need to be avoided by treating all those involved with the utmost respect. The participants were therefore not only informed of the reasons for conducting this study, but they were also clearly versed in the importance of their input and how the results would benefit the institution and future students at this institution would be exposed to best practices regarding academic literacy development. Only participants who were willing to participate were involved, and they provided written consent for the utilisation of the data they offered to be used in this research thesis. This permission was obtained prior to the data generation phase. The identities of all the participants will remain anonymous and their confidentiality will be maintained for ethical reasons (Fleming & Zegwaard, 2018)**.**

During the data generation phase, I reiterated that the identities of the interviewees will be kept strictly confidential and that the data that would be generated from the respondent/s would not be used for any purposes other than this research. Therefore, to ensure their confidentiality, pseudonyms are used to replace the participants' real names.

When I embarked on this study, I understood that sensitive topics require a reasonable amount of confidentiality. I therefore ensured that protective guidelines for the participation of the students and lecturers were adhered to and that the journal entry respondents and the interview participants would cooperate comfortably and without fear of repercussions in the research process. The essence of anonymity is that the information provided by participants should in no way reveal their identity. Each participant is therefore considered anonymous when the researcher or another person cannot identify the participant or subject from the information provided (Madiba, 2018; Cohen et al., 2007), and this guarantees participants' confidentiality. To adhere to this principle, I ensured that it was optional for participants to reveal their names, email addresses, gender, telephone numbers, and age and that their participation in this research was voluntary. The reliability of the coding system was determined during the interview

sessions to make sure that everyone who was participating was appropriately recorded and noted. In terms of the reflective journal writing process, the participants made weekly entries throughout the study period.

In terms of sampling, the participants were recruited from the various identified departments on the basis of their initial willingness to participate. Lecturers who were familiar to me or who were identified by means of snowball sampling (a familiar lecturer would propose another) were recruited, while potential student participants were identified after I had consulted with a at least one lecturer per department.

I issued a blank letter of consent that had to be completed and signed by the identified participants. All the student participants were enrolled as S3 students in the Faculty of Engineering in the departments that were mentioned earlier. This form specified the nature of the research project, the right to withdraw from the research at any point and elicited the participants' permission to be tape recorded during the interview process. I ensure in this thesis that the data that the participants provided will be traceable to any individual and that it will not be used for any purpose other than this research or publications emanating from it. It was emphasised that refusal or withdrawal of participation would not incur any penalty. The participants were also informed quite clearly that no financial benefit would be earned by their participation.

On completion of the project, all the documents will be submitted to the researcher's supervisor for safe storage and, after a period of five years, I shall be committed to disposing of the raw data by means of shredding. This means that the reflective journals, the memory sticks, and any other digital gadgets carrying the research data will be incinerated or otherwise appropriately disposed of. This will take place in the presence of the researcher's supervisor or his representative if he is not available at the time.

3.14 Conclusion

This chapter clarified the methodology that was employed to bring this research study to fruition. I discussed the methods of data generation and analysis and motivated my decision that the main instruments of data generation would be journal entries and one-on-one semi-structured interviews. I also unpacked the rationale for the adopted method of data analysis and highlighted pertinent features of the research setting. This included reference to the

Engineering Faculty and its departments that were the focal points of the research as the participants were sampled from them. Prior to the research design section of the chapter, I unpacked the paradigm that informed the study. I thus delved into the interpretivist discourse and highlighted the suitability of the interpretivist approach that was adopted for this study. Bourdieu's (1977) Cultural Capital Theory and the Academic Literacies Model as posited by Lea and Street (2006) were thoroughly discussed and I explained unambiguously why they were suitable to serve as the theoretical outlook that underpinned the study. The next chapter will focus on the presentation of the research data.

CHAPTER

DATA PRESENTATION

4.1 Introduction

In this chapter, I present the data that were generated by means of reflective journal writings and semi-structured interviews. The data are organised following the three key research questions that gave direction to the study:

1. What are Engineering students' experiences of academic writing and literacy development at the selected university of technology under study in KwaZulu-Natal Province?

2. How do the Engineering students experience academic writing and academic literacy support from the Academic Literacy and Language Support unit at the university under study?

3. Why do Engineering students experience academic writing and literacy development at the selected university of technology under the study the way they do?

The reader should note that the excerpts that are presented in this thesis reflect the direct words and language construction of the participating students and lecturers. This means that the transcriptions were verbatim and that the excerpts are presented as such. I therefore acknowledge that there may be some linguistic and idiomatic inaccuracies in these verbatim excerpts, but I requested the language editor to leave them unedited as far as possible for the purpose of this study in acknowledgement of the fact that the majority of the interview discussions and journal entries occurred in English, which was the participants' second language.

4.2 Data and Emerging Themes Pertaining to Question 1

The data pertaining to question 1, which was *What are the Engineering students' experiences of academic writing and literacy development at the selected university of technology under study in KwaZulu-Natal Province?* revealed three main or overarching themes that were each supported by several sub-themes. These themes and sub-themes were evaluated to illuminate the extent of the improvement of the participating students' academic writing and literacy skills

or, where appropriate, the lack thereof. Below is a brief summary of these main and sub-themes that emerged from the data:

Main theme 1:

- Students' lack of preparedness to engage with higher education studies,
- Interventions provided by lecturers and the university,
- Participants' use of technology,
- Participants' sense of self-fulfilment,
- Opportunities for self-development; and
- Interventions provided by specific Engineering departments in the Engineering Faculty.

Main theme 2:

- Coping strategies employed by Engineering students in terms of their academic writing and literacy development
- The application of time management strategies
- Peer learning and self-study initiatives.

Main theme 3:

- The impact of the IsiZulu language on academic writing and literacy development.

Given the nature of the data that were generated under main theme 3, I did not develop any further sub-themes in this section. I present all the themes and sub-themes sequentially in my discussion section under appropriate headings and sub-headings.

4.2.1 Main theme one: Academic writing and literacy in the Engineering field

In an effort to unpack the impact of academic writing and other basic skills support offered to students, Boroch et al. (2007, p. 9-10) offer the following assertion:

> "Efforts to identify effective practices in basic skills resemble the search for a magic pill: a practice or set of practices that will completely change the outcomes of developmental education and instantly produce radically improved outcomes using standard measures of success such as pass rates or subsequent course success rates. However, the research on successful practice suggests that, in general, changes in success rates are usually incremental. Studies commonly report increases of five to 15 percent as an indication of success. They advocate building on these incremental changes over a long period of time to improve the long-range success measures of program completion, degree attainment, and transfer. Therefore, it is not reasonable

to expect that any combination of the effective practices described in this study will create large changes in success rates in a short period of time".

The current study found that, overall, the Engineering students' experiences showed that they had improved in academic writing and literacy development. The following sub-themes explain and affirm this finding.

4.2.1.1 Students' lack of preparedness for studying in higher education

The academic lecturers' reflections on the lack of preparedness among Engineering students to engage with higher education studies provided a context that was useful in understanding the academic writing and literacy development of the participating Engineering students. For example, one academic mentioned the following:

> Okay I think for some of the students it will be a bit of a challenge. I would estimate maybe 10% of my students will be ready for higher education simply because some of them do not come from *fortunate* schools. Schools that will teach them to write properly, schools that will teach them to speak proper English, schools that you know that have the facilities and the teachers. When they come to the higher education, they will be ready to take on whatever because you would find students that will never have a problem of reading and question answering exactly what is wanted. However just, even if it's in their own words, be able to explain themselves very clearly. Sometimes you find students that will battle, even find that it was very difficult to make sense of what they have written. Attribute to the school they are coming from, so I would say maybe 90% of my students are not ready for higher education (Participant Lecturer: TYG).

With reference to an assertion offered by Boroch et al. (2007, p. 9-10) that "studies commonly report increases of 5 to 15 percent as an indication of success", the allusion in the above excerpt that the participants possibly attained a 10% improvement rate suggests an acceptable level of success in attaining literacy improvement.

Another academic expressed the following view:

> Yeah, there is still a challenge though. I do not know whether it is because our students were doing maths and science. This was a challenge to them from an early age, so when they come to university here, still they have got that mindset to say things that have to do with engineering they are a bit difficult. So, with that approach you see…to respond, you see that they are prepared, yes. But we still have a huge number, the other whatever, 70%, they are still having that fear; still saying these things are difficult. Yes, so I will put in that threshold to say 30-70% of under preparedness (Participant Lecturer: SMS).

Another academic made the following assertion:

I do not want to use a deficit ideology where I pick up, you know, things that are beyond students' control. You know, uhm, things like their background, things like the, uhm, the set ups in high school, because all those things are beyond their control. Uhm, I want to focus on what we do here because everything else is out, is not in our context, so I would say that they are not ready and when they come in S1 they are not ready and it is expected that they will not be ready because higher education is a different world, you know, than high school. So I feel that the induction into higher education from high school that is where we are lacking in terms of introducing our students to higher education because they come here and we expect them to know how to write all the words that you are talking about, elaborate, discuss. [But] we do not teach all those things, we just expect them to know that you know (Participant Lecturer: TPA).

One academic also stated:

Overall, like with one of the students, or generally all students do not see writing as the crucial component for them to have. They only just want to focus on calculation and design, then the writing skill they do not see it as very, uhm, critical. For me, I've made it into so that I can develop them. I give them an assignment, then I tell them that my assignment is not only focusing on the content because most of the time is, uhm, in our field we need to focus on the content, but I have developed an assignment. I tell them my assignment is based only on writing skills. I want you to learn how to write a technical report, how do we reference in Engineering. I see them in S3; however, their writing skills are still bad. What I do, I say before they submit the final document of their assignment, I have engagement with them to discuss the process, so that they show me the soft copy. Then we sit down and then I tell them, this is not correct or maybe try to change this and all of that. When I have tried to work with one of the students especially, an assignment was better in terms of the content; in terms of how to write technical reports. So I saw much improvement compared when he started the semester (Participant Lecturer: SMS).

Being in agreement with the above sentiments, another academic argued as follows:

When they come into my class, I expect that because they would have gone through 3 semesters, so my expectation is they know how to compile, how to write a typical report because they have done practicals before and in every part they come from S1, in any practical that they do they need to report the results and in in our genre, in our discipline specific reporting structure, I expect them to know all of that, but to tell you the truth, they still cannot do it at an S4 level. I am not sure whether it's because they were never taught, or it is because they are lacking in ability or in capacity to do it (Participant Lecturer: TYG).

4.2.1.2 Interventions provided by lecturers and the university

The student participants recognised the importance of lecturers' interventions in assisting them to improve their academic writing and literacy abilities. One participant's reflection in the journal stated:

> Being here in 'varsity level, like you must master a lot of things and then I think the help of lecturers and the library and referring to textbooks and stuff really helped me to be at this level that I am right now. I think having lecturers and having the library have really helped me to grow more in writing and speaking and, you know, communicating and stuff (Participant: SAVER).

In the interview, one student stated:

> Oh, okay. Uhm…well, I can say that since I came from high school, my academic literacy has improved. My lecturer taught us how to actually understand without looking or searching for a particular term in the dictionary, so she taught us many things about understanding English without having to really understand English terms, how to write properly in everything, how to communicate properly. Yeah, she taught us how to speak correctly, so from there on we started exercising or practising English language in the form of our field or discipline. From there on we know, now we know how to speak like professionals regarding our construction field, how do we access problems there, how do we do reports there. She taught us during foundation when we entered the Pre-tech course (Participant: POET).

An academic reflected as follows:

> Yeah, writing abilities…I think I can say I am a happy as most of the students can logically construct some meaningful sentences reporting on whatever, because engineering is…most of these we engage them when they are writing a report, so as we are reading their report, we can read the English that they write, the writing that they write, and correct sentences and everything. Yeah, so I think it is, it is well structured. Most of the students they do…they are able to structure some sentences correctly and try to express what they want to express in correct language (Participant Lecturer: TYG).

One lecturer commented as follows:

> Yes, because I think…uhm…for the few years that I have been teaching this subject…uhm…if I compare the reports, its [of a better] standard in terms of the reporting skill that was there before. I can see there is change now, yes. It means…uh…somehow, the students are now getting the skill in terms of academic writing, yeah (Participant Lecturer: FRE).

Another academic argued as follows:

> "Yeah, like, I have to make them work in groups in class. I…make them sit in groups and give them a case study that they will have to answer in the group. And also…have some students who are silent in class, so now just to make them say something, I use Socrative because some, uh, we can use Socrative whereby uh their respond their when you, whoever answers, submits an answer can choose to be anonymous or whatever, so those who are not able to come out of their shell because there are those who are desiring…so yeah, they try (Participant Lecturer: SMS).

4.2.1.3 Participants' use of technology

While we were delving into academic writing and its intricacies, the participants referred to their experiences related to the use of technology. For example, one student participant said:

> Yeah, because it was only in first year that we got to use Blackboard. Yeah, we use Blackboard a lot. We submitted there, we got information there, so we were always online [in the] first year (Participant: WILL).

An academic participant mentioned that one of his highlights was to use technology in his teaching:

> Okay, I think what I am trying to engage the students by making use of technology and this is what they call in-time teaching. It is what I do at the beginning of the semester (Participant Lecturer: SMS).

Another lecturer stated:

> But most of the time now everyone has WhatsApp, so what I do is, I also use WhatsApp for teaching and learning purposes. I have created a WhatsApp group that everyone can use. There are some networks that students have free data for WhatsApp. So, I give them some things to do on the app. I like to engage students before I start with this. I started with a module, but the module was a challenge of data, and then I moved to WhatsApp (Participant Lecturer: SMS).

In an interview, a student participant argued as follows:

> Uhm, okay. You know, we are students and a lot of our tasks we do some day. We usually tend to find…yeah…so, uh, recently I was to write a report on Civil Analysis. We did it for practicals. We are supposed to report and now, the actual format…the actual format of the, uhm, report that we are supposed to write I got it on the internet. I watched YouTube channels and saw some templates on how to properly write the report of that type…the structure. So, I

will say that I am pretty exposed to the internet, so I am using it a lot to actually improve my way of writing regarding everything that is in the task that we are given. Currently I am working on an assignment in Construction Technology which is available on the internet. It gives me the formats on how to go about writing this thing, how to write the method of construction, how to properly structure the report… Yeah, so sometimes on YouTube it helps, due to my view. It helps to structure my work. Yeah, I will say that (Participant: POET).

Another student participant commented as follows during the interview:

Well, the traditional class? Uh, I'd say not. These days, it is as if it is beneficial, but for example technology has come up with this white Blackboard. It is called Interactive Blackboard Facilities. Such technology is available in schools as well, but I do not know if maybe the lecturers have not been told about it, or maybe they have not been trained in how to use it, because the way things are in this world that we are living in now, it is no longer that easy to hear something and grasp it at that very moment. If they were to use maybe the interactive whiteboard and take videos of whatever class or lecture it is, then those videos be readily available on Blackboard, because the interactive whiteboard can automatically be connected into the system of the school and then everything becomes readily available for students in whatever course they are in. It would, I think, it will help. I prefer…maybe I attend the class and then when I get to Res, then I sit back and go back again to whatever the lecturer was saying, and then I am even able to master and grasp whatever. It's faster because if I just listen and the lecturer is lecturing and thereafter the class is done and if there is a bit of content that is said that maybe I did not grasp I will have to start finding out…maybe ask a friend if I did not hear what the lecturer said (Participant: POET).

4.2.1.4 Participants' sense of self-fulfilment and self-development

The student participants reported that they experienced a sense of self-fulfilment related to their improvement in academic writing and literacy development. One student averred:

Well, I think my experience with academic writing is generally fair. Well, with our course having more of the communication part…uhm…it kind of brings…what can I call it? The literacy part of communication as a student. So, uhm, there are courses…okay, we have communication from S1 to S4, so the literacy part of it, I guess it is a builder because there, outside, when you go into the field, it will be more about how you communicate with people out there. Well, and when it comes to reading…uh…I think we have…the resources are enough. Like, it is just that they are not readily available in our hands, like Wi-Fi for example, because it's not everyone who likes to. The generation that we live in is more used to e-technology, so it's easier reading digitally than having to go look for an old big book in the library (Participant: POET).

Another participant made the following comment during the interview:

> Well, I interact with a lot of people. I have to, like I interact with the whole course because I'm the class rep [representative]. Yeah, so I actually, always speak to them once we hear there are matters. Even though some of the students are shy to speak, I just talk with them in our conversations to make them feel at ease with me so that I can go back and report to the lecturer. Even I find that as I said 70% and above in the class, they say one thing. I know nothing about … (Participant: POET).

Another participant stated the following during the interview session:

> It has shaped me a lot, because, uhm…yeah, it has shaped me a lot because in all my tests, my assignments, my everything…uh…I never get less than…less than 75%. I can say that and…uhm…when I applied for my in-service training, the letter I wrote was actually impressive…uhm…to employ me. I wrote it very well and they published my name. So I can say this is something I have got (Participant: POET).

Some participants described their experience related to self-development quite clearly. For example, a student participant commented as follows:

> In my student life…yeah. Yeah, well, when you learn something new it comes to something like you are always empty and when you come out you have knowledge. It is better that even though you know more you unknowingly will say that. You might not recognize it here, but there is an impact that is done regarding the communication how…the speaking, the confidence when you speak…never mind how you sound but if you know how, you are communicating (Participant: POET).

Another student participant referred to the development of literacy skills rather haphazardly, but tried to clarify it as follows:

> Uh...in S1 I think my academic writing was bad because of the module that I was learning. From high school and now they are changed a lot and there is no stuff like that, but now I understand what I am doing and…eh…most subject is what I like and I see that I have got experience in them. So I can say, like, what I'm doing right now in mechatronics, I have gone to YouTube and searched for it [to see] what it is and I find that it's the course I like, so I think it's better now (Participant: WILL).

4.2.1.5 Participants' enjoyment of their respective courses

Some student participants mentioned that they enjoyed their courses and that this helped them to enhance their academic writing and literacy development. One participant wrote the following in the reflective journal:

> Yeah, deep research. Now we are supposed to say, why are we building this wall? Yeah, we know this about this, but why? For what reason? And now, this was how expressing in improving our communication skills and how we are speaking in public and also improve our… because when you speak about something, you research about something you retain in memory, so the guy is actually good as in our discipline, regarding the communication also (Participant: POET).

Another comment in the reflective journal by a participant is the following:

> It improved lately, but I find it difficult. When I was at S1 I think that is where I see that it is bad in my academic writing, but now when I'm doing S3 I find it easier because that is where I was enjoying the course and see that everything has its way. I have found how university treats you and how to be a university student … (Participant: WILL).

4.2.1.6 Interventions provided by an Engineering department

Regarding the interventions provided by specific departments in the Engineering Faculty, one academic stated:

> No, I don't know anything that is provided by my department except for the communication course that we have. We have service from…eh…the service department. And at MUT I only know about the language centre (Participant Lecturer: TYG).

Another academic was not aware of any external support structure but mentioned that the department offered some help:

> We provide mentorship (Participant Lecturer: SMS).

Another academic reflected on this question as follows:

> Yeah, I think the intervention is from the university. I think they are there. Just to mention…uh…the bridging courses that are available at the moment. Like, there is critique because most of our students, uhm, they go through this bridging course, and the purpose of the

bridging course is also to give them confidence and for them to get the other missing subjects that they might not be doing in high school but which is engineering related, yes. So, from where I am sitting, I think that there is intervention (Participant Lecturer: SMS).

4.2.2 Main theme two: Coping strategies employed by students

When they were asked to comment on the availability of the Academic Writing and Literacy Support unit and the value of the assistance they received from this unit, the students agreed that coping was a key challenge they all experienced. For instance, they all had to learn to cope with different tasks that this unit set, such as applying the literacy skills they were taught when tackling engineering assignments. Below are some of the coping mechanisms they referred to:

4.2.2.1 Time management strategies

The student participants all mentioned the importance of time management if they wished to cope with the workload while trying to embrace the support provided by the unit. One student wrote the following in the reflective journal:

> I try my best. I if I am given an assignment, I do it. Not in time, I can say, as I do it on time. I start doing research on every assignment and write a compile somewhere when can I got all the information. After I got the information, I try to compile this assignment. Writing it, I do, I can say. YouTube also helps me a lot with my assignments because there are videos showing how this assignment must be done. YouTube just helps me in how to attend this thing because it does not look the same as what I am given in the assignment. But I try to figure it out, like how can I compare this to this and how can I do this assignment by myself (Participant: WILL).

Another student reflected on this question as follows:

> I do. I do for test purposes, but I cannot cram something I do not understand. So, before I go and like I said, I start earlier. I prepare earlier, because if I just cram the notes, I will not know what I am writing (Participant: GENT).

Another student reflected on a similar process:

> I usually do brainstorm and stuff before I present my work. I do brainstorm, like for example if I am given a project, let us say I am designing a neat exchanger, I do research first. Uh oh, no, I brainstorm. I brainstorm and then I do research around the points that I have made and stuff, so that helps a lot (Participant: POET).

Another student participant mentioned the following:

> I can say, I find it difficult to cope because most of the subjects are challenging. They are challenging to write, and they are challenging even when there is a test. [But] I end up doing this. So, [when] there is a chapter which I do not understand because of time, because of time... But all I can say is I try to do my best in everything I do (Participant: WILL).

A student participant commented as follows during the interview:

> It is what makes me improve. I can say the time I spent in university right now from S1 to S2, I started creating my time management: how to manage time and how to attend in classes and see when I do not understand what I do. I find that so that I can do this. I can behave like this in class. I can start asking questions if I do not understand. That's helped me a lot. Even creating groups, like learning groups where we can help each other. This makes me perform well (Participant: WILL).

Another student participant mentioned the following during the interview:

> Oh, one thing that I always ensure is, I always start earlier! Early to prepare whatever task I was given or assignment. I will always start early whenever I get a task. I will ensure that I move [and that] I'm ahead of the lecturer because we do not actually have any books prescribed for us, so whenever I get something that we must read, I ensure that I move one step ahead of the lecturer (Participant: SAVER).

4.2.2.2 Peer learning

Asking questions and engaging in group learning with the aim of helping one another to increase their academic performance was a common practice among the students. One student mentioned:

> Yeah, and one thing that has helped me so much is pre-tech. When I study ahead, I come back and teach my peers because I believe that when you teach something [that] is when you get more knowledge on it. So I always do that, so it helps me to understand more and deeper in whatever I study. So that's why I always study ahead (Participant: WILL).

> Another student said:

> Oh no, like for instance just as I, like, just social networking. Yeah, when social media…and then I write something and I think it is import in a simpler, simpler form what am I saying now, because someone in my field can just get what I'm speaking of, and whenever I'm writing, maybe. Because I remember I was helping

one girl. She wanted to write a letter to her school, and what actually happened, my English was very deep, and I had to teach her [and she] didn't get what I was actually writing. And I was like, "What? What is your problem?" She asked like a child, "Now, specify to me, what is written here?" (Participant: POET).

Another student stated:

I am very open to working with people. It is just that I am very reserved sometimes, but I am not saying I am not good at working with people. However, I am a very good team leader. Like for example, if we are doing our practicals, we normally do it in groups (Participant: SAVER).

4.2.2.3 Self-study

Self-study is a learning method that students need to employ to direct their own studying outside the classroom and without direct supervision. The available literature generally understands self-study as "independent learning" or "self-regulated learning" (Jossberger et al., 2010). According to the latter author, self-study, also known as self-directed learning (SDL), refers to the psychological processes of students who direct themselves to gain knowledge and understanding of how to solve problems. Lee, Teo and Chai (2010) contribute to this discourse with the assertion that a high level of self-management is important in self-directed learning, arguing that students need to use different strategies to solve a variety of problems. According to Gilbert and Driscoll (2002), self-directed learning also emphasises goal setting and decision making, which are important when students engage in either individual or collaborative learning. The difference between SDL and self-regulated learning lies in the skills that are imbibed. Scientists Jossberger et al. (2010) believe that SDL constructs are at the macro level, while self-regulated learning constructs are at the micro level. Often, students can take control of what they are learning or studying by engaging in self-study. This is a very valuable way for many students to learn because they are able to devise their own timelines and timetables to attain the goals they have set for themselves. The participating students displayed this mode of working independently outside the classroom setting. For instance, a student said:

…but, uh, all I'm trying to say is that a lecturer cannot come to you, he can never come to you, you just have to do your work, do your part. For example, if I have questions, I go to one of my lecturers if I have questions, but I have to do my part first, you know. Do my work and then go and consult and say, "Please look at what I have done", so that he knows I know if I'm doing the right thing [and taking] the right direction or not (Participant: POET).

The above student's attitude corresponds with Donnelly's (2010, p. 1363) explication of self-study. He holds that self-study means:

> Active awareness of the student's own responsibility. Unlike the first point of view, the student is not seen as a passive entity who understands everything, follows the curriculum by ear, and accepts everything that is offered, but is an active participant in the process. He is able to independently or together with others make decisions related to his education. When studying the material, he or she not only takes it, but also is able to give it back. This is not about the independence of the one who receives knowledge, but about the independence of the active participant in the process of acquiring knowledge

One student made the following statement:

> This year! But last semester I would not say this. I did not have that much time for consultation and stuff. I always use emails if I want help. If I am like at home and stuff, I use emails, I ask lecturers if I need help on a certain section that I didn't understand, and they do reply (Participant: SAVER).

Agreeing with the above statement, another student said:

> I am very exposed to YouTube. I do use YouTube as it helps a lot, because you listen, you are actually listening to the person, and you are seeing what he or she is doing and you try to do the very same thing that he or she does (Participant: GENT).

Another student reflected on the question that I had posed as follows:

> Okay. You know we are students and a lot of our tasks we do some day, we usually tend to find so, uh, recently, I was…uhm…so I was to write a report on civil analysis we did for practicals. We were supposed to report and now the actual format…the actual format of the…uhm…report that we were supposed to write I got it on the internet. I watched YouTube channels and…uhm…saw some templates on how to actually properly write the report of that type, like the structure. Yeah, so I will say that I am pretty exposed to the internet, so I am using it a lot to actually improve my way of writing regarding everything that is in the task that we are given. And currently I am working on an assignment in construction technology which is about constructing a technology. Uhm…the internet is actually giving me the formats on how to actually go about writing this thing. How to write the method of construction, how to properly structure the report structure, yes. So sometimes on YouTube it helps. Due to my view, it helps to structure my work, yeah. I will say that (Participant: POET).

Another student stated:

I am very shy and then, when I have…when I have like…eh…an oral presentation, I usually look in the mirror before I go for that oral presentation. I usually go the mirror and stand there and be presentable as if I am in that presentation. I usually stand in [front of] the mirror and present whatever I am supposed to do. I will do it in the mirror and I usually do not look at people. It helps me a lot (Participant: SAVER).

Another student participant said:

I think that what is the most challenging part about tertiary level, is that you must consult. If you do not consult, I do not think you going to get help. That is what I am trying to say: you probe, you ask for help, seek for help…! Yeah, that is what I am trying to say (Participant: GENT).

4.2.3 Main theme three: Using the IsiZulu language

While students were focused on academic writing and literacy development in the English language, the use of the local language, notably IsiZulu, seriously influenced learning. One academic referred to this challenge as follows:

Sometimes I do have challenges, because I would ask something and the students would now respond about something completely different. I think sometimes the wording confuses them, or sometimes they do not understand what you asked of them and what is required of them, so they would write the first thing that comes to mind, you know. And some of them, like I said before, would put, you know, IsiZulu words in between sentences just for me to understand or just for me to actually see what they actually meant with regards to the statement or the sentence they were writing. So, I find this a challenge when I mark. I actually take a longer time to mark [than I should] because I am trying to figure out what this student is trying to say. (Participant: TYG).

Another academic averred:

What I have noticed is that when you introduce something in the language that someone or the students speak, they will catch it straight there, so I think…uhm…the issue of language…in as much as we were saying it is very diverse, but I think it is also critical to develop certain teaching material in the language that our students want. They will [better] connect to it and [understand] what you are saying, so I sometimes do that [code switching]. Maybe I explained in English and then someone says, "I am not getting it", then what I will say is, "Is there anyone in the class who has got what I said?" Then I will make that person explain and maybe that particular student will maybe focus on that leaner who is saying, "I did not get what you are saying", and try to explain it in that language. I have seen…I have used it here and there and I have seen it working. Students can

fail to understand something because you are teaching it in another language but can understand it in their own language (Participant: FRE).

The use of the first or other languages in the classroom for explanation is recognised by lecturers. For instance, the data revealed that students in the Engineering Faculty were allowed to use IsiZulu as a resource to explain and understand challenging content in the lecture room setting. The academic who referred to this practice was already quoted above, but I reiterate the key comment he made in this regard:

> Sometimes…the students would respond [by saying] something completely different. I think sometimes the wording confuses them or sometimes they do not understand what you asked of them and what is required of them, so they would write the first thing that comes to mind, you know. And some of them, like I said before, they would put Zulu words in between sentences just for me to understand or just for me to actually see what they actually meant with regards to the statement or the sentence they were writing… (Participant: TPA).

4.3 Data and Emerging Themes Pertaining to Question two

According to student feedback in response to question two: *How do Engineering students experience academic writing and academic literacy support offered by the Academic Literacy and Language Support unit at the selected university under the study*? the unit was helpful in improving their academic writing and literacy skills. For example, a reflective journal entry by a student participant revealed that the academic literacy interventions that were offered were very helpful and enjoyable and that they benefitted from the literacy and language support this unit offered.

One participant noted:

> Okay, we have Communication from S1 to S4, so the literacy part of it I guess is a builder because there outside, when you go to the field, it will be more about how you communicate with people out there (Participant: GENT).

Another student noted:

> Oh okay…uhm…well, I can say that since I have come from high school, my academic literacy has improved, starting from the assistance I received from the Academic Literacy and Language unit. She herself taught us how to understand without looking for and searching for a particular term in the dictionary, so she taught us many things about understanding English without having to really

understand English terms, how to write properly in everything, how to communicate properly… (Participant: POET).

Another student noted:

> We were basically…given tasks, like reading tasks. Somebody must stand up and read and explain what that paragraph was saying, or we did presentations and stuff. And we did write, we did, yes. We did some writing, did some writings, yeah. There are so many essay writings. I think they were trying to see if we were understanding…if we are being able to grasp what they were saying in terms of writing (Participant: SAVER).

The following excerpt is a lecturer's observations on writing improvement efforts:

> Yes, because I think for the few years that I have been taking this subject, uhm, if I compare the reports, its [up to] standard. In terms of the reporting skill that was there before, I can see there's a change now, yes. It means, uh, that someone…the students are now getting the skill in terms of academic writing (Participant: FRE).

4.4 Data and Emerging Themes Pertaining to Question three

I posed question 3 to assist in me in addressing the theoretical framing of the thesis. By posing the question: *Why do engineering students experience academic writing and literacy development at the selected university under the study the way they do?* and evaluating the responses to it, I was assisted in enhancing my contribution to the pool of knowledge through this thesis. First, to understand the participants' experiences of academic writing and literacy development, I needed to locate their experiences within the theoretical lenses that I employed to underpin this study. Secondly, my understanding of how the students experienced the support offered by the relevant literacy unit at the university helped me to further theorise how they perceived the unit and what role it played as they progressed along their academic journey. Posing this question thus helped me to provide the necessary discussion and theorising that I present in the discussion chapter.

4.5 Conclusion

This chapter focused on three important themes that were supported and complemented by sub-themes to answer the three research questions. A key finding that emerged from the data is that there was noticeable improvement in the academic writing and literacy skills of the

participating student. The students highlighted this theme and the lecturers affirmed this important finding as they claimed that some of their students were able to use reading and writing skills that noticeably improved their academic writing since when they had started university. However, the silo effect that was referred to implicitly by some lecturers demonstrated that some were only aware of a former language centre and did not know anything about the current Academic Writing and Literacy unit that had recently been established. This matter will be attended to later in the discourse.

CHAPTER 5
DISCUSSION OF RESULTS

5.1 Introduction

Having presented the study results in the previous chapter, in this chapter I discuss the results. My discussion will draw on lenses provided by Bourdieu's Cultural Capital Theory and the Academic Literacy Model of Lillis and Scott (2007). For clarity and logical flow, the discourse will present the findings sequentially based om the three key research questions and the relevant themes that pertain to them.

5.2 Discussion: Question 1 and Emerging Themes

Drawing on both Bourdieu's (1973) Cultural Capital Theory and the ALM as advanced by Lillis and Scott (2007), I discuss three main themes that emerged from the data pertain to question 1: *What are the engineering students' experiences of academic writing and literacy development at the* selected university of technology in KwaZulu-Natal Province? The three main themes are: (1) Students' improvement in academic writing and literacy; (2) The coping strategies employed by Engineering students (in their engagement with academic writing and literacy development); and (3) The use of the IsiZulu language to enhance academic writing and literacy development.

5.2.1 Theme 1: Improvement in academic writing and literacy development

As was revealed in Chapter four, the following sub-themes emanated from this main theme:
- Students' lack of preparedness to engage with higher education studies,
- Interventions provided by lecturers and the university,
- Participants' ability to use technology, and
- Participants' sense of self-fulfilment and opportunities for self-development.

5.2.1.1 Students' lack of preparedness to engage with higher education studies

It was clear from the academics' point of view that, in terms of academic writing and literacy skills, their students at first lacked the necessary level of literacy skills required at the selected university of technology. This was not a surprising finding given the relatively deprived background of students enrolled at this institution. Although the financial status of the students' households was not investigated *per se*, it is an acceptable fact that most students who enrol at this university come from rural and poor township communities that possess limited cultural and financial capital, as Bourdieu would argue.

It was proposed by the lecturers that many first-year students enter the university under-prepared for studies at this level and that they thus struggle to teach them and usually have to strengthen the academic literacy course. This notion is supported by Mgqwashu (2014). Following the argument presented earlier on cultural capital, it is noted that linguistic and cultural competence denotes one's ability to "code and decode" the vocabulary of a particular class. It can be argued that students at this selected university of technology at first, upon entry, lacked the linguistic and cultural competence needed in terms of academic writing and literacy development in the English language.

In consideration of the tenets of the ALM, it is argued that the students lacked holistic academic writing and literacy training prior to their enrolment at the university. Therefore, upon entry, they presented a lack of writing and literacy skills (individual cognitive skills according to the Study Skills Model), a lack of disciplinary discourse skills (according to the Academic Socialisation Model), as well as a lack of institutional literacy knowledge (according to the Academic Literacies Model).

It was therefore logical and fair to expect that, at the very early stage, the students would manifest a lack of engagement with disciplinary and institutional language literacy as they were still acclimatising to the Engineering discipline and needed to understand that they were required to develop appropriate academic writing and literacy skills.

5.2.1.2 Interventions provided by lecturers and the university

It was reported by both the student and academic participants that the Engineering lecturers and the university provided some interventions towards developing students' academic writing

and literacy skills. The interventions, which included showing students how to utilise library resources, how to work in groups, and how to write reports seemed to come to fruition in the students' third year of study. For instance, they had been cumulatively assisted in writing good reports, deciphering textual meanings, and constructing logical sentences, among other things. Being in their third year of study, the students and lecturers agreed that development in students' academic and literacy skills had occurred as they were able to demonstrate that they could utilise the necessary writing tools. As proposed by Lea and Street (2006), the data revealed the possibility that the students benefited from a holistic undertaking of academic writing and literacy development, as the findings suggest the application of a combination of the Study Skills Model, the Academic Socialisation Model, and the Academic Literacy Model.

5.2.1.3 Participants' ability to use technology

As the participating students developed academic writing and literacy skills, they were introduced to and internet facility called Blackboard, interactive whiteboards, WhatsApp, YouTube, and many other digital technologies. The use of these technologies evidently assisted the students to develop their academic writing and literacy skills immeasurably. Given that most of these engineering students must have come from disadvantaged backgrounds and rural schools, they were not accustomed to using highly developed technologies and platform in their schools or homes. However, the university of technology under study clearly provided them with opportunities to develop their cultural capital. Also, while using such technologies, lecturers were able to enhance interactive and participatory learning that helped the students to develop holistic literacies. These interactive learning sessions were also a way of enhancing the engineering students' cultural capital that was required to develop the necessary skills to participate epistemologically at the university.

The participants were in agreement that most students displayed a lack of computer literacy skills upon entering the university. This is understandable as the student population is mostly drawn from townships and rural and semi-urban areas whereby educational facilities and resources are scarce or unavailable to prepare them for the higher education sector. Such students possess first-generation status and come from communities and families of low socio-economic status. The university thus embarked on several forms of interventions to help bridge this gap, and this has evidently yielded positive results as can be judged by the findings. However, not all expectations had been met in some cases. To my knowledge, each department

across all faculties at this institution is allocated time periods for students to study and do practical work based on a core curriculum course in computer skills that all students are mandated to attend.

In response to the COVID-19 pandemic, the university in question embarked on a university-wide intervention initiative to oversee the function through the gradual introduction of a Digital Literacy course that focuses on teaching practical and basic skills. To bridge the gap, the centre helped by training students to use their personal computers for academic and home tasks. These computer classes included four 2-hour sessions for beginners offering tuition in Computer Basics (Windows 10) and Office Programs and Productivity (LibreOffice). For example, the introduction and use of Blackboard as a learning management system (LMS) at the university was a huge investment.

The figure below reflects the outcomes of the responses by the respondents about online learning and teaching.
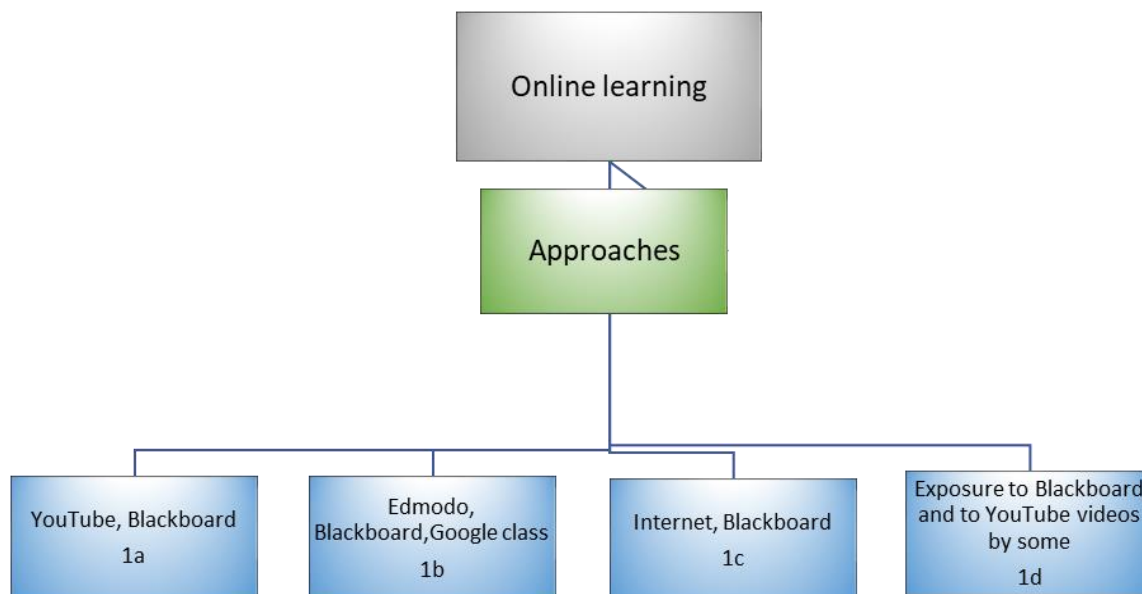

Figure 9: Online Learning Approaches

5.2.1.4 Participants' sense of self-fulfilment and self-development

After their exposure to academic writing and literacy development courses, the students reportedly felt satisfied and experienced a sense of self-fulfilment related to their improvement and development in academic writing and literacy skills. Among other aspects, they argued that they experienced improved interactions with other students and their lecturers, that their improved writing helped them maintain high grades, and that they were able to write appropriately sophisticated letters to request service training. Some participants described experiences related to self-development, especially as they felt that they had acquired confidence in their writing ability. Moreover, some participants mentioned that they enjoyed the course and that it helped them develop academic writing and literacy skills.

The improvement in the academic writing and literacy skills experienced by the Engineering students under study is testimony to the fact that these students' cultural capital had increased after their exposure to appropriate interventions. This suggest that the university was able to draw on holistic academic writing and literacy training as proposed by the ALM.

5.2.2 Theme 2: The coping strategies employed by Engineering students

As noted in the previous chapter in which I reflected on the academic writing and literacy support offered by the Academic Literacy and Language Support unit at the university under study, the students described their experiences as a growing ability to learn to cope. These students clearly not only had to learn to cope with the different tasks expected of them by the Academic Literacy and Language Support unit, but they were also expected to apply the skills they were taught in their engineering assignments. The students learnt how to manage their time regarding the different tasks they were given, including those related to academic writing and literacy development. They engaged in peer learning as well as self-study. Self-study is a learning method that allows students to direct their own studies outside the lecture room and without direct supervision. This means that students who engage in this mode of learning will take control of what they are learning. Self-study can be a very valuable tool in the development of many students because it capacitates them to devise their own timelines and work according to a timetable to attain their set goals. The participating students referred to their ability to utilise this mode of working independently outside the lecture room setting.

Self-teaching mechanisms are related to self-study. It was also adopted by the student participants as they displayed their willingness to learn and contribute to their teaching and

learning without waiting for lecturers' interventions. The application of mechanisms and strategies to cope with learning in and out of the lecture room featured prominently as the student participants attested to the different ways they used to master and grasp learning content.

According to Hassel and Ridout (2018), when students enter a college or university they appear to rely on strategies that are more problem-focused than developmental (planning and actively trying to cope). Such strategies help them manage their emotions (cognitive reappraisal) and both are generally considered adaptive strategies (Carver & Scheier, 1989). This is supported by the observation that it is possible that first-year STEM students employ these strategies in anticipation of experiencing more academic challenges. Furthermore, it is also possible that first-year students in general are more likely to endorse these strategies as they are consistent with the messages and preparation students receive prior to enrolling in college or university and during orientation (e.g., problem solving, thinking positively). O'Brien et al. (2012) argue that engineering can be an extremely high-pressure industry. How Engineering students cope, and when they do not, thus need to be understood. The fact that the students may only have felt "somewhat adequately" prepared with respect to their coping skills suggests that lecturers need to pay greater and more explicit attention to the development of their students' personal skills, and more generally to emotional intelligence within the engineering curriculum (Salam et al., 2020). Coping skills and techniques can be learned and acquired, which is usually the case among students who eventually find their feet in the tertiary education context. This was also clearly the case for the Engineering students under study.

Underpinned by both the Cultural Capital and the Academic Literacy theories, it was concluded that the Cultural Capital Theory was applied as it was reflected in the accessibility of learning tools like YouTube and other online videos that were accessed as self-study tools, while some students consulted their lecturers for in-person consultations in their effort to improve their academic literacies. Interestingly, some knew about the literacy interventions offered by the Academic Literacy and Language unit while others did not, but those who were aware of it did not utilise this facility optimally. Furthermore, the students reflected positively on the coping strategies they employed when allocated academic writing tasks and they appreciated the benefits they received from service departments such as the Communication Department and the Academic Literacy and Language unit. In light of the fact that most (if not all) of these students came from disadvantaged communities with little cultural capital, it was expected that

they would generally need more time and effort to successfully engage with university interventions that would help them achieve their educational goals. This seemed to be the case as these third-year students admitted implicitly that their struggles to cope had only been resolved quite recently.

5.2.3 Theme 3: The use of the IsiZulu language and peer tutoring

While the students needed to focus on academic writing and literacy development in the English language, the use of their first language, IsiZulu, was noted to seriously influence their learning. A point of departure in language and literacy investigations is that a student's home language, which was IsiZulu in this case as it is the language that is predominantly spoken in the communities that feed the university under study, is useful and often pivotal as a tool and resource in teaching and learning spaces, particularly when the language of instruction is not the mother tongue of the students. It was therefore heartening to note that the use of other language/s in lecture rooms for clarity and explanation purposes was recognised by the lecturers in the sense that students were overtly allowed to use IsiZulu as a resource to explain difficult content and concepts. This practice is referred to as code switching, which will be discussed in more detail as a sub-theme in the following section. Suffice it to say here that, during an interview session, a Mechanical Engineering lecturer indicated that, in some instances, he allowed his students to use their first language, IsiZulu, whenever it was necessary to explain difficult concepts to their peers in the lecture room or practical sessions. This suggests that code switching was used either consciously or unconsciously during lectures, as proposed by Aljoundi (2013).

Peer tutoring in the local language is useful and often recommended when a student who has mastered a concept or content is given the opportunity to engage with his/her fellow classmates as the lesson progresses, thereby making the class experience pleasant and enjoyable. This practice is supported by the institution's Language Policy of 2021, which was introduced to ensure that language does not create a barrier to students' academic success. The university explicitly supports its academic literacy and language unit to provide language and academic literacy programmes in English and, where possible, to reinforce learning in IsiZulu or in another appropriate official South African language used by students. According to Van Rooy and Coetzee-van Rooy (2015), the status quo stands as follows: most institutions of higher learning recognise the importance and value of African languages in South Africa as academic

languages, particularly for tuition and research purposes. Studies undertaken at various universities both locally and internationally have illustrated that the utilisation of a student's home language in learning can facilitate cognition and can consequently lead to successful academic achievement (Cummins, 1981, 2000; Dalvit, 2010; Dlodlo, 1999; Heugh, 2000; Kapp & Bangeni, 2009, 2011; Madiba, 2010, 2013; Wolff, 2002; Antia & Dyers, 2016).

5.2.4 Theme 4: Code switching in the lecture room

Using code-switching in a language classroom has been considered a useful strategy for classroom interaction and communication. It has been observed that the aim of this action is to improve clarity of understanding as it leads to a more meaningful and clearer transfer of knowledge to students in an efficient and user-friendly way.

In support of the above notion, Pfeiffer (2018) argues that students should be granted space to use either their home language or any other language they feel comfortable using in a classroom setting. Moreover, she is of the view that the use of journal writing grants students the freedom to express themselves frankly and honestly, even if it means mixing their home language with the language of instruction. Hill (2002) and van Zyl (2002) posit that multilingual accommodation using English and other languages is a positive contribution to co-operation in the Engineering discipline.

It is clear that formalising the use of IsiZulu as a teaching and learning language at the highest level and in university statutes may eradicate some of the challenges that lecturers face in teaching, learning and assessment in a university environment. It was informally reported that some students would take advantage of writing a concept or explanation in isiZulu during exams. However, a lecturer confirmed that this was not entertained as no mark would be awarded.

5.2.5 Theme 5: Bilingualism in a multilingual context

It is noteworthy that the study repeatedly illustrated the significance of bilingualism and bilingual education. Unfortunately, this is linguistic capital that is scarcely tapped in higher education settings. It is understood that additive bilingualism, in which a student's first language continues to be developed while they are learning their second language, could be

actively engaged. Pluddemann (2015) provides an overview of policy developments, and his views and reflections on additive and subtractive bilingualism point to additive bilingualism as developing when both languages and the culture associated with them bring complementary positive elements to the child's overall development. Conversely, subtractive bilingualism is characterised by the loss or erosion of a home or first language and culture (Baker, 1995). The latter author argues that many countries are coming to terms with bilingualism, also in higher education settings. With this increasing awareness, language policies are being revised and educators are trying to redesign curricula to better serve the needs of language minority students.

It is observed that students who are highly proficient in the English language from an early first language immersion experience have done so at the expense of their first language and even lost the ability to hold a basic conversation. From discussions, most students at the selected university appreciate the reality of being taught by first language IsiZulu speakers who can transcribe and translate new concepts into their mother tongue. Regulatory guidelines on how this process can be embarked on need to be configured by practitioners and made to suit both the different environments and discourses to be imparted. As a university of technology in the province and region, the university under study is well placed to rise to the challenge of developing a lingua franca as well as an academic discourse that will bridge the gap between industry and appropriate academic literacy standards in this area.

It was brought to light that non-IsiZulu speakers, for example students and lecturers from neighbouring countries or non-South Africans, do well even if they do not possess knowledge of South African languages. Referring to Bourdieu's cultural capital in this case, the common social language in the study area, namely IsiZulu, is sometimes used as a language resource in lecture room settings. This finding is quite significant as the use of the students' first language for teaching and learning purposes will endorse the representation of the student population and, in turn, this will contribute to enhanced student performance and will become a coping strategy in lecture room settings, as suggested by the data.

In support of the above statement, Madiba (2018) advocates for the intellectualisation of indigenous languages, firmly believing that African languages are now partially intellectualised owing to the availability of improved research standards in languages spoken on this continent. This has created subject disciplines that can be used by people to deconstruct

various disciplines like mathematics and the sciences. Mgqwashu (2014) maintains that the development of academic literacy in indigenous languages is something that is part of the social justice project and that it entails the necessary rediscovery of the validity of indigenous people's cultures and lifestyles.

The experiences of academic writing and literacy development of the Engineering students related to the use of the isiZulu language revealed two major issues. First, that students from rural KwaZulu-Natal could exploit their local language as it serves as cultural capital that will support their learning and result in academic achievement. Secondly, it means that academics could enrich their lessons by combining the use of IsiZulu with the English language for clarity and learning purposes.

5.3 Discussion: Question 2

As was already noted when I addressed the data pertaining to question 2, *How do Engineering students experience academic writing and academic literacy support offered by the Academic Literacy and Language Support unit at the selected university under the study?* the students' experiences of this unit were positive as those who utilised it indicated that they found the unit helpful as it offered activities that enhanced their academic writing and literacy development. The university explicitly supports the Academic Literacy and Language unit and expects it to provide language and academic literacy programmes in English. Moreover, it also mandates this unit to reinforce IsiZulu, or any other relevant official South African language where possible, so that language barriers are collapsed and students are supported optimally.

The participating students' experiences demonstrated that the unit provided them with opportunities to acquire and/or enhance cultural as well as social capitals. Furthermore, the unit seemingly provided them with the necessary interventions that supported them in enhancing their academic writing and literacy development.

5.4 Discussion: Question 3

Posing Question 3, I asked: *Why do Engineering students experience academic writing and literacy development at the selected university of technology under the study the way they do?* Looking at the results pertaining to Questions 1 and 2, it became clear that the Engineering

students experienced academic writing development the way they did because of their socio-economic backgrounds and contexts. For example, because most of these students came from low economic backgrounds, they lacked the necessary cultural capital to engage with the demands of university of education when they first enrolled. As was pointed out, cultural capital, which guides and shapes children's experiences, has a significant impact on their ability to engage with the world. The above discussion has indeed shown that socialisation at family level and the socio-economic background of students impact their ability to tap into the skills they need to cope in a higher education context. Therefore, the ability to do so rests only with them.

The study proposes that the Engineering students under study were not prepared for university education at first due to their experiences at home and in their rural/township high schools. Therefore, these students had to resolve to work harder and to devise coping mechanisms that would help them attain the level of academic writing and literacy required.

5.5 Conclusion

In this chapter, I discussed my findings by drawing on Bourdieu's Cultural Capital Theory and the Academic Literacy Model (ALM) of Lillis and Scott (2007). With reference to the findings pertaining to question 1, *What are the engineering students' experiences of academic writing and literacy development at the selected university of technology in KwaZulu-Natal Province?* I discussed three main themes: (1) *Improvement in academic writing and literacy,* (2) *Coping strategies employed by students in engaging with academic writing and literacy development,* and (3) *the use of IsiZulu to enhance academic writing and literacy development.* In terms of the findings pertaining to question 2, I mentioned that only some Engineering students utilised the support of the Academic Writing and Literacy unit and I discussed to what extent they were supported by this unit. Addressing question 3, I showed why these engineering students experienced academic writing and literacy development the way they did, arguing that their lack of cultural capital at first prevented them from coping with the demands of their tertiary studies. It was only when these students resolved to take responsibility for their academic and literacy development themselves, and when they sought additional support from their lecturers, the Internet, and student support services on campus, that they were able to improve their writing and literacy skills.

CHAPTER 6

THE EFFICACY OF THE STUDY FINDINGS AND VISIONS FOR THE FUTURE

6.1 Introduction

In this final chapter of the thesis I address the efficacy of the findings. When I embarked on this study, it was my intention to explore selected Engineering students' and lecturers' experiences of academic writing and literacy development. My particular interest in involving students who were enrolled in the Engineering Faculty at the target university of technology in South Africa was prompted by my personal and academic interests as a language facilitator. The study sample was purposively selected from among academics and students and data were generated by means of semi-structured one-on-one interviews and reflective journal entries. The theoretical framing of the study was the Theory of Cultural Capital as developed by Bourdieu (1973) and the Academic Literacy Model as developed by Lillis and Scott (2007).

6.2 Thematic Evaluation

6.2.1 Attainment of development in academic writing and literacy

It is envisaged that this study will advance understanding of how students from rural and low socio-economic backgrounds could be assisted in improving their academic writing and literacy skills. The participants were drawn from the Engineering Faculty at a university of technology near Durban in Kwa-Zulu-Natal. Although the Engineering students enrolled at the university when they were fresh from school and underprepared for the demands of university studies, they received support from lecturers, external literacy support structures, and the Internet and were eventually able in their third year of study to engage quite competently in academic writing. This means that academic writing and literacy development occurred over time with external support as well as self-study initiatives. Therefore, these students' literacy skills were enhanced in the tertiary context.

The study highlights the role that the adoption of coping mechanisms plays in assisting students to fully participate in university epistemology. Given their limited cultural capital, the students had to work hard to develop and attain an accepted level of academic writing and literacy skills.

6.2.2 Role of IsiZulu in academic writing and literacy development

The study also highlights the role of the IsiZulu language in the development of Zulu-speaking students' academic writing and literacy skills at the selected university where the medium of instruction is predominantly English. Given that most students at this university use IsiZulu as their first language, utilising both isiZulu and English to explain complex concepts seems useful and pertinent. In this context, it is my contention that it is critical to develop certain teaching materials in the IsiZulu language at the target university to augment those that are available only in English, particularly in difficult and challenging modules in Engineering. This will add value to Zulu-speaking learners' tertiary experience and will contribute to and enhance the multilingual project that the university is driving. This project, to my knowledge, drives and supports at-risk modules in which the failure rate is high, as revealed by the university's statistics and HEMIS data. When code switching occurs and support material is more accessible, students will be able to 'connect the dots', minimise confusion, and understand specific subject disciplinary content and jargon better. Peer learning strategies will also be strengthened if provision is made for inclusive education in terms of bilingual instruction and code switching to explain and access unknown or difficult-to-access English terms. Encouraging bilingual and code-switching education to access difficult English texts may also enhance peer collaboration that will lead to improved learning strategies and ultimately to academic success.

There are clear opportunities for students who are allowed to use IsiZulu as a resource to explain challenging content in a lecture room setting. Terminology development is two-sided in this regard, as students who access vocabulary in the target language by means of explanations in their mother tongue will be able to grasp and share knowledge more readily. This means that students need to be allowed and encouraged to access content and concepts in both their mother tongue and the language of learning. This will be facilitated if they are provided with epistemological access that will undoubtedly lead to success as the end result.

6.2.3 The role of academic writing units

The study highlights the important role that an academic writing unit plays at a university of technology, particularly at one that is situated in a feeding area that is characterised by low-economic communities. Academic literacy writing support and the institutionalization of an academic literacy unit in the selected institution became paramount in the effort to support students and ensure higher progression rates towards graduation. Compulsory Academic Literacy (AL) and English Second Language (ESL) courses remain a topical issue and a bone of contention in most tertiary institutions in the country. While some have considered an eclectic approach to the issue, others seem to hold on to the known rather than venture into the unknown by embracing the new reality of diversity in tertiary education. The alternative for developing a hybrid module that is additional to a discipline-based one should be considered in collaboration with subject discipline experts. Such a process is highly recommended and seems plausible in the context where an increasing number of undergraduate students speak English as a second or third additional language (CHE, 2013). In this context, it seems logical that writing and literacy support units should be attached to specific disciplines, which suggests that such units should be decentralised. For instance, the low cultural capital that students possess when they enrol at the university under investigation should be acknowledged and considered not only holistically, but in subject discipline contexts as well. This presupposes that writing and literacy development initiatives should be embedded in particular disciplines and attached to specific departments at the university under study. Although the value of the Academic Writing and Literacy unit is acknowledged and commended, the fact that some participants were not even aware of its role needs to be flagged as a matter that needs urgent attention.

6.2.4 Students' background

The study highlights that students' background and their relatively deprived socio-economic context impact their ability to engage competently with tasks that require a high and sophisticated level of writing and literacy development. Any intervention that is planned to support students' academic writing and literacy development must therefore take the backgrounds and contexts of the students into consideration. Although the financial status and schooling background of the participating students were not explored *per se*, this finding is

supported by the fact that students who enrol at the university under study come from rural and township backgrounds that are generally not characterised by affluence and strong family units.

6.3 Theoretical Contribution

The study demonstrated adequately that Bourdieu's Cultural Capital Theory and the Academic Literacy Model as developed by Lillis and Scott (2007) are effective in exploring academic writing and literacy development. Based on the contribution of these two models, I was able to arrive at the conclusions that this study reached from a scholarly perspective, which renders this study's findings valid and trustworthy.

6.4 Methodological Contribution

This study has demonstrated that using qualitative inquiry that is embedded within the interpretive paradigm is useful and valid in framing questions regarding academic writing and literacy development. Furthermore, the study affirms the value of combining in-depth interview and journal entry data to understand academic writing and literacy development. I also demonstrated that thematic analysis was a viable and effective method for analysing, presenting, and evaluating qualitative data that had been generated by means of semi-structured interviews and journal entries. Moreover, involving two diverse groups of study participants (i.e., students and lecturers) proved to be highly effective in generating comparative data that could be triangulated to arrive at trustworthy findings. The thematic analysis process that I utilised was also effective in breaking the large body of data down into manageable parts that could be scrutinised and evaluated. The themes that emerged from this process could be logically presented and discussed and this effectively assisted in illuminating the key findings of the study.

It is my contention that the methodology that was employed in this study supported my quest to fill the gap in writing and literacy development at tertiary level that was identified by a close scrutiny of relevant literature. I therefore embraced the imperative to shift scholarly focus away from purely academic universities, and I successfully attended to the issue of academic writing and literacy skills development among Engineering students at a university of technology. I believe that this was a sound decision that was supported by my choice of the most apt

qualitative research methodologies that allowed the utilisation of suitable data generation instruments (semi-structured interviews and journal entries). During my rigorous review of the literature I observed that, as much as academic literacy experts engaged with and cited studies that had been undertaken in countries abroad such as the UK, the USA, New Zealand, and Australia, these studies lacked investigations into poorer communities with diverse language proficiencies such as those found in South Africa. The targeted university of technology was therefore imminently suitable for this shift in focus as it draws predominantly IsiZulu-speaking students who have to cope at tertiary level with English as the language of instruction.

6.5 Proposed Model: An Integrated Literacies Development Approach

Based on the findings of this study, I propose an Integrated Literacies Development Approach Model to encourage and facilitate writing and literacy development. This proposal is presented as a graphical presentation and focuses on key stakeholders who need to engage in important functions to ensure the effectiveness of the model when applied in practice.

- **The stakeholders are**: students, academic literacy lecturers, subject specialists from faculty departments, disciplinary specialists, English communication skills lecturers (ECS) and other academic writing and literacy development specialists, library services, the Cooperative Directorate that oversees work integrated learning (WIL) and service learning, discipline-specific curriculum specialists, and Writing Centre (WC) coordinators and practitioners.
- **The processes are**: academic literacy interventions, embedding AL into disciplinary curricula, and structured intra-institutional collaborations among departments and divisions involving stakeholders as listed above.

Adopting a new framework or model as presented in this thesis will not only assist faculties and departments in enhancing and establishing stronger partnerships, but it will undeniably benefit both staff and students and, ultimately, the entire institution. In light of these envisioned positive outcomes, constructive partnerships and collaboration among these portfolios and sections are highly recommended. Such a process is supported by Tulder, Seitanidi, Crane and Brammer (2016), who claim that developments in support practices necessitate the encouragement and forging of closer links among all stakeholders. They also argue that this will positively impact student development and assessment research.
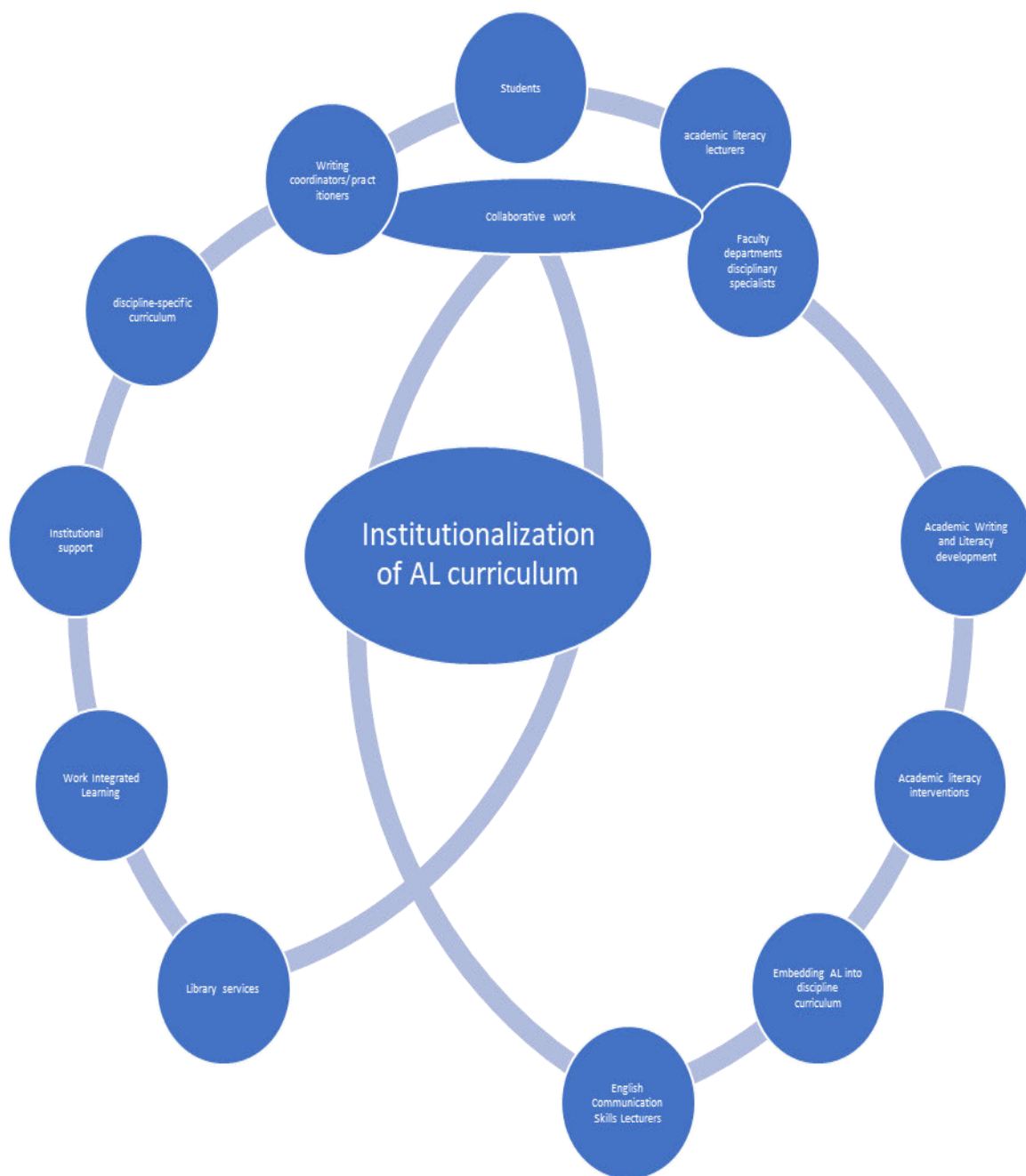
Figure 10: Proposed Model: An integrated approach towards embedding literacies within discipline-specific content

6.6 Conclusion

This chapter was utilised to highlight the efficacy of the study and the contribution that the findings will make to the pool of scholarly knowledge in the literacy discourse. I argued pertinently that the study elucidated understanding of how students from rural and low socio-economic backgrounds could be helped to improve their academic writing and literacy skills at a university of technology. I also highlighted the role of the use of the home language (in this instance IsiZulu) in the process of academic writing and literacy development for students who study in their second or third language. Furthermore, I expounded the importance of the theoretical framing that I employed and illuminated the key findings as well as the methodological efficacy of the study. In conclusion, I proposed a model for an integrated approach to writing and literacy development, arguing for the decentralisation of literacy development and the embeddedness of literacy enhancement within discipline-specific content.

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APPENDICES

APPENDIX A: ETHICS LETTER

Mangosuthu
University of Technology

UMLAZI - KWAZULU NATAL

P.O. Box 12363 Jacobs 4026 Durban Tel: 031 907 7111 Fax: 031 907 2892

04 April 2018

Dear Ms NLB Makhanya

It is my pleasure to advise that at its last meeting, the Ethics Committee approved to grant you permission to conduct the research project titled: "Academic writing experiences and literacy development of Engineering students in a South African university".

Permission to conduct the project is granted on the condition that any changes to the project must be brought to the attention of the MUT Research Ethics Committee as soon as possible.

Good luck with your research.

Yours faithfully,

Dr Z.L. Kwitshana
Interim Chairperson
Ethics Committee
Mangosuthu University of Technology
Tel: 031 8199273
Email: kwitshanazl@mut.ac.za; Skype Zilungile.Kwitshana

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APPENDIX B: INFORMATION SHEETS AND INFORMED CONSENT

Dear Participant

You are being invited to consider participating in a research study that involves research on the academic writing and literacy development experiences of Engineering students at your university. The aim and purpose of this research is to explore the nature of academic writing experiences of Engineering students in their academic trajectory with regards to academic literacy and writing development in the academia.

This kind of research will involve the following procedures/data generation methods: reflective journals and interviews. The duration of your participation if you choose to enrol and remain in the study is expected to be two semesters of the academic year. Your participation excludes test weeks and vacation periods. In total, the researcher will utilise 12 weeks of journal entries per semester, amounting to 24 weeks in a year. Interviews will be conducted before test weeks/ before examinations and after test weeks/ after examinations, per student participant, totalling to four interviews per participant.

This is a case study that will have a total of ten participants and will provide no direct benefits to participants except for contribution to knowledge. The study will not involve any risks and/or discomforts.

In the event of any problems or concerns/questions you may contact the researcher:

Ms. NLB Makhanya
76 Thames Drive
Westville
Durban
3629

██████████████████████████

████████████████

Email: buyi@mut.ac.za
buyimakhanya78@gmail.com

APPENDIX C: INTERVIEW SCHEDULE AND QUESTIONS FOR STUDENTS

Duration of interview: 1hr 20 – 1hr 30 minutes per participant

BIOGRAPHICAL DETAILS e.g.
1. Last school attended, (rural/urban)
2. English Matric pass mark,
3. First generation student (family),
4. attended/did not attend academic literacy support at FY, referred by dept. /walk-in
5. Mentor/non-mentor/mentoring recipient at MUT.

1. What are your academic writing and literacy development experiences as an Engineering student at the university? Explain.

2. Share with me what you think about students' writing development at the university from the time you became a student of MUT.

3. Are there any writing interventions that you know of or have attended at the university? If yes, would you please elaborate on these and how the activities are structured for your benefit.

4. How do you cope as a student with your academic writing in discipline specific tasks?

5. Do you engage in academic writing activities for Engineering studies at the university?

6. Are there any specific writing challenges you would like to share with me related to your academic journey at MUT? If yes, please explain.

7. Have you ever been exposed to online teaching and learning approaches whereby the focus is to develop your writing skills as a student? If yes, please elaborate.

8. Have you ever attended language classes at the academic literacy and language support unit? If yes, share with me the impact of such classes in your student life in terms of academic writing development?

The last two questions are meant to wrap up and conclude the interview.

9. Is there anything I have not asked that you would like to share with me regarding your academic journey at MUT?

10. Would you like to ask me any question?

Thank you very much for taking part in this interview today!

APPENDIX D: INTERVIEW SCHEDULE: ENGINEERING DEPARTMENT STAFF

- What is the student-lecturer ratio in the module or course that you teach student X?
- In order to contextualize this interview, briefly provide me with your understanding of academic writing and literacy development in higher education.
- How would you describe student Xs'readiness for engineering education?
- Please elaborate on his/her writing abilities in relation to discipline specific tasks you give him/her, periodically?
- What are the intended outcomes of the ECS Module as core curriculum at MUT? Do you know?
- Share with me the highlights of your successes in the teaching of the subject as well as the teaching approaches that made you reach the desired outcomes.
- Are there any challenges that you face in your students' academic writing?
- If you have, how have you attempted to deal with these?
- How do you respond to the diverse needs of your student population taking into account that the majority of the students you teach come from disadvantaged backgrounds?
- Do you know of any interventions that are provided by your department or the university that address academic writing and literacy development of engineering students?
- Is there anything I have not asked that you would like to share with me?
- Would you like to ask me any question?

APPENDIX E: REFLECTIVE JOURNAL TEMPLATE: WRITING EXPERIENCES

WEEK OF ENTRY	DATE
What was the highlight of the readings you embarked upon this week?	
Was there any aspect that surprised you or caused you the most anxiety in the test or tutorial?	
How do you cope as a student with your academic writing in discipline specific tasks?	
Was there any aspect of a writing task that you understood better? Elaborate	
What were the three most important aspects you benefitted from in class or tutorial in relation to the writing process? How has the academic literacy and language support unit impacted upon your academic life as a student? Elaborate	
What general aspects would you include based on your academic writing experience as an Engineering student?	

APPENDIX F: INFORMED CONSENT: STUDENT PARTICIPANT

I, Name: Chemical Engineering student have been informed about the study entitled:

Academic writing and literacy development experiences of Engineering students at a South African university of technology by the researcher Ms. Nontsikelelo Lynette Buyisiwe Makhanya.

I understand the purpose and procedures of the study.

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at:

Ms. Nontsikelelo Lynette Buyisiwe Makhanya

76 Thames Drive

Westville

Durban

3629

███████████████████████

██████████████

Email: buyi@mut.ac.za

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

Her Supervisor:

Lester Brian Shawa, PhD

University of KwaZulu Natal

Senior Lecturer in Higher Education Training and Development

Academic Co-coordinator: PhD in Higher Education

Academic Coordinator: PgDip in Higher Education

Howard College, 4041, Durban

Tel: office: 0312602291

██████████████████████

Or I may contact the:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview / focus group discussion   YES /NO

Video-record my interview / focus group discussion   YES / NO

Use of my photographs for research purposes   YES / NO

_____ _____

Signature of Participant   **Date**

_____ _____

Signature of Witness   **Date**

(Where applicable)

____N/A_____ _____

Signature of Translator   **Date**

(Where applicable)

APPENDIX G: EDITOR'S REPORT

Sury Bisetty Academic Editing Services –

To whom it may concern,

I have edited the dissertation entitled: <u>Academic writing experiences and literacy development of engineering students at a South African university</u> by Nontsikelelo Lynette Buyisiwe Makhanya Student Number: 901362720 submitted in fulfilment of the Academic Requirements for the Degree of Doctor of Philosophy (PhD) in Higher Education University of KwaZulu Natal, Durban, South Africa.

██████████████

Professional Language and Technical Editor
22 July 2022

CONTACT DETAILS
Email: surybisetty11@gmail.com

██████████████

MEMBER OF:	**CERTIFICATION:**
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Disclaimer: Please note, I provided language and technical editing as per discussion with the client. The content and format of the dissertation was not amended in any way. The edited work described here may not be identical to that submitted. The author, at his/her sole discretion, has the prerogative to accept, delete, or change amendments/suggestions made by the editor before submission.

NB – in keeping with POPIA regulations all work related to this report will be deleted 3 months after completion.

APPENDIX H: POST EXAMINATION REVIEW: EDITOR'S DECLARATION

lindac@skytec.co.za |

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DECLARATION OF PROOF-READING

TO WHOM IT MAY CONCERN

I, Nicolina D. Coertze, declare that I meticulously perused the manuscript referred to below for language editing purposes after it had been returned by examiners for review and referred to me by the author. I identified and corrected linguistic and stylistic inaccuracies to the best of my knowledge and ability. Using the *Word* Tracking system, I recorded all the changes that I made for consideration and review by the author. I also offered annotations in the text as recommendations to the author and supervisor for review of areas that require additional attention, particularly in terms of references and citations. I declare that I adhered to the general principles that guide the work of a language editor and that I remained within my brief as had been agreed in writing with the author of the manuscript. It is within the ambit of the author to effect the final changes as recommended before resubmission for final examination.

TITLE:	**Academic Writing Experiences and Literacy Development of Engineering Students at a South African University of Technology**

NAME of STUDENT:	**NONTSIKELELO LYNETTE BUYISIWE MAKHANYA**
STUDENT NUMBER:	**901362720**
PROPOSED QUALIFICATION:	**PhD in Education**
SPECIALISATION:	**Higher Education**
TERTIARY INSTITUTION:	**University of KwaZulu-Natal**
NAME OF SUPERVISOR:	**Prof. Lester Brian Shawa**

Respectfully submitted on: 20 March 2023

(MRS) N.D. COERTZE

LANGUAGE EDITOR

APPENDIX I: Turnitin Report

Turnitin Originality Report

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