CHANGING IDENTITIES AND GAZES THROUGH PARTICIPATION IN A PGDIP(HE) PROGRAMME: A CASE STUDY OF TRANSFORMATION

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ABSTRACT

Over the years, programmes such as the Postgraduate Diploma in Higher Education (PGDipHE) have been developed and introduced both worldwide and in South Africa in response to the rapidly changing academic environment. The emphasis of such programmes is typically on the development of a scholarly approach to teaching, assessment and curriculum design. Much research has been done on the way such programmes facilitate the development of academic practice, academics' sense of reflexivity as well as providing academics with the insight and skills needed to better design and develop curricula. Not much has been said, however, about the development of academic identity over time within a PGDipHE. This is a case study changing identity.

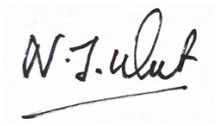
The focus of this social realist study is on an engineering academic's personal, transformative journey through such a PGDipHE programme. The purpose of the study is to describe and explain shifts in academic identity over time through this journey. In realising this goal, Archer's morphogenetic framework provides a good theoretical framework as it highlights the importance of the interplay between structures and cultures in the emergence of one's personal powers and potentials. The Legitimation Code Theory (LCT) dimensions of Specialization and Semantics are used as explanatory frameworks to describe and account for shifts in academic identity through making explicit changes in discourse. In this research report, I argue for the use of a principled and scholarly approach for research within the field of Scholarship of Teaching and Learning. The social realist framework emerged as being particularly useful in examining shifts in academic identity within such a PGDipHE. The analysis highlighted the qualitative nature of the shifts in identity over time. It also enabled one to trace changes in discourse over time. The practice of writing responses to articles emerged as particularly instrumental in the development of an educational gaze and facilitating shifts in academic identity.

Keywords

Academic identity; Postgraduate Diploma in Higher Education; morphogenesis of agency; Semantics; Specialization; gaze

DECLARATION

I declare that this research report is my own unaided work. It is being submitted for the degree of Master of Education at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



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Student Number: 0008767W

28th day of April in the year 2021

To my wife, Janét, and my daughter, Irene for keeping me sane

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A very special thanks to my wonderful family: my wife for helping to keep me on the straight and narrow, to my daughter for bringing light into dark places and my parents playing a big role in shaping who I am.

Τῇ ὑπερμάχῳ στρατηγῷ τὰ νικητήρια,
ὡς λυτρωθεῖσα τῶν δεινῶν εὐχαριστήρια,
ἀναγράφω σοι ἡ Πόλις σου Θεοτόκε.
Ἀλλ' ὡς ἔχουσα τὸ κράτος ἀπροσμάχητον,
ἐκ παντοίων με κινδύνων ἐλευθέρωσον,
ἵνα κράζω σοι· Χαῖρε, Νύμφη ἀνύμφευτε

7th century Byzantine Akathist hymn to the Theotokos

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OF JOURNEYS AND DESTINATIONS…

When you start on you journey to Ithaca,
then pray that the road is long,
full of adventure, full of knowledge.
do not fear the Lestrygonians
and the Cyclopes and the angry Poseidon.
You will never find them on your path,
if your thoughts remain lofty,
if a fine emotion touches your body and your spirit.
You will never meet the Lestrygonians,
the Cyclopes and the fierce Poseidon,
if you do not carry them within your soul,
if your soul does not raise them up before you.

Then pray that the road is long.
That the summer mornings are many,
that you will enter ports seen for the first time
with such pleasure, with such joy!
Stop at Phoenician markets,
and purchase fine merchandise,
mother-of-pearl and corals, amber and ebony,
and pleasurable perfumes of all kinds,
buy as many pleasurable perfumes as you can;
Visit host of Egyptian cities,
to learn from those who have knowledge.

Always keep Ithaca fixed in your mind.
To arrive there is your ultimate goal.
But do not hurry the voyage at all.
It is better to let it last for long years;
And even to anchor at the isle when you are old,
rich with all that you have gained on the way,
not expecting that Ithaca will offer you riches.

Ithaca has given you the beautiful voyage.
Without her you would never have taken the road.
But she has nothing more to give you.

And if you find her poor, Ithaca has not defrauded you.
With the great wisdom you have gained, with so much experience,
you must surely have understood by then what Ithacas mean.

Ithaca by C. P. Cavafy. From "The complete poems of Cavafy - expanded edition", Translated by Rae Dalven with an introduction by W. H. Auden. A Harvest/HBJ Book. Published by Harcourt Brace Jovanovich, 1976 - San Diego; New York; London. Used with permission from the publisher.

In this poem, written in 1911, Cavafy builds on Homer's Odyssey. In a break from the classic story, an unknown narrator interjects and speaks to Odysseus at a time before he begins his *nostos*, his ten-year journey by sea back to his native Ithaca, to his kingdom, home and family. A journey that will see Odysseus overcome many dangers along the way through which he will accumulate a wealth of experience. The narrator thus wants to convey the true meaning of this voyage to the hero: that he will be disappointed on his return; that the journey will prove to be more significant than the destination (Jusdanis, 1987, p. 143).

The poem is allegorical and metaphorical, typical of Cavafy's didactic poems. It is often viewed as a "voyage of life" where experiences are accumulated through a lifetime and assist us in acquiring maturity and wisdom (Kalogiratou, 2005). Along the journey there will be hardships and pleasures. It is up to the traveller's sense of agency and reflexivity to decide how these are dealt with. One should strive to take advantage of worthwhile encounters. The traveller is advised on the one hand to keep one's thoughts "lofty" and ensure that a "fine emotion touches your body and your spirit" and on the other to confront the problems; to not carry the Lestygonians the Cyclopes and Poseidon[1] within the soul, often in the form of internal struggles (Kalogiratou, 2005). The poem ends with the assertion that the traveller is most likely to "find [Ithaca] poor"; that the traveller may very well be disappointed at the end of the journey.

The above poem has influenced this study, which is a reflection of a journey not only through the complex and contested academic environment but also one of discovery and *transformation* through engagement with a Postgraduate Diploma in Higher Education. What is significant about my experience within the PGDipHE is that I underwent a deeply transformative journey, emerging with an increased awareness of teaching as well as with a radically different academic identity than what I entered with the programme; a shift away from being an engineering disciplinary expert and towards becoming a scholarly

[1] Lestrygonians: Mythical giants that were believed to live off the coast of Sicily, responsible for eating sailors and destroying their ships; Cyclopes were one-eyed giants that lived in Sicily, hostile to strangers and with a taste for human flesh; Poseidon was the ancient Greek good of the sea holding a grudge against Odysseus. All three are presented here as metaphors for troubles, hardship and problems

teacher and researcher in the field of education. This research is a case study of my own personal shifting discourses and identities through participating in the PGDipHE programme at the University of the Witwatersrand. A simple process of reflection is not enough to explore these shifts. There is a need to "go meta" such that one can develop a principled and scholarly way to perform the study. To better put this transformative journey into perspective, a short biographical note is necessary.

A Biographical Note

I grew up in Greece, within a family of teachers. At the end of my school years, I did not know which career I should pursue as I had many interests causing a great deal of deliberation and internal conflict. In the end, my decision to study engineering was informed by two main elements: an interest in the natural sciences on the one hand, and the belief that engineering would provide me with a high possibility of job security, reinforced through advice from my parents on the other. Finishing school, I applied to study electrical engineering and was accepted at Wits University where I completed my degree, graduating after four years of study. Drawn to the academic environment, I continued with my postgraduate studies while expressing an interest in teaching. I started tutoring, followed by teaching an introductory course in Engineering during my postgraduate studies. As an engineering academic, I took part in several research projects, and did some consulting work while continuing to teach. In a professional capacity, I was recognised as an engineer through membership of voluntary and professional organisations such as the South African Institute of Electrical Engineers and the Engineering Council of South Africa (being formally recognised as a professional engineer). Throughout my career, I was always torn between two identities: that of an engineer and that of a teacher of engineering. When asked by others what I do, my reply was almost always "I am an electrical engineer; I lecture at Wits University". My identity as a teacher was used as a qualifier of that of an engineer. Since completing my PhD, although comfortable within engineering, I have found myself questioning the academic environment I find myself in. A turning point occurred while attending a course on

postgraduate supervision[2]. The brief engagement in this course proved catalytic, provoking a questioning of my own teaching as well as my role in academia. Making enquiries about formal teaching programmes within the University led me to register for a PGDip in Higher Education. In this regard, the then head of the School of Electrical and Information Engineering, who had also completed the same programme, was supportive in encouraging me to undertake further studies.

[2] NUFFIC "Strengthening Postgraduate Supervision" short learning programme https://postgradsupervision.com

CHAPTER 1: CONTEXT AND BACKGROUND OF THE STUDY

1.1 A Troubled Context for Academics

Since the 1990s, academics have had to navigate an increasingly troubled, contested and complex space. The driver of this change can be traced back to the gradual movement of universities from the margins to society's mainstream (Barnett, 1994). Universities are being seen less as ivory towers of pure knowledge creation and more as institutions located within society, engaging in the creation of contextualised knowledge in response to society's needs; "knowledge-in-use" with an emphasis on generic skills and problem solving (Barnett, 2000, p. 414). Using Gibbons' terminology, there has been an ever increasing shift from the traditional Mode 1 knowledge generated within the disciplinary context to Mode 2 knowledge which is transdisciplinary, involves many actors and most importantly is *socially accountable* (Gibbons, 1994, p. vii). Consequently, this shift has put the role of the university in question. Barnett argues that universities have been operating within a world of supercomplexity, the result of a proliferation of (often competing) frameworks through which the role and purpose of universities and university knowledge has been viewed. These shifting roles have created a general sense of "turmoil, turbulence, risk and even chaos" (Barnett, 2000, p. 415).

The movement towards a greater societal responsiveness resulted in what Light and Cox refer to as a "millennium storm" (Light & Cox, 2000, p. 1). Higher education saw an increase in student numbers which placed pressure on limited recourses as a result of high student-teacher ratios. Lecturers had to explore new pedagogies for teaching large classes, as well as start take into greater consideration the social background of students. Universities also started offering a far greater range of courses to students from increasingly diverse socio-cultural backgrounds and levels of preparedness (Northedge, 2003, p. 17). This placed a greater emphasis on the socio-cultural nature of education affecting the ways teaching, assessment (Gipps, 1999) and curriculum design (Fraser & Bosanquet, 2006) are viewed. The changing mandate of the university as being responsive to society's needs not only includes producing competent graduates. It is also linked to

an increase in research outputs. The rising culture of performativity and evaluation has thus also placed greater demands on academics.

Within the South African context, the situation has been even more challenging. Since the first democratic elections in 1994 there has been a significant drive to balance on the one hand, the need for universities to be responsive to society's economic needs and on the other, a general call for "social reconstruction and equity" (Volbrecht & Boughey, 2004). In response to these problems, the question of academic development has become increasingly important. From 2016 onwards, the academic environment has become even more challenging and contested with the rise of the Fees Must Fall movement and the increased demands for a decolonised curriculum and greater agenda for transformation and inclusivity (Le Grange, 2016; Mbembe, 2015; Vorster, 2017). Within this context, university teaching has indeed become "extreme" (Winberg, 2017, p. 173). The current COVID-19 pandemic has forced universities into the uncharted waters of Emergency Remote Teaching (ERT) making teaching even more challenging. University lectures have had to respond and adjust, almost overnight, to a new reality of online teaching and assessment while continuing to ensure the quality of outcomes.

The combination of all these factors, especially during this time of ERT has placed considerable focus on the role of the academic as a teacher of the discipline, leading to a greater emphasis on academic staff development programmes. Within the context of a rapidly changing world, changing academic roles and an ever-increasing emphasis on quality assurance, measurement and evaluation, academics are now more than ever in need of support (Brew, 2010). Over the years there have been three main paradigms associated with academic development. The first is an *ad hoc* approach which sees teaching as something one "picks up" through a process of trial and error and most of all, through experience. It is often associated with older élite educational systems where student numbers as well as student diversity were low. The second paradigm involves a *skills* approach where teaching is seen as the result of the accumulation of generic skills and competencies through the engagement with trainers located within the institution's own academic development units. This paradigm arose as a result of the rapid increase in student numbers and the sudden need for upskilling disciplinary experts in improving

their teaching. The third paradigm is the *professional* one. Within this last paradigm, the emphasis is placed on the broader academic and social context and one's role as a teacher is both shaped by and shapes this context (Light & Cox, 2000, pp. 9–10).

1.2 The Rise of the PGDip in Higher Education

In response to these drivers as well as an increased emphasis on quality assurance, several South African universities have designed and introduced Postgraduate Diplomas in Higher Education: Rhodes University in 2012, and the University of the Witwatersrand and the University of Johannesburg in 2016 and 2017 respectively. Stellenbosch University, the Cape Peninsular University of Technology (CPUT) and the University of the Western Cape (UWC) have, since 2014, also been offering a joint PGDip in Higher Education. Unlike the skills paradigm, the aim of these programmes has been twofold: to expose academics to some of the important theorical aspects of teaching and learning, assessment and curriculum, and to sensitise academics to some of the important social issues surrounding higher education, facilitating the shift from disciplinary expert to educators of the discipline (Boughey & McKenna, 2017). There has been a growing body of research concerning the way PGDipHE programmes have been facilitating the development of certain aspects of academic practice (Leibowitz et al., 2016), developing a better sense of reflection (Dison, 2016), as well as providing academics with the insight and skills to better design and develop curricula (Quinn & Vorster, 2004). The importance of a contextual approach to developing such programmes is emphasised. Any professional teaching programme that is developed must take the "needs of individual academics into account as well as the challenges and opportunities generated by the settings in which they work…" (Leibowitz et al., 2016, p. 2). This point is important as it indicates the potential for *transforming* academics in their role as facilitators of student learning.

With any educational course or programme, one can always distinguish between coming *to know* and coming *to be*; the development of knowledge on the one hand and the development of ways of being, of identity on the other. Within the South African context there have been attempts to research the way academic identity can be shaped through

engagement in structured educational programmes. The emphasis however has been on programmes aimed at academic development professionals (Skead, 2018). There is a need to explore the way formal professional academic programmes such as the PGDip in Higher Education can shape academic identity. Academics need to be empowered to acquire a strong theoretical backing that can inform their pedagogical practices and successfully navigate the contested space between teaching and research, but also to "strengthen [academics'] identities as teachers of their disciplines" (Skead, 2018, p. 120). These thoughts lead to the articulation of the first and overarching research question:

How does the engagement within a formal educational programme such as the PGDipHE enable shifts in academic identity?

Within the South African higher education context, a Postgraduate Diploma is defined as a…

> … generally multi- or interdisciplinary in nature but may serve to strengthen and deepen the student's knowledge in a particular discipline or profession. The primary purpose of the qualification is to enable working professionals to undertake advanced reflection and development by means of a systematic survey of current thinking, practice and research methods in an area of specialisation (Council on Higher Education (South Africa), 2013, p. 35).

What makes the PGDip in Higher Education particularly interesting is that the "working professionals" that it caters for are academics coming from diverse disciplinary backgrounds. These academics are institutionally located and belong to different discursive communities having been socialised within their particular ways of thinking, being and doing. Of interest in this study are academics coming from the natural and applied sciences and in particular engineering academics. Engineers and by extension engineering academics have been referred to as being instrumentalists to various degrees. Although most engineers are cognisant of their social responsibility roles, they do not always see themselves as explicitly working towards the benefit of society (Newberry, 2007). Engineers are doers – practical, action-orientated problem solvers (Newberry,

2007, p. 112) – called to use scientific knowledge in a responsible and ethical manner in response to the needs of society. The nature of the discipline influences and shapes the particular ways in which engineers think and act. Engineers are guided by a design approach to solving complex, varied and ill-defined problems. Engineers are thus problem solvers that straddle *both the scientific and social domains*. They are said to have a particular insight into the knowledge structure of their discipline, but also a specific gaze with which they understand its social aspects. This trait makes them interesting research subjects in the case of engagement with a Postgraduate Diploma in Higher Education.

Research has shown that traditionally there has always been a degree of resistance amongst academics towards professional education programmes (Quinn, 2012). This resistance stems from the tension between the perceived teaching and research roles of academics. Research and research outputs are more highly valued than teaching, reinforced by the overall culture of performativity. At the centre of the debate lies the question of identity, of being "recognised as a certain 'kind of person' in a given context" (Gee, 2000, p. 99), a person having a particular way of thinking and practicing, a particular gaze. The way academic identity is constructed plays a role in the way the integration into academic programmes is constrained or enabled. There are always affordances and constraints of meaningful engagement *within* programmes such as the PGDipHE. Embarking on a process of knowledge acquisition through a such a professional development programme is a discomforting process; it presents the participant with a set of dilemmas of a pedagogical, cultural, conceptual and political nature (Windschitl, 2002). Compared to engineering, education is characterised by quite different ordering principles being located within the humanities and with a much stronger emphasis on the person. Engineers thus need to develop a specific way of seeing, of thinking, of positioning themselves to navigate the world of education. Drawing from Bernstein's work (2000, pp. 164–165), Maton refers this as acquiring a particular "gaze" (2014b). Within this troubling environment, the development of agency becomes important in facilitating the growth and transformation of the participant. Considering the above, one can argue that one is dealing with a problem firmly placed within a social realist framework. Maton's conception of insights and gazes provides a useful way to

frame the discussion. These concepts will be developed further on in this report. A second important question can therefore be formulated as:

How can these shifts in identity and gaze be retrospectively described and accounted for?

Within this study, my focus is on the Postgraduate Diploma offered by the University of the Witwatersrand, Johannesburg. It is a two-year part-time programme comprising four courses. There are three core courses: Learning and Teaching, Assessment, and Curriculum Design and Development. The fourth, New Directions, is a research-based course. The main aim of the programme is to "take a scholarly and professional approach to teaching and learning in higher education" (WSoE, 2017b, p. 1). The Wits PGDipHE has been running since 2016 and since then there have been five student cohorts. The courses are designed in such a way as to provide a degree of scaffolded knowledge building.

Learning and Teaching in Higher Education emphasises the importance of reflection in- and on-practice coupled with *engagement in fundamental education principles and theories* of learning. Tasks and assessments are aimed at encouraging a deep and scholarly reflection and critique of one's teaching practice informed by core theories of and approaches to learning. Assessment in Higher Education extends the engagement to theories of assessment with a core emphasis on not only reflection but also *application* of these theories within one's teaching context. The course is built around a "puzzle" , a particular "assessment issue or challenge that an individual lecturer has faced/is facing" (WSoE, 2017a). Students treat this puzzle as a mini research project in which theories of learning and assessment are applied. In Curriculum Design and Development in Higher Education there is a move towards a deeper and more *analytical engagement with key curriculum theories* and debates. Whereas the previous two courses emphasize acquisition of fundamental teaching and learning knowledge and application of assessment theories coupled with reflective practice, this last curriculum module builds on previous work and further emphasizes "theoretical understanding of the different approaches to the study of curriculum and curriculum development in higher education" enabling academics to "interpret, design, implement and evaluate curricula.

Lecturers/academics should also be able to critically interrogate how curriculum policies are shaped by societal, institutional, personal and interpersonal contexts and processes and in turn shape these contexts" (WSoE, 2018a, p. 1) The New Directions research course is designed to enable students to draw from the three preceding courses and take their first steps as researchers within the field of education. In particular the course is aimed to guide participants to "identify and research an emerging issue of significance in the broad community or in [their] teaching, assessment or curriculum practice" (WSoE, 2018b, p. 1). By the end of this course, participants are expected to prepare a draft paper.

An important characteristic of all courses is the writing of "reading responses". These are "short papers written as a response to a journal article or book chapter" (WSoE, 2017b). These responses are designed to be typically weekly (formative) assessment tasks taking the form of a short paper or essay in response to a given journal article or book chapter. The aim is to help students engage constructively with the ideas presented in the readings and provide a platform "for students to make their thinking in process … visible to themselves … [and] … a way of *recording* students' responses, interests, difficulties, - a way of 'forming meaning and attaining understanding'" (WSoE, 2017b). An added value of these responses is that they require the student to take a position with respect to the paper/chapter at hand and explore that position. Characteristic is one of the guidelines offered for writing a reading response: "If you could speak to the author of this paper, what would you tell them, or ask in order to prompt a deeper reflection on these issues?" (Dison, 2017). Responses, together with other assessment tasks, final summative assessments (in the form of take-home essays), and class interactions are all designed to signal and foster the importance of interactional relations between texts and peers. Through engagement with pedagogical practices, assessment tasks, prescribed readings and interactions with peers, participating academics are exposed to and gradually develop the discourses characteristic of education.

The purpose of this social realist study is to explore how engagement in a PGDipHE has enabled shifts in academic identity. In most cases, academics participating in formal professional education programmes emerge with a greater awareness of their roles as teachers within their respective disciplines. This study is a case study of shifting academic

identity through a PGDip programme in Higher Education. The specific unity of analysis is an individual (myself) focusing on my experiences, my journey through the PGDip programme in Higher Education at Wits University. As such, the study will draw from elements of autoethnography to approach the analysis. Archer's theory of morphogenesis was chosen as a guiding framework allowing for a temporal exploration of affordances and constraints for the shaping of academic identity before during and after the PGDipHE. Maton's Legitimation Code Theory and in particular his dimensions of Specialization and Semantics were chosen as a suitable explanatory framework allowing an investigation of qualitative shifts in my discourse. These concepts will be explained in the methodology section of this report.

The research questions developed within the above discussion and that this study will attempt to address are as follows:

1. How does the engagement within a formal educational programme such as the PGDipHE enable shifts in academic identity?
2. How can these shifts in identity and gaze be retrospectively described and accounted for?

1.3 Structure of Research Report

This research report is made up of five chapters. As seen within this introductory chapter (*Chapter 1*), the broad context of the study has been laid out highlighting two important points: the need for professional educational programmes such as the PGDipHE within the troubling context of higher education, and the need for researching the transformative potential of such programmes with respect to academic identity.

In *Chapter 2* the discussion is taken further by considering the relevance of the Scholarship of Teaching and Learning in this study. The discussion highlights a fundamental issue that forms the backbone of this study. The Scholarship of Teaching and Learning (SoTL) does not really pass as a theory, a methodology or as a research design (Tight, 2018). As the study is firmly located within the SoTL, it is important to

emphasise the importance of following a scholarly and principled approach in framing and researching and attempting to answer the research questions presented. The concept of identity recognised as a certain kind of person is presented and extended to the development of academic identity within the context of engineering and education. Archer's morphogenetic framework is introduced as the main theoretical framework for understanding shifts in identity *over time*. The LCT dimension of Specialization is then presented as a key explanatory framework that allows one to describe and account for shifts in discourse, gaze and identity. The introduction of Specialization paves the way for the development of the analytical tools that will be used in this study, namely the use of the dimension of Semantics and its role in making explicit changes in constriction of meaning within texts.

Chapter 3 provides the reader with an overview of the methodological framework used in this study. The study is located within the social realist paradigm, attempting to understand the underlying causal mechanisms that may lead to shifts in academic identity over time. Being a case study of my personal experiences within a Postgraduate Diploma in Higher Education, I draw on elements of autoethnography and reflection to frame the study. The Legitimation Code Theory dimension of Semantics (linked to the construction of meaning) is presented as the main analytical tool for making explicit the observable changes in one's written discourse and by extension changes in my gaze over time. Archer's theory of morphogenesis, coupled with her understanding of reflexivity, is used to understand the mechanisms that lead to shifts in identity over the course of the PGDipHE.

In *Chapter 4*, the analysis of the data is presented in two parts. A semantic analysis of nine responses to readings across the course provide a means of making explicit how my understanding of the ordering principles particular to education evolved overtime, highlighting my own sense and awareness of a morphogenetic journey. This semantic analysis is followed by a social realist interpretation. This interpretation is based on Archer's social realist framework and in particular as it is understood by Williams (2012) in the context of student learning.

In *Chapter 5*, concluding remarks, limitations of the study and recommendations for future research are presented.

CHAPTER 2: POSITIONING THE STUDY IN THE FIELD AND DEVELOPING A CONCEPTUAL FRAMEWORK

In the preceding chapter, the emergence of the PGDipHE in response to a troubled academic environment was discussed. The importance of the PGDipHE is not disputed. What is of interest is exploring its value especially in the light of the way such a programme can enable shifts in academic identity with a particular interest in the experience of engineering academics. An overview of concepts that play a key role in the study will be reviewed and through this process, a conceptual framework will be developed. The key concepts discussed concern academic identity, differences in knowledge and knower structures between engineering and education as seen through Archer's morphogenetic framework with the help of Legitimation Code Theory.

2.1 The Question of Scholarship of Teaching and Learning

Boyer in his report Scholarship Reconsidered (1990) presented the novel idea of academic scholarship. He proposed four types of scholarship that should characterise a good academic: the scholarships of discovery, integration, application and of teaching. The first three dimensions of scholarship are intricately linked to the traditional understanding of an academic as a researcher: engaged in the production of new knowledge, active in multi-disciplinary research that can address and be applied to important and contextually relevant problems. Universities have always valued and rewarded such scholarship.

The last type of scholarship that Boyer mentions is that of teaching. There is the expectation of engagement in scholarly activities that will lead to the production of relevant new knowledge. There is also the process of developing new academics, new professionals that will, in their own way, contribute to society. In this regard, the importance of good teaching cannot be overlooked. A distinction, however, needs to be made between being a good teacher engaging in *scholarly* teaching on the one hand, engaging in the *scholarship* of teaching (and learning) on the other. The work of a good scholarly teacher typically involves consulting the literature, selecting and applying appropriate teaching methods, and through conducting observations and consulting peer-

review and feedback, adjusting their approach to teaching (Richlin & Cox, 2004). In other words, scholarly teaching aims to affect the process of teaching and learning in the classroom (Richlin, 2001). There is a cyclical relationship between scholarly teaching and the scholarship of teaching (Richlin, 2001). The identification of problems, observations and improvements to one's teaching can, in their turn, inform research questions, research projects and ultimately, the dissemination of new knowledge. This cyclical relationship mirrors Boyer's idea of a holistic, well-rounded academic engaged in the four dimensions of scholarship.

Within the current troubled academic environment, Boyer's idea of the scholarship of teaching has become even more relevant, especially taking into account that there has been a shift away from simply teaching and towards developing independent student learning ability and student agency (Light & Cox, 2000, p. 9; Northedge, 2003). The scholarship of teaching (and learning) has a much broader mandate. It goes beyond the classroom. It involves investigation towards '…formal peer-reviewed communication in appropriate media or venues, which then becomes part of the knowledge base of teaching and learning in higher education' (Richlin & Cox, 2004, p. 128). It involves "… a kind of 'going meta' [to] investigate questions related to student learning … with an eye to not only improving their own classroom but to advancing practice beyond it" (Hutchings & Shulman, 1999, p. 13). The emphasis on "going meta", linked to a deep sense of reflection and reflexivity, is a key element of engagement within the scholarship of teaching and learning (Tight, 2019).

Tight (2019, p. 8) emphasises the importance of relying not only on a strong theoretical foundation, but also in engaging in a principled approach to research design. Research design, after all, is an overarching concept bringing together theory as well as particular methodological approaches. This position has important implications for this study. It is important that care be taken in constructing not only the conceptual framework of this study but also its methodology, especially as this is a case study of my experiences taking part in the Postgraduate Diploma in Higher Education offered at the University of the Witwatersrand. Tight cautions that although "criticality and reflexivity are undoubtedly central, they are hardly enough on their own to make the scholarship of teaching and

learning a distinctive method" (2018, p. 71) It is for this reason that a key part of this study is the need to find a way to systematically describe and explain the way my journey through the PGDipHE enabled shifts in my identity.

2.2 The Contested Issue of (Academic) Identity

At the heart of this research project lies the question of (academic) identity. Academic identity has been the centre of a large volume of research in which it has been defined and used in different ways. Identity has been defined as "being recognised [by others] as a certain 'kind of person' in a given context" (Gee, 2000, p. 99). Identity is not something static. It is dynamic. This is something that both Gee as well as Clegg (2008) point to. Gee identifies four perspectives of what makes up being a certain kind of person. Each of these perspectives describes a mechanism of identity formation linked to a specific source of power.

At a basic level, one can define a person's Nature (or N-) Identity. As the name implies, this aspect of identity is derived directly from nature. A good example is being someone's twin and being recognised as such by others (Gee, 2000, p. 102). A second way of seeing identity is through a person's Institutional (or I-) Identity. This aspect is linked to one's position within an institution. The source of power in this case is authority within the respective institution. A third and significant way of seeing identity is through what Gee refers to as one's Discourse (D-) Identity. This perspective is linked to someone's individual traits that are recognised through the discourse of and dialogue with others. As such, this perspective of identity is linked to a sense of self through accomplishment or ascription. The fourth and final perspective is that of an Affinity (A-) Identity linked to a person's membership of what Gee refers to as an "affinity group". This is a group of people that share and participate in a common set of practices and interests, and are part of a broader community of practice (Gee, 2000, p. 105).

There are three important points to be considered. First, these perspectives are not independent of each other. They cannot be thought of in isolation. They are dynamically

interrelated. Moreover, all four perspectives can be present within an individual, with one of these being recognised more prominently than the others. Second, the issue of recognition by others within a social context is central to being a certain kind of person. Even in the case of Nature Identities, it is through discourse – dialogue within institutions or affinity groups – that a natural-given trait plays a role in shaping one's overall identity. Thirdly and most importantly, identity is not simply ascribed by others through a process of recognition. There is always a process of negotiation and contestation. A person can choose whether to accept or reject the way others in particular way in relation their N-, I-, D- or A-Identities.

The combination of these four perspectives of identity come together to form a specific Discourse (with a big D), which denotes what makes someone a certain kind of person or what can be seen as a person's core identity: the "distinctive ways of speaking/listening and often, too, writing/reading *coupled* with distinctive ways of active, interacting, valuing … so as to enact specific socially recognisable identities engaged in specific socially recognisable activities" (Gee, 2015, p. 171). Discourses are a product of society, of "other people's work" and as Gee states, they *predate us* (2015, p. 246). It is through interactions with pre-existing structural and cultural properties of groups that one acquires a particular way of coming to know, of being and of doing. Big D Discourse contrasts with written and oral discourse, written with a small d. The latter being only a part of the former: "Discourse with a big 'D' is always more than just language" (Gee, 2015, p. 171).

For the purpose of this study, Institution, Discourse and especially Affinity perspectives of identity play a significant role. As academics' I-Identity is "authorised by authorities within institutions" (2000, p. 100), it follows that the structural reality within one's institution (roles, position, expectations) as well the institutional culture modulate to a great extent one's identity. The same can be said about the specific disciplinary culture within which one is socialised, contributing not only to one's I-Identity but more so to one's D-Identity: the formation and modulation of one's particular written and spoken discourse. This discourse is the product of not only specific disciplinary knowledge but also related to the way said knowledge is structured and used. This process of socialisation happens within groups sharing common practices and interests, in other words, within

affinity groups. Affinity groups set up specific discursive communities. Success within groups relies on being "in sync with other people" in the group (Gee, 2015, p. 237) regarding what is valued and how meaning is constructed through written or spoken ("little d") discourse. Within the context of this study, the PGDipHE is such a community, an affinity group. It is institutionally located, and members of the group are exposed to a specific Discourse linked to a body of knowledge structured in a particular way and access to the group. Its Discourse is mediated through the setting up of interactional relations not only between key texts but also between peers.

From the above, one may get the impression that people's discourses are created and cast in stone. This is not the case. Discourses can change by virtue of people's unique attributes and through interaction with other Discourses one finds oneself in. One cannot ignore the importance of one's agency in making one's way through the world or through an affinity group. People are not only simply a product of their context. They are both shaped by and can shape the material and social world which they occupy. This is a key point as one has the personal powers to construct one's own identity and outwardly project a specific combination of these four strands. There is always the interplay between the personal, the social and the disciplinary context. Academics are called to constantly navigate this complex environment through which they often construct their own identities. The process of identity-building, of 'becoming' is in itself contested as it often involves a level of 'unbecoming', a shedding, a modifying of a previous identity (Colley et al., 2007). One's academic identity can be thought as the result of different forms of participation and identification (Vandeyar, 2010). Navigating the complex academic environment is not easy. Despite institutional pressures academics have been shown to be able to not only construct and maintain clearly defined academic identities but also to exercise a degree of personal agency for the creation of the spaces needed for their own development (Clegg, 2008).

Within academia, one's immediate field of research has a direct impact on academic identity. It is both an expression of identity as well as a shaping force (Gardner & Willey, 2018). One of the key aspects of the development of academic identity is the idea of identity trajectories (Wenger, 1998b, p.154-155). Jawitz (2009), using Wenger's idea of

identity trajectories revisits the contested nature of academic identity especially in the case of a professional discipline. A central theme that arises from these discussions is that of agency. Jawitz (2009) shows how agency can be attributed to the formation of multiple identity trajectories. Changes in the department through the arrival of new academics with novel ideas may lead to the emergence of new trajectories. The discipline as well as the institution have a direct impact on the development of academic identity (Becher & Trowler, 2001). Identity is not only the result of social interaction. It is also linked to how much individuals are not only aware of, but also how they exercise their agency within their immediate contextual environment (Jawitz, 2009, p. 243).

Disciplinary-specific "ways of thinking and practicing (WTP)" (Anderson & Hounsell, 2007) and how these are experienced by students and teachers alike are directly linked to one's Affinity, Discourse and Institution aspects of identity through a process of socialisation within the particular institutional structures and cultures that set up the relevant discursive community . The emphasis is placed not only on exploring the nature of the disciplinary knowledge but also on the ways in which future practitioners position themselves in relation to said knowledge. Ways of thinking and practicing are about becoming an expert practitioner with insights into not only how disciplinary knowledge is structured and what norms, values, judgement are legitimated, but also in acquiring further understanding – a "meta-understanding" – of how new knowledge is constructed (Anderson & Hounsell, 2007, p. 465).

Closely linked to this concept of "going meta" is that of reflection and reflective practice. Researchers have spoken at length about the value and the importance of being reflective in light of the purpose of higher education. As Harvey and Knight (1996, p. viii) assert, higher education must be in a position to produce "…*transformative agents*: critical reflective learners able to cope with a rapidly changing world" [emphasis added]. The value of reflection is that it is able to bring us face-to-face with taken for granted assumptions (Mezirow, 1991) as well leading us towards greater degrees of flexibility, rigorous analysis as well as social awareness (Ashwin et al., 2015; Dewey, 1933). A central theorist of reflection is Schön (1983), who made an important distinction between reflection-in-action and reflection-on-action. The former refers to the internal dialogue

that takes place during problem situations where one is actively interpreting and reinterpreting previously held knowledge and beliefs within the context of the task at hand. The latter refers to a lengthier process where one looks back at the task, evaluating and re-evaluating experiences and knowledge and beliefs towards construction new knowledge.

Reflection is a complex and often misunderstood concept. Moon (2013, pp. 82–83) distinguishes between what she terms "common sense" reflection and more formal, "academic" reflection. Both are important for learning, however there are important differences. These differences have bearing in this study. Reflection is presented as a "form of mental processing" (Moon, 2013, p. 82), with the common sense idea of reflection characterised by informal thinking and musing, a simple process about thinking about one's problems and taking stock of the situation, conversations we have with ourselves. Academic reflection on the other hand is formal, structured, and done in a principled manner. Typically, an incident is involved on which one reflects. Reflections are written and studied. Often, such incidents can be reflected upon and analysed through drawing from certain theoretical frameworks to yield a deeper understanding of reality.

An important strength of reflection lies is its relationship to propositional knowledge, or "knowing that". In professional disciplines, such as engineering and education, however, knowledge of the discipline does not always equate to knowledge of a set of propositions (Winch, 2014a). In such cases, propositional knowledge goes hand-in-hand with a development of a "feel" for the discipline, a degree of practical knowledge, of "know-how". As previously mentioned, developing a sense of reflection and encouraging reflective learning is a key element of many formal educational programmes, such as the PGDipHE in question. It is through a process of reflection that propositional knowledge becomes meaningful as the student, or in this case, the academic, starts applying such knowledge to their own context and experience. It follows that through reflection, conditions conducive to learning can be set up (Brockbank & McGill, 2007, p. 91).

Through a better and more meaningful activation of propositional knowledge, one is a position to start developing and refining the practical knowledge of the discipline. Winch

points one to the idea of the Epistemic Ascent; a set of nested levels of "knowledge how" (Winch, 2014a, p. 49) which are more often than not linked to "that systematic, disciplinary (or subject) knowledge [that] mat be necessary to activate them" (Winch, 2014a, p. 52). An increased awareness of and familiarity with propositional and practical knowledge, activated through the process of reflection, can lead one to an increased ability to "form and carry through projects" (Winch, 2014b, p. 569), leading in turn to an increased sense of agency to act. Although agency can be enabled through a process of reflection, one can argue that one needs a sense of awareness – of agency – to be reflective.

2.3 Archer's Morphogenetic Approach as a Framework

This study is about how participation in a formal education programme such as the PGDipHE enabled shifts in academic identity over time. Margaret Archer's morphogenetic framework was chosen as the key theoretical framework as it enables one to examine how social events or experiences emerge over time through the interplay between social structures – "the parts" and the "people" – inhabiting them (1995). Within the "parts" one can identify structure and culture. Structure is the domain of material and symbolic resources including the rules that regulate the (often) unequal distribution of these resources. It also encompasses the various social roles and positions. Culture encompasses all "intelligibilia" defined as "any item which has the dispositional ability to be understood by someone, whether or not anyone does so at any given time" (Archer, 2007, p. 11). Culture in its turn, is made up of two levels. On the one level one has the realm of knowledge and ideas which are independent of anyone's claim to know, believe or assert. In other words, propositional knowledge. This is known as the Cultural System. The next level is the Socio-Cultural level, which is the realm of beliefs, opinions and myths that are the result of sociocultural interaction.

Education is one such social structure. Learning in a deeply transformative process directly linked to the influence of society: "learning … emerges from our relations with all three orders of reality; learning emerges through work, practice, on our part. Learning

changes us as actors, which affects the group to which we belong as agents and influences our identity as persons" (Williams, 2012, p. 320). The world of education is a social space organised around a particular structure (Case, 2013, p. 6). This structure is provided in a sense by the curriculum, which "by what is selected to be included and what is rejected" (Smith & Lovat, 1995, p. 12) in turn creates a certain reality for students. Curriculum can be seen as a "manifestation of the structural and cultural conditioning of the space for student learning" (Case, 2015b, p. 848).

In the case of the PGDipHE, the Cultural System relates to the content knowledge that is taught in the programme itself. The theories, the ideas, the frameworks of learning, assessment and curriculum and the way these are related. The discourses, the different ways of thinking, of knowing, being and doing are related to the Socio-Cultural level. What is valued in the programme is not simply the incremental acquisition of education-specific propositional knowledge. The emphasis is placed on encouraging individuals to position themselves in relation to, and to create links between, the key theories and debates. Scholarly reflection of one's teaching practice in relation to theory is encouraged and forms a key element of the programme. To this effect, reading responses are an important feature of the programme. These are defined as "short papers written as a response to a journal article or book chapter" (WSoE, 2017b). The significance of these responses is that they encourage one to actively take up and argue a particular position.

At a structural level, a particular characteristic of the PGDip is the layout of the social space academics find themselves in. Participants are registered on a part-time basis. Engagement in the PGDipHE is now added to one's existing teaching, research and administrative duties. There are expectations from both sides which place explicit demands on time and resources. The programme can be seen as a community of practice (an affinity group) where participants and facilitators are regarded as colleagues and co-learners sharing in and learning a particular discourse rather than competitors. This structural and cultural landscape manifested in the curriculum sets up a degree of conditioning predisposing participants to act in certain ways. As people, we are constantly interacting within an environment shaped by a particular structure and culture. This environment can either enable or constrain one's capacity to act. This capacity to exercise

personal powers and potentials is referred to as agency. In essence, everyone is an agent. Archer distinguishes between primary and corporate agents. Primary agents are those defined by their environment and often do not have a say in structural or cultural restructuring. Primary agents are not aware of their own agency to act. Corporate agents on the other hand are those that arrange themselves in groups and through that engagement are able to effect change, thus becoming aware of their agency.

Archer (2000) stresses the importance of people's concerns and commitments and the role they play in navigating various social contexts and ultimately achieving their various goals. The way one people exercise their agency is directly linked what Archer refers to as one's "internal conversation", in other words on one's sense of reflexivity. In Archer's words:

> The 'inner conversation' is how our personal emergent powers are exercised on and in the world—natural, practical and social—which is our triune environment. This 'interior dialogue' is not just a window on the world, rather it is what determines our being in the world, though not in times and circumstances of our choosing. Fundamentally, the 'inner conversation' is constitutive of our concrete singularity. However, it is also and necessarily a conversation about reality. This is because the triune world sets us three problems, none of which can be evaded, made as we are. It confronts us with three inescapable concerns: with our physical well-being, our performative competence and our self worth (Archer, 2000, p. 318).

From the above quote, a number of important issues arise that have direct relevance to this study. At the heart of this argument is the conceptualisation of human existence as stratified, each stratum being distinct from the other and having its own unique properties. What is more, humans do not inhabit a neutral space. They are always subjected to the three orders of reality: the natural order comprising of our physical, natural needs, the practical order related to interaction with the constructed material world (artefacts), and finally the social order, which encompasses discursive, propositional culture. These three

orders of reality have a direct impact not only on the formation of people's concerns but also on the way these concerns are deliberated and what kind of action is taken. It follows that our personal identity is shaped by the way one performs these internal conversations. As Williams asserts, "when we make decisions about our concerns, we do so under our own descriptions: they are fallible choices, but they are our choices" (2012, p. 314).

Within the learning environment of the PGDipHE, one's internal conversation plays a significant role as it can modulate the way one engages in the learning process. Learning is a troubling and sometimes unsettling process aimed at "taking students beyond the limitations of their natal contexts and cultures" (Luckett, 2010, p. 19). As such, the learning process can bring these internal conversations to the fore, often amplifying them. It is a highly transformative process hinging on human interaction. It is for these reasons that Archer's understanding of reflexivity as a means of making our way through the world becomes important within this study.

Archer distinguishes four modes of reflexivity: autonomous, communicative, meta-reflexive and fractured. These are summarised in Table 1.

Table 1: Archer's four modes of reflexivity (2007, p. 93)

Autonomous:	Those that are driven by their own internal conversation. They are aware of their goal in their particular project and work autonomously towards it.
Communicative:	Those whose internal conversations require input from others to be completed before action is taken.
Meta-reflexive:	Meta-reflexives are characterised by a tendency to be critical about not only their own internal conversation but also about their role in society. The focus is on the pursuit of an ideal. Meta-reflexives are often value rather than task oriented.
Fractured:	Internal conversations of fractured reflexives serve to intensify distress and disorder rather than aim at fostering direct action.

The type of reflexivity a person exhibits will also determine the way that individual responds to changes within the structural and cultural environment they are placed in. It

is important to note that reflexivity and the level of agentic awareness one exhibits are linked to and shaped by one's biography (Archer, 2007, 2012). Communicative reflexives typically have experienced a limited degree of change in their life. Conversely, autonomous or meta-reflexive individuals have often be spurred on by a higher degree of disjuncture experienced in their lives (Farrugia & Woodman, 2015).

Archer's methodological approach stresses the importance of analytical dualism and warns against upward, downward or central conflation between structure, culture and agency (Archer, 1995). One needs to study the interplay between the three elements of structure, culture and agency independently without conflating them. People are not simply products of their social contexts. They also have the power to speak back to and shape the structural and cultural reality they inhabit. It follows that central to Archer's theory are the concepts of morphogenesis and morphostasis, of *emergence*. As the name implies, morphogenesis refers to change; a change in structure, culture, agency, or even a combination of these. Morphostasis refers to a situation where no change takes place, a state of reproduction of the status quo. The morphogenetic approach is a process that unfolds in time. Archer distinguishes three main stages. The process starts within an environment that has been conditioned, primed so to speak, by the dual effects of structure and culture (time T_1). As a person enters this new environment, the degree with which structural or cultural elements are contradictory or complimentary predispose the particular agent to act in a certain way. In the case of engineering academics within the PGDipHE programme, contradictions can occur both within the Cultural System (faced with new and unfamiliar knowledge) as well as at the Socio-Cultural level (new discourses and ways of thinking). A condition of complementarity is unlikely to generate a change. Structure and culture remain relatively unchanged. A situational logic of contradiction, however, provides the necessary impetus for change to occur. Agents experience discomfort which leads to action one way or another. Through a process of socio-cultural interaction (time $T_2 – T_3$), where primary and corporate agents can interact, elaboration or development of agency is fostered. At the end of the process (time T4), in Archer's words, the "Conditioned Me" (primary agent) through sociocultural interaction becomes the "Interactive We" (corporate agent) and ultimately the "Elaborated You", having a new personal and social identity. The primary agent has now become a social

actor (Archer, 2000, p. 296). Within the context of this study as a retrospective and reflective journey through the PGDipHE, Figure 1 shows the placement of the courses of the PGDipHE within the morphogenetic cycles examined.

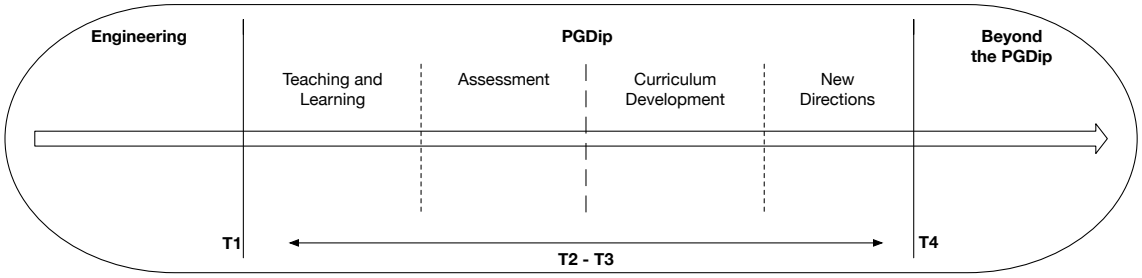

Figure 1: Morphogenetic time periods within the PGDipHE used in the analysis

2.4 A Framework to Further Explore Identity: Specialization, Insights and Gazes

Archer's morphogenetic framework presented above provides a good theoretical frame through which one can track shifts of academic identity over time. One's ways of thinking and practicing is linked to one's written or spoken discourse as well as to the acquired propositional disciplinary knowledge. A key question that arises is related to the nature of the organising principles characteristic of this knowledge. Bernstein distinguished between horizontal discourses (everyday, mundane, "thinkable" knowledge) and vertical discourses (formal, academic, "unthinkable" knowledge) (1990, p. 181). Within vertical discourses, Bernstein further distinguished between hierarchical knowledge and horizontal knowledge structures, associated with the natural sciences and the humanities respectively.

Practices dominated by such hierarchical knowledge structures are characterised using mutually agreed upon approaches, methodologies and assumptions. Knowledge is created in a hierarchical way by systematically building onto and extending previous knowledge in a scientific manner. Horizontal knowledge structures associated with the humanities are characterised by "a series of specialised languages with specialised modes of interrogation and criteria for construction and circulation of texts" (Bernstein, 2000, p. 161). Unlike in the sciences, new knowledge is created through the addition of more,

often competing views and languages, creating a more diverse "picture". Richness is in diversity rather than vertical abstraction. Taking education as an example, one can point to how the range of learning theories come together to provide a more complete picture of student learning. The addition of another theory does not necessarily replace earlier theories. Horizontal knowledge structures can alternatively be referred to as "theory-proliferating", whereas hierarchical knowledge structures are "theory-integrating" (Muller, 2008, p. 72).

Overcoming this binary classification, Maton emphasises that within every knowledge practice there is always knowledge to be learnt and there is always someone doing the knowing. All practices legitimate organising principles that are not empirically observable. These principles are conceptualised as codes. Codes allow one to "move beyond empirical appearances to explore the organising principles, dispositions, practices and contexts" (Maton, 2016, p. 10). Importantly, they allow for distinctions or relations to be drawn between practices. One can identify *epistemic relations* (ER) between "knowledge and its proclaimed object" and *social relations* (SR) between "knowledge and its subject, author or actor" (Maton, 2010, pp. 43–44). These relations address the question of *what* counts as legitimate knowledge within a practice and *who* can claim to be a legitimate knower or actor within said practice (Maton, 2014b, p. 29). Combining therefore the relative strengths of ER and SR produces four specialization codes.

Practices differ in the degree to which knowledge, principles and procedures on the one hand, and attributes and dispositions of knowers within the practice on the other, are emphasised. Within the sciences, principles and procedures are more strongly foregrounded signifying stronger epistemic relations (ER+), whereas the attributes of the individual knower are not as important. Social relations between the practice and the individual are weaker (SR–). Anyone can therefore produce legitimate knowledge, as long as certain principles and procedures are followed. Practices exhibiting these characteristics are said to belong to a knowledge code (ER+, SR–).

In the humanities, the dispositions and attributes of the individual become important, emphasising the relationship of the individual with the knowledge (SR+). Epistemic

relations are weaker (ER–) as there is less emphasis on specialised knowledge and procedures. Such practices are said to belong to a knower code (ER–, SR+). These codes can be represented within the Specialization plane shown in Figure 2. It is important to note that positioning the sciences within a knowledge code and the humanities (education) within a knower code cannot be a blanket claim. In every practice, be it engineering or teaching, there is always knowledge and as well as someone engaging with the process of knowing. In other words, there are always epistemic relations and social relations. Their relative strengths depend on the empirical problem situation being investigated. This point is emphasised further in sections 2.4.1 and 2.4.2 in which the knowledge practices and engineering and education are investigated, highlighting the way epistemic relations and social relations manifest in each.

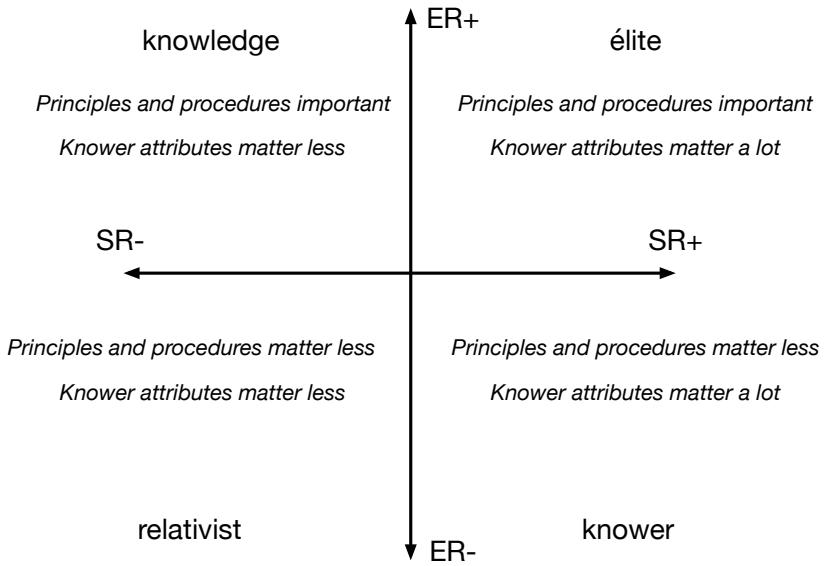

Figure 2: The Specialisation plane - Relationship between knower and knowledge structures in a practice

Apart from knowledge and knower codes, one can also identify practices characterised by a strong emphasis on developing both specialised knowledge and knowers with specific attributes and dispositions, yielding an élite code (ER+, SR+). Practices can also have a weaker emphasis on both specialised knowledge and knower attributes. Such practices belong to relativist codes (ER–, SR–), signifying a case of "anything goes" (Maton, 2014b, p. 31).

Within knowledge codes, stronger epistemic relations imply that specialised knowledge and procedures are foregrounded. As a result, the relationship between *what* is being studied and *how* the phenomenon or problem studied becomes important. The resulting relative allegiance to a particular phenomenon or problem and the following of a particular approach shapes not only the practice, but also the actors within the practice. Engagement within the practice imparts a certain *knowledge insight* (Maton, 2014b, p. 176), shaping the specific ways of thinking and practicing that characterise a knowledge code discipline.

2.4.1 The Special Case of Engineers

The nature of the engineering profession places engineering academics in an interesting space in relation to formal education and teaching programmes, and ultimately to engagement with the scholarship of teaching and learning. Engineering is widely known as an applied natural science placing great emphasis on disciplinary knowledge drawn from the natural sciences. Engineering as a profession exists within society and responds to society's needs (Hanrahan, 2014). The International Engineering Alliance (2013), identifies three key aspects to engineering work: (a) The "purposeful application" of scientific knowledge, which is (b) done in order to meet the needs of people, economic development and the provision of services to society, which further highlights (c), the importance of carrying out the work ethically, responsibly and with due consideration towards the environment and society. Engineers are called to straddle two domains, the scientific as well as the social. Engineering can be thought not only as an applied natural science, but as an "applied social science" (Vesilind, 2001). Bossano adds to this to stress that an engineer is not only an applied scientists but rather an "artist/scientist" (2001, p. 22).

Engineers often perceive engagement and research in teaching and learning as a weaker, less-important field of research compared to 'real' engineering work (Blaine et al., 2019; Case, 2015a). This perception can be linked back to the instrumentalist outlook of engineers as well as the general culture within research-intensive universities that places greater value on disciplinary research outputs. From the above, one could argue that

engineering as a discipline, fits into a knowledge code (ER+, SR–). Although there is reference to acquiring certain attributes, such as being sensitive to socio-economic problems, being acutely aware of the impact of engineering activity as well as the dual role of the artist/scientist, these attributes emerge through a systematic process of knowledge building linked to engagement with specialist knowledge.

Engineers are said to think differently to other people. They have quite distinct habits of mind (Lucas & Hanson, 2016). Lucas and Hanson identify six major traits of the engineering way of thinking: systems thinking, problem solving, visualising, improving, creative problem solving and most importantly, adaptability (2016, p. 6). These six traits, or habits of mind can be reduced to one overarching principle of engineering thought: the design process.

Design thinking is an integral part of being an engineer (Dym et al., 2005). Dym et al. view the design process as an iterative process of enquiry underpinned by an ability to tolerate and manage ambiguity. Further key aspects are that of decision making and 'big picture' thinking as well as managing the social aspects of being part of a team (2005, p. 104). These habits of minds become part of engineering identity. Engineers engaging in professional educational programmes or when confronted with educational issues tend to see the world differently through this design thinking and problem-solving lens. In engineering, epistemic relations are indeed stronger (ER+), relying and building on the foundation of the natural sciences. What is more, engineering is characterised by an allegiance to the design process: a particular procedure followed for solving ill-defined and varied problems. There is, therefore, a greater allegiance to an approach than to the specific problem being solved. Engineers are said to develop a specific *doctrinal* knowledge insight (Maton, 2014b; Wolff, 2020). Engagement with the knowledge base of engineering as well as with its procedures develops the ordering principles that define the discipline, which shapes the ways of thinking and practicing that are particular to engineering. Linking this back to Gee's understanding of identity, this doctrinal insight, specific to engineering, shaped my I-Identity by virtue of my earlier engineering education and current position within the School of Electrical and Information Engineering. This insight is also manifested within my written (and spoken discourse)

influencing my D-Identity. Belonging to the affinity group of the discursive community of engineers also has bearing on who I am and how I am recognised. All these aspects contribute to my overall Discourse as an electrical engineer.

2.4.2 The World of Education

Within knower codes practices, greater emphasis is placed on knower attributes and dispositions rather than on specialised knowledge. Procedures and principles tend to be tacit. Knower attributes can be the result of natural (biological) influences or social in origin (race, ethnicity). They can also emerge as a result of socialisation within a field or cultivated through interaction with others. Unlike knowledge codes, claims for legitimation are made with respect to attributes of the ideal knower which have bearing on the nature of disciplinary identity. The knower and the important interactions between knowers are highlighted. Engagement within a knower code thus requires (and develops) a particular *knower gaze*. Like a knowledge insight, a knower gaze is a means by which one is able to recognise and realise what counts as legitimate within a practice. Acquiring a particular gaze is intricately linked to interactions with significant others rather than by only engaging with specialised knowledge. The relative importance of knower attributes and relations with significant others yields a continuum of different gazes, ranging from a trained gaze where knower attributes and interaction as relations are less valued to a born gaze where knower attributes as well as relations with others are indispensable to developing this particular gaze.

Earlier in section 2.4.1 , engineering was presented as a knowledge code discipline (ER+, SR–) characterised by an overall doctrinal knowledge insight, foregrounding a stronger emphasis on procedures compared to the object of study. How does education compare? On the one hand, one cannot ignore that there is a definite knowledge base that one is required to have. This knowledge base was outlined quite clearly by Shulman (1987) with his definition of the Pedagogical Content Knowledge (PCK) related to teaching. Being a successful teacher in a specific discipline involves four main elements. First, a strong understanding of not only the disciplinary content knowledge to be taught, but also the ordering principles particular to said discipline. One cannot teach something that one does

not understand. Second, together with disciplinary knowledge, a good teacher needs an understanding of the theoretical perspectives that underpin teaching itself: knowledge of learning theories and aspects of pedagogy, assessment and curriculum. Third, from a practical perspective, there is also the importance of acquiring the highly contextual elements of classroom and student management, policies, structures. Finally, Schulman emphasises the importance of developing what he refers to the "wisdom of the practice", something ill-defined, which points to the significance of the development of certain knower qualities within teaching.

At first glance, education and engineering seem to share a set of common traits. There is a strong element of reliance on theoretical knowledge, and this knowledge is applied to (one could argue) varied and sometimes quite complex classroom contexts. Teaching involves a degree of problem solving. But the structure of knowledge within education is quite different from engineering. The theoretical perspectives underpinning pedagogy are arranged horizontally rather than vertically. It is not about simply *knowing* – being able to articulate the theories and apply them in practice – but rather being able to draw distinctions and relationships *between* them. From the above, it can be seen that education can be placed within a knower code (ER–, SR+). What makes education different to engineering is also the process of *coming to know,* of acquiring a particular *knower gaze* (Maton, 2014b). The emphasis is on interactions with significant others. These "others" can be identified as the authors of seminal texts on education as well as other teachers and students. One can therefore argue that education is characterised by a combination of what is referred to as a trained and cultivated gaze.

Within the context of the current research project, an important question emerges. What happens when engineering academics find themselves entering a different disciplinary context as in the case of attending a professional educational programme such as the PGDip in Higher Education? Engineering academics can find the transition particularly difficult. Education research, as we have seen, differs in many ways from that of engineering. For one, the different research paradigms are at odds with the shared understanding of a common positivist approach to research. For another, engineering academics have not had the level of socialisation into the disciplinary Discourse that a

humanities student would be exposed to (Gardner & Willey, 2018). They perceive engagement and research in teaching and learning as a weaker, less-important field of research compared to "real" engineering work (Blaine et al., 2019; Case, 2015a). This perception can be linked back to the instrumentalist outlook of engineers as well as the clash between the knowledge insight of engineering and the knower gaze of education.

This particular study is about transformation. Although Engineering participants straddle two domains, the social and the technical, the discourse they have been socialised in is predominantly a positivist and pragmatist one. Engineers can be said to face two transitions where a disjuncture may occur. A movement from the world of engineering to that of education (through participating in the PGDipHE) and re-entrance into their 'home' academic environment having completed the PGDipHE. In both cases, the engineering academic is shaped through the interaction of structure, culture and agency. It is for these reasons that Margaret Archer's social realist morphogenic framework provides the theoretical framework for analysing the affordances in shifts in academic identity with a particular focus on engineering academics. Legitimation Code Theory further provides an important explanatory framework through which one is able to describe and account for changes in discourse which is directly linked to Gee's understanding of Discourse and ultimately identity. Taking the discussion further, the LCT dimension of Semantics which is concerned with the construction of meaning will be described and unpacked within the following methodology chapter together with the research design and methodology employed. Within the next chapter, I will show how Semantics will be used as it provides a useful language of description, a good explanatory framework (2014b, p. 15) for exploring and making explicit aspects of thinking and practicing that ultimately shape Discourse and identity.

CHAPTER 3: METHODOLOGY AND RESEARCH DESIGN

In the previous chapter, a conceptual framework was set up for thinking about academic identity in the context of this particular research project. To this effect, the reader was taken through identity as being recognised as a certain kind of person, by what Gee refers to as one's Discourse: the way one speaks, behaves, interacts with others and thinks, dresses and one values. Ethics and morals are also a part of one's (big D) Discourse. Archer's social realist framework was presented as means of exploring shifts in identity over time within the social (learning) environment. To further the discussion, Specialization and gazes were used, bringing into conversation knowledge, the knower, the act of knowing and the known within the context of identity shifts. In this chapter, the research design and methodology and tools used will be presented and discussed.

Keeping with the opening theme of a "Journey to Ithaca", engagement in research can also be described as a journey towards the unknown. As in the case of Odysseus, the journey affords a greater reward than arriving at the destination. Not only does it provide an opportunity for increased learning with regards to the problem at hand, but also through engagement with research, one is able to arrive at a deeper understanding and possibility of *transformation* of oneself. Many researchers have explored the question of identity shifts within an academic context. Within this research project, though a process of retrospective reflection and analysis of my engagement within the learning environment of a Postgraduate Diploma in Higher Education, I hope to shed light on the affordances and constraints such a programme has on shaping one's orientation towards education and ultimately one's academic identity.

Bhaskar (2008) describes the world as stratified along three main layers: the empirical (the observable experiences), the actual (events generated by underlying socio-cultural mechanism) and the real (the underlying mechanisms that have generated said events). In this study, the observable Discourses linked to the individual academic's identity (being a certain kind of person) occupies the realm of the empirical. Within the sphere of the actual which includes the empirical, these identities have been shaped through

socialisation within a particular discipline on the basis of what knowledge and procedures are regarded as legitimate. Finally, and within the context of this study, the underlying mechanisms leading to *change* or *shifts* in identities *over time* are linked to the interplay of structure, culture and agency, occupying the domain of the real. Archer's morphogenetic framework, which is based on Bhaskar's understanding of reality, will be used as the main theoretical framework explaining these mechanisms of change. The strength of Archer's framework in the context of this study lies in that it aims at exploring the emergent powers and potentials of agents and as result of the interplay between structure, culture and agency within the domain of the real. Legitimation Code Theory provides a very useful explanatory framework that enables one to make explicit these changes. The LCT dimension of Semantics will be described and unpacked as a means of further examine shifts in written discourse. This understanding of reality that guides the study can be seen below in Figure 3.

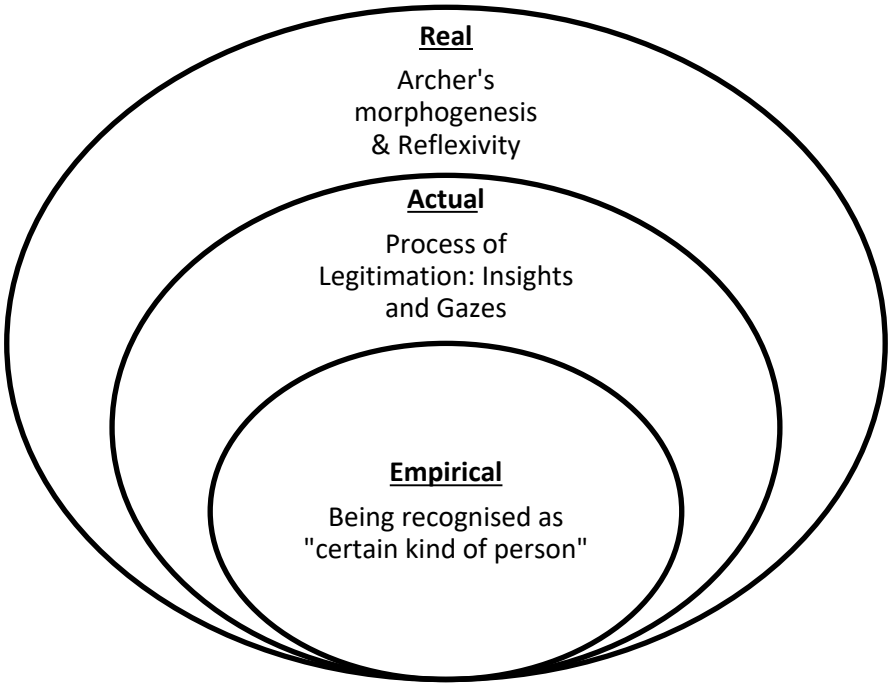

Figure 3: The three levels of reality within this study

The overall paradigm within which this study is located is therefore a critical one. Within this study, I am not interested in measuring phenomena with an agenda of objectivity and repeatability and replicability, typical of positivist approaches. Neither am I simply trying to interpret the world through its actors as in the case of interpretivist paradigms. The purpose of this research is not to simply understand particular phenomena and situations,

in this case shifts in academic identity over time within a formal education programme, but rather to shed light on the underlying mechanisms responsible for *social change*. Within a critical paradigm, one "seeks to uncover the interests at work in particular situations and to interrogate the legitimacy of those interests" (Cohen et al., 2007, p. 26). Critical research is just as *transformative* for society as can be for the researcher.

3.1 The Study

3.1.1 Case Selection

In this study, the main interest is shifts in academic identity over time which form the object of analysis. The unit of analysis within the study is an individual academic professing within a formal education programme, in this case a Postgraduate Diploma in Higher Education. This qualitative research project is a case study. A key characteristic of case study research is that they "evolve around the in-depth study of a single event or a series of linked cases over a defined period of time" with the researcher locating the "story" of a particular aspect "of social behaviour in a particular setting and the factors influencing the situation" (Hitchcock & Hughes, 1995, p. 317). The characteristics of a case study can be summarised into their three points below (1995, p. 317).

- Emphasis in a *rich* description of *events over time* (presented chronologically)
- Within these events, the spotlight is placed on certain *individuals or groups and their perceptions*
- The case is presented in a *way that reflects the richness* of the case studied

One can argue that all research, in one way or another, is the study of a particular case (Gomm et al., 2000, p. 2). The advantage of case study research is that it provides one with the opportunity to use a single instance of a well-bounded system giving the reader a context through which more complex and abstract ideas and theories can be explored (Cohen et al., 2007, p. 253). The selection of a case study is therefore of utmost importance. First, one needs to select a case that will most accurately serves the aims of the study and second, one needs to choose or decide what do within the case itself

(Merriam, 2009, p. 81): what data to select and how these data will be analysed. This selection should also be consistent with the overall conception of the study, its purpose and its research questions, aiming to fill the identified gap in the research. By extension, the selection of case study as well as the types of data to be analysed needs to also be consistent with the overall paradigm of the research project and/or its theoretical or conceptual framework.

The case chosen within this study is that of the participation of a single academic within a Postgraduate Diploma in Higher Education offered at the University of the Witwatersrand in Johannesburg, South Africa. The academic chosen is myself, an electrical engineering academic and lecturer within the same university. This selection is sufficient to provide a "specific, clearly bounded and unique" (Hitchcock & Hughes, 1995, p. 319) case to study. The selection of myself as the case to be studied (and as the unit of analysis) was guided by the following points.

- My proximity to the events allows for a deep and meaningful reflection
- My ability to trace changes in academic identity over time within the PGDip as a whole as well as through the individual courses
- My disciplinary background and socialisation as an engineer that took place prior to engagement with the PGDipHE has the potential to emphasise shifts in identity
- Easy access to data in the form of reflections, documents and written records in the form of assessment tasks

Another key aspect of case study research is that the study "of a specific instance that is frequently designed to illustrate a more general principle" (Nisbet & Watt, 1984, p. 72). This characteristic speaks to the proposed research questions. Not only does the analysis of my progression through the PGDipHE has the potential to highlight the mechanisms that lead to shifts in academic identity, this study also has the potential to comment on the research approach followed when engaging in the Scholarship of Teaching and Learning, a concern raised by Tight (2018, 2019).

As the study is designed around a case of personal experience through a teaching and learning programme, elements of autoethnography were employed to guide the design of this study. In autoethnography, the focus is on reflexively exploring and sharing one's own story rather than being a silent and neutral observer interpreting behaviours of a community (Laher et al., 2019, pp. 266–267). The emphasis is therefore on foregrounding one's own voice through a process of meaningful reflection. The observer and the subject of the investigation are one and the same. This resulting subjectivity characteristic of autoethnography is both a key strength and a weakness. As a strength, the emphasis on the individual's worth, experience, creation of meaning, opens up possibilities for producing thick descriptions (Geertz, 1973) which can be reflexively analysed. There are critiques of autoethnographic approaches that rest on the perceived lack of objectivity, scientific method and an emphasis on emotions rather than facts (Laher et al., 2019, p. 276) . What is important to note, however, is that autoethnography is more concerned about uncovering meaning *through* the account and analysis of experiences (Laher et al., 2019, p. 274). This is not a weakness. It is through these accounts their careful and principled analysis that meaning can be uncovered.

3.1.2 Data Selection

Within the context of this autoethnographic case study, the selection of data to analyse becomes important. The range of data available to choose from is made up of:

- Documents related to the course such as course briefs and outlines, assessment task descriptions and assessment rubrics
- Assessment tasks and associated feedback comments from course facilitators. These tasks include final written essays and "reading responses" which are short essays in response to prescribed papers and book chapters
- Personal reflections and experiences

A purposive process of sampling was therefore used, allowing me as the researcher to use my judgement to choose samples that possessed certain desired characteristics. These allowed me to highlight points to begin answering the research questions at hand (Cohen

et al., 2007, pp. 114–115). The way data were chosen for analysis was informed by the research questions and the purpose of the study: to investigate changes in gaze and ultimately shifts in academic identity over time.

As the study focuses on identity shifts over time, the data selected should reflect a temporal progression and be a vehicle through which identity shifts manifested through changes in discourse (written or otherwise) can be made explicit through suitable analysis. A set of data was selected from a pool of reading responses produced over the duration of the programme. Together with reading responses, the programme and course-specific documentation provided a valuable source of data. Analysis of such documentation revealed expectations and messages transmitted to students on ways of thinking within the discipline.

One of the key aspects of autoethnography is its reliance on descriptions of "epiphanies" as "remembered moments perceived to have significantly impacted the trajectory of a person's life". These incidents are significant and worthy of analysis as they uncover ways in which people negotiate difficult or troubling situations (Ellis et al., 2011, p. 275). One is reminded of the concept of "critical incidents" (Bassot, 2016, p. 193). Often such incidents bring us face to face with our often firmly held assumptions, allowing for a process of reflection to take place.

One of the advantages of analysing any critical incidents is significant as it brings to the fore emotions which, as Archer emphasises, provide a degree of commentary on people's concerns which in turn emerge from interaction with the three orders of reality (natural, practical and social). It is through reflexivity that these comments on emotions are reviewed, examined and reflected upon through the action of one's internal conversation, leading to elaboration of one's sense of agency; one's capacity to take action (2000, p. 195; Steinberg, 2015). Within the context of the study, a number of such epiphanies can be identified. These will be described and analysed within the following data analysis chapter.

3.1.3 Analytical Tools

As seen in the previous chapter, the LCT dimension of Specialization, and within this dimension the concept of gazes, provide a useful means of explaining and unpacking the differences between the cultural systems of engineering and education. Becoming a "certain kind of person" is linked to acquiring a particular way of thinking, of organising knowledge. In the previous chapter, the concepts of knowledge insights and knower gazes were developed.

Acquiring a particular gaze (or insight) enables one to not only recognise the legitimate discourse associated with the discipline, it also allows one to realise it within legitimate text. Academic texts exhibit a number of characteristics making up what Wertsch refers to as text-based reality (1991). These text-based realities are described as "problem-spaces…created and maintained through textual or semiotic means alone" (Wertsch, 1991, p. 74). Three properties of these "problem spaces" stand out. First, texts are *depersonalised*. One writes without a *particular* reader in mind. As the level of abstraction in such texts increases, so does the language become more specialised. Second, then, texts are also *bounded* meaning that they exist within a particular "symbolically bounded universe" (Slonimsky & Shalem, 2010, p. 82). One agrees to operate within this space. A third property of text-based realities is that texts are also *systematised*. They have a particular structure and logic. These are organising principles that students need to be able to not only recognise within such texts, but also ultimately realise or reproduce within assessment tasks

The LCT dimension of Semantics (Maton, 2014b, pp. 18–19) provides a useful tool for making explicit the relationship between context and content revealing the way meaning is construed within texts through its distinction between semantic density, the "degree of condensation of meaning within practices" and semantic gravity, the "degree to which meaning relates to its context" (2014a, p. 36). Semantic gravity and semantic density both operate along continua. The stronger the semantic density (SD+), the more meanings are condensed within a particular practice. Conversely, weaker semantic density (SD–) translates to a lower degree of condensation of meaning. If meanings are more dependent

on a particular context or abstracted in nature, then the semantic gravity will be stronger (SG+). A weaker semantic gravity (SG–) would imply that meanings are less strongly tied to context. As with the other LCT dimensions, the varying relative strengths of semantic gravity and semantic density give rise to four codes within the sematic plane: rhizomatic, prosaic, rarefied and worldly (Figure 4). The way context and complexity of meaning is used within legitimate text can reveal the way students understand and navigate the complex problem-spaces of text-based realities. In tracking changes in SD and SG (and ultimately shifts in the semantic codes) over time one can also observe shifts in one's gaze towards the practice, ultimately revealing shifts in one's small d discourse as well one's big D Discourse.

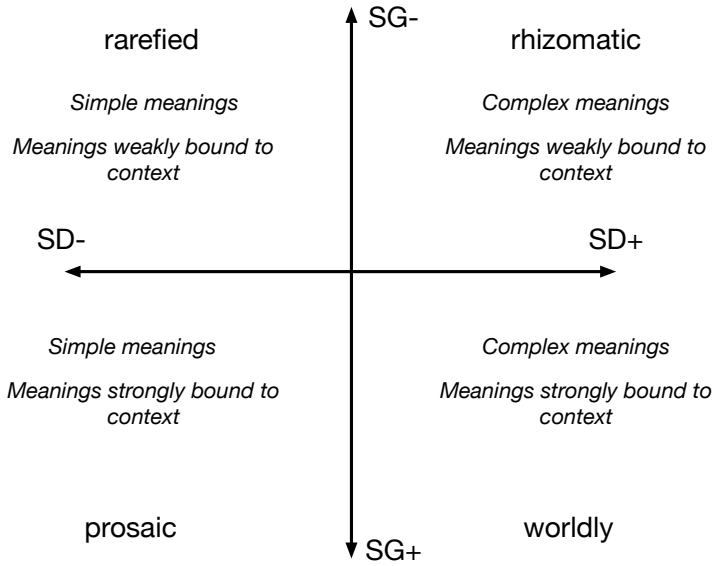

Figure 4: The semantic plane: relationship between meaning and context within a socio-cultural practice revealing the four semantic codes (Maton, 2016, pp. 1–23).

Within education, characterised by a horizontal knowledge structure (see Chapter 2), richness of meaning and complexity is achieved through bringing into conversation different concepts, theories, phenomena. Students entering a new discipline such as education lack the gaze necessary to recognise (and realise) the organising principles particular to the discipline. This lack of gaze can become evident in one's written discourse in a number of ways (Slonimsky & Shalem, 2010).

- Reliance on personal experience (SG+, SD–) rather than drawing from theoretical principles (SG–, SD+) resulting in simple, contextual descriptions
- Use of broad platitudes (SG–, SD–) as opposed to drawing from contextually-relevant and theoretically sound positions
- Use of personal experience as evidence to support a theoretical position exemplified by an oscillation, or a "one-to-one" relationship between rhizomatic and prosaic codes
- Uncritical use or simple listing of theoretical perspectives showing a lack of understanding of the nature of the discipline.

Examining the description of Shulman's professional knowledge base for education, one can see that there is a reliance on theoretical knowledge that needs to be applied in quite complex and specific (social) contexts. In other words, one could argue that a shift towards the rhizomatic and worldly codes would be a first indication of a shifting gaze. A shift towards rhizomatic codes (SG–, SD+) implies the use of *generative* and context independent knowledge; mastery of the world of theory. Within the predominantly horizontal knowledge structure of education, strengthening of semantic density takes the form of building webs of meaning. In the case of worldly codes, the emphasis is on application of these generative principles in complex contextually-relevant situations (SG+, SD+). These are points that will be revisited in the data analysis chapter and play a significant role in the development of the translation device used to code and analyse changes in written discourse. Summarised in Figure 5, one can see how the various theories and concepts in play have been used in the design of this study.

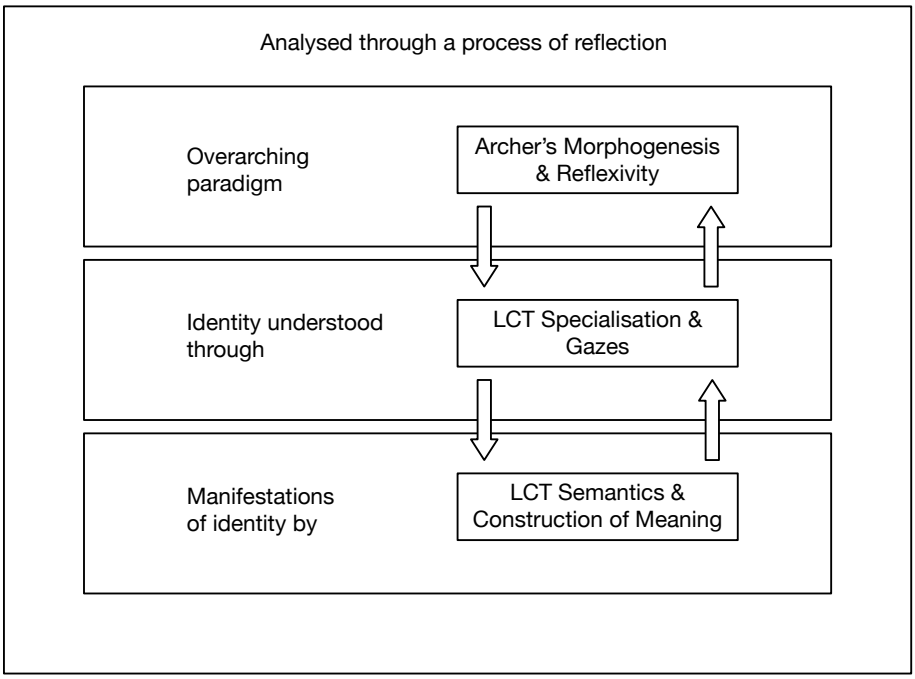

Figure 5: Relationships of theories and analytical tools used

3.2 Validity Considerations

Validity considerations play a significant role in any research project. As is well known, the concept of validity refers to the degree of "integrity of the conclusions that are generated from a piece of research" (Bryman, 2012, p. 47). In other words, it speaks to the way the research is set up; how the purpose of the research, the research questions, the conceptual framework, sample selection and data analysis strategies are aligned. As shown through a study of the literature, there is a gap in the research that this study can fill: an attempt to establish constraints and affordances for shifts in academic identity through participation in a formal programme such as a PGDip in Higher Education. The research questions guiding the research speak directly to filling this gap. Further, the conceptual framework developed in the previous chapter linking identity shifts over time to the overarching theory of Archer's morphogenesis are indeed in alignment. The choice of the LCT dimension of Specialization and especially Semantics as analytical tools to make explicit shifts in discourse and ultimately identity is consistent with the overall research design strategy, as they are valid means of analysis within the context of this study.

3.3 Ethical Considerations

As this study involves human participants but not in a medical context, I prepared an application for ethics approval through the university's ethics committee. The application together with the supporting documentation (information sheets, consent letters, interview schedules) were submitted to the ethics committee of the University of the Witwatersrand on the 3rd of October 2019. The application was subsequently approved with the protocol number H19/10/40. The ethics approval letter can be seen in Appendix D:

The design of the study around an autoethnographic case study presented a number of interesting ethical considerations. These stemmed from the very nature of autoethnographic research. Through the production and reflection on narratives one often inadvertently implicates third parties whose voice is equally emphasised. A reflection on the ethical implications of the research should therefore extend to not only one's own participation, but also to those directly *implicated* as well as to any one *impacted* by the story (Laher et al., 2019, p. 272). Ellis emphasises the need to keep these consideration in mind throughout the data collection, analysis and presentation of the results (2011).

An interesting aspect of autoethnographic research ethics relates to protecting the author and researcher's self. Through the creation of narratives, the researcher's vulnerabilities are exposed. Although the process of creating narratives can be seen as a form a therapy (Ellis et al., 2011), care should be taken as the author can relive possible traumatic or stressful incidents. These narratives will ultimately be published as part of the research study, presenting a risk for the researcher (Tullis, 2016).

Within this study I have tried to protect the implicated persons by trying to keep them anonymous or through using pseudonyms. In many cases, as with most research studies, the anonymity of persons cannot be always guaranteed. The persons involved are however fully aware of the content of my research study. Whatever communications I have had

with these people have been kept saved on my computer, again under pseudonyms. My thoughts and reflections have also been shared with them. As I am both the researcher and the object of study, my identity is known. There were times when researching my own shifts in academic identity brought to the fore strong emotions linked to the realisation that transformation is taking place. These opportunities for dialogue with those closely involved with or implicated in the research served as a form of debriefing and guidance.

3.4 In summary

Within this chapter, an attempt has been made to lay out the research design of this study. In summary, the paradigm within which the study is located is a critical one, reality being understood as stratified. The research project has been designed around the study of a case partially through an autoethnographic approach. Margaret Archer's social realist framework has been used as the overarching theoretical understanding of the project. LCT's understanding of gazes and in particular the dimension of Semantics has provided a very useful analytical tool to begin exploring shifts in academic identity over time. Issues relating to the selection of the case study, data selection and ethical considerations have been discussed. In the following chapter, the analysis of the data is presented.

CHAPTER 4: DATA ANALYSIS

In the previous chapter, the research design for this study was presented. In this chapter, the reader will be taken through the analysis of the data. The analysis is performed in two main sections. First, qualitative shifts in written discourse are made explicit through a semantic analysis of nine reading responses. These are "short papers written as a response to a journal article or book chapter" (WSoE, 2017b), chosen in chorological order. For the purposes of this analysis, two translation devices, one for semantic gravity and one for semantic density were developed.

The data analysis in this chapter is presented with a particular logic in mind. First, I present the translation devices (one semantic gravity and one for semantic density) used to code all nine reading responses. Responses were coded first for semantic gravity and then for semantic density. These responses were then plotted on the semantic plane. The semantic plots for all nine responses can be found in Appendix B:. In the interest of brevity, three responses (one from each of the three core courses of the PGDipHE) were selected from the pool of nine to illustrate how I coded and mapped these responses on the semantic plane. The overall analysis also includes a general reflection across all nine responses focusing on changes in my orientation towards the construction of meaning across the entire PGDip programme.

A social realist analysis is then presented aimed at eliciting the underlying causal mechanisms that have given rise to these observed shifts in discourse and identity. In both sections of the analysis, I draw on important "epiphanies" or critical incidents that were analysed to uncover previously held assumptions and enable meaningful reflection.

4.1 Nine Reading Responses, Three Noteworthy Shifts

A key aspect of data analysis using Legitimation Code Theory is the development of a relevant translation device. A translation device provides an "external language of description between theory and data" (Maton & Chen, 2016, p. 28). Organising principles

of practices are expressed by means of codes. These codes are internal to the practice and can be of an abstract nature. To realise these within the context of a particular study, they need to be accurately defined. Within this study, the unit of analysis is shifts in academic identity which, as seen in the previous chapter, is linked to these shifts in the way meaning is created within legitimate texts. How does one go about analysing a body of text, in this case a reading response, in terms of semantic density (complexity of meaning) and semantic gravity (contextual dependence)?

The translation device for semantic gravity was designed by considering the main shifts in context: highly contextual descriptions derived from everyday experience (SG++), a slight distantiation evidenced by a change in context (SG+), and the presentation or discussion of general rules, principles or theories (SG–). This translation device can be seen below in Table 2. Designing a translation device for semantic density presented a few difficulties as I had to carefully define what constitutes complexity and condensation of meaning. As the discussion revolves around the development of a gaze towards education, complexity can be defined as a progressive linking of concepts, readings and contexts. These variations in semantic density are particularly important within the context of the study. From an Archerian perspective, culture encompasses both the world of propositional knowledge (Cultural System) as well as the realm of Socio-Cultural interaction. The way meaning is constructed as well as *changes* of meaning *over time* is evidence of a shifting gaze, and evidence of interaction within the Socio-Cultural level. The relevant translation device for semantic density (SD) used can be seen in Table 3. Applying these translation devices to the responses I produced, yielded some interesting results as seen in the following sections.

Table 2: Translation device for sematic gravity (SG)

	Code	Indicator	Example from text
Semantic Gravity	SG–	Entry refers to a general principle or theory	"…alignment of objectives, teaching and learning activities and assessment is extremely important for the creation of a conducive environment for deep learning to occur. It gives the students the necessary clarity of direction and freedom to focus on the aspects of learning without having to constantly watch their backs."
	SG+	Entry shows a shift to another context	"The main theme in the article is the importance of alignment of all these three components: objectives, teaching and assessment."
	SG++	Entry refers to author's own personal context and experience	"When I started teaching, I was asked to deliver an introductory course in electrical engineering to second year engineers of other disciplines. It was a service course that had a very bad reputation. Very large classes which translated to lots of marking and disinterested students which translated to challenging teaching"

Table 3: Translation device for sematic density (SD)

	Code	Indicator	Example from text
Semantic Density	SD++	Entry characterised by the use of several different concepts, readings, contexts arriving at new interpretations and richer meanings	"In the postgraduate environment, however, I do feel that this perspective has merit. Postgraduate studies are very often characterised by power struggles between supervisors and students (Bartlett & Mercer, 2000). It is often a battle between the person who holds the key to knowledge and the person seeking knowledge. The pressure to publish, as well as unethical co-authoring practices (Clowes & Shefer, 2013) most definitely lead to students feeling cut off from the learning experience."
	SD+	Entry characterised by the linking of several different concepts, contexts, readings	"The successful alignment of objectives, teaching and assessment can result, under the correct conditions, in the creation of a very conducive environment for the student to engage in deep learning."
	SD–	Entry focuses on the simple interpretation of a situation, context, concept or reading	"Thinking back to my undergraduate years I realise that in many courses, the objectives, the teaching activities and often the assessment was not aligned".
	SD--	Entry focuses on description of a particular context (classroom situation, reading or concept)	"It reminds me of the difficulties, successes and failures that I had first as a student and later on as a young academic. There were times when, as a student, I felt that by stockpiling notes and increasing my sources of information I would be able to gain a deeper understanding of the topic at hand."

4.1.1 Venturing Into the Unknown: A Critical Incident and Evidence of a Blank Gaze

The first response I analysed was the very first response I wrote. It also signified my first introduction to academic writing within the field of education, as part of the first course of the PGDipHE, Learning and teaching in Higher Education. The task was a response to Biggs' 1999 article 'What the student does: Teaching for enhanced learning'. The process of writing this response but most importantly the comments I received from the facilitators acted as a critical incident. The incident occurred upon receiving my results and feedback for this first reading response. I was convinced that I had done well, but it was not the lower-than-expected mark that unsettled me. It was the comments I received from the course facilitator:

> Your strength is in applying theory in a specific way, to your teaching and learning situation. You report good results in your teaching, and implicitly, in student's learning. I want to challenge you to look beyond you specific, existing context, to a wider, more complex, less context-bound world – that of theory. Can you think of limitations or weaknesses in the theory in relation to different learning and teaching situations?

Reading this item of feedback, my initial reaction was of disbelief, of something bordering on indignation: "well *of course* I am good at applying theory to a specific context! I am after all an *engineer*!" The assumption on my side was that I could apply the same principles and procedures to education as I would to engineering. In other words, I appeared to be blind to or unaware of the specific organising principles of education. To investigate this claim further, one can analyse the response in question looking for variation in semantic density and semantic gravity. Coding for semantic gravity and semantic density (using the developed translation devices) and hence enacting the semantic codes yielded the following plot on the semantic plane (Figure 6). The numbers in each circle indicate the progression between codes throughout the paper, in the order in which they appear.

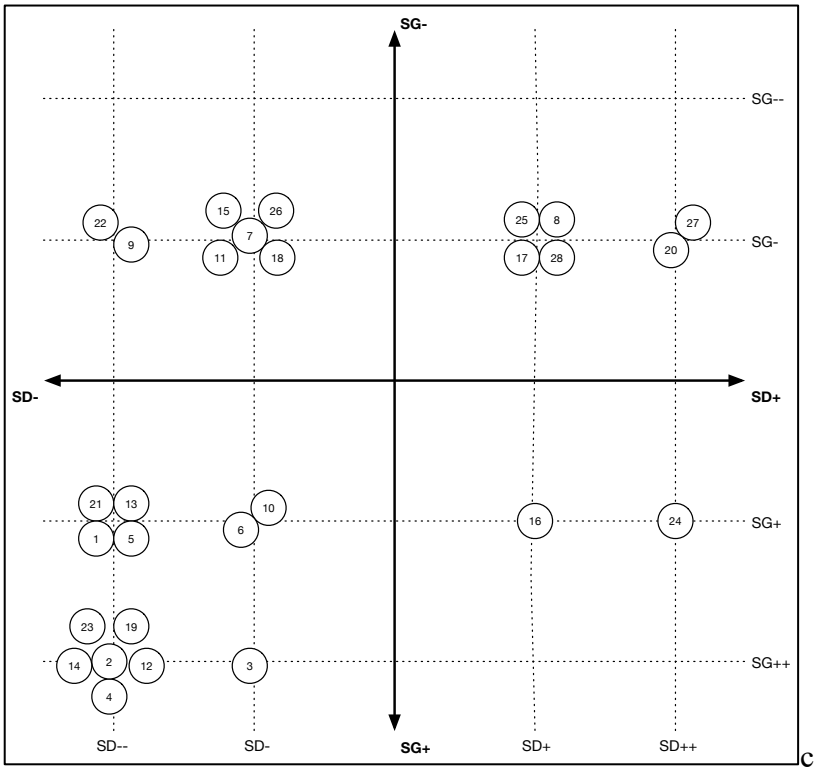

Figure 6: First reading response (Biggs, 1999) - dominated by prosaic, rarefied and rhizomatic codes

Seen differently, the movement between the four semantic codes throughout this first reading response are shown in the table below (Table 4).

Table 4: Movement between the four semantic codes in the first reading response (Biggs, 1999)

Codes	**Progression of text**
Rarefied	
Prosaic	
Rhizomatic	
Worldly	

As seen from Figure 6 and Table 4 the response is characterised by a dominance of and an oscillation between the prosaic, rarefied and to an extent rhizomatic codes. In most cases, the discussion starts firmly in the prosaic, typically drawn from personal experience and written in simple everyday language. This example is then interpreted yielding something of a generalisation that is then compared to theory. A typical passage illustrating this process can be seen in Table 5 below. The text has been condensed for ease of reading. The segments in the table below are taken from three successive

paragraphs. The full text of this response together with the coding can be seen in Appendix B:

Table 5: Segment of text from the first reading response illustrating typical movement from the prosaic to the rhizomatic

Text from reading response	Code
"This article by Biggs (1999), resonates particularly with me. It reminds me of the difficulties, successes and failures that I had first as a student and later on as a young academic. There were times when, as a student, I felt that by stockpiling notes and increasing my sources of information I would be able to gain a deeper understanding of the topic at hand…	SG-- SD++ (Prosaic)
…When students engage in deep effective learning, they start behaving differently. They act differently as Perkins and Blythe mention (1993). This is as a result of seeing and experiencing the world differently…	SG– SD– (Rarefied)
…The successful alignment of objectives, teaching and assessment can result, under the correct conditions, in the creation of a very conducive environment for the student to engage in deep learning."	SG+ SD– (Rhizomatic)

In some instances, a number of concepts or readings were put together deriving new meanings, new applications and a discussion of implications. Although my voice is present within the discussion, what is missing is an active interrogation and critical response to the position presented in the reading. The semantic analysis of this response brings to the fore an important point. The dominance of a prosaic - rhizomatic - rarefied code oscillation shows a lack of understanding of the organising principles, of how to navigate text-based realities within the field of education (Slonimsky & Shalem, 2010). Written assignments of underprepared students entering the university environment often show tendencies towards descriptions, the use of examples instead of theoretical principles to justify claims and in general, a lack of depersonalisation. (Slonimsky & Shalem, 2010) In this context, these patterns are not so much evidence of an underprepared student. Rather it is evidence of a lack of a gaze towards education coupled with a lack of recognition of a horizontal knowledge and hierarchical knower structure of the discipline. Coming from an engineering background I entered the PGDipHE with a blank gaze towards education.

The subsequent responses written within the teaching and learning module show a marked difference which illustrates the importance of engagement with well-structured and directed feedback. In the analysis of the second and third reading responses written, I could start seeing a shift away from discussion that was bounded within a highly personal context, offering personal experiences and anecdotes to be compared to theory and vice-versa. From the analysis of the response to Chapter 4, *The framing of learning: Approaches to learning*, from Moon's *A handbook of reflective and experiential learning* (2004). It is interesting to continue to examine the feedback received:

> This is a well-researched essay rather than a reading response, but it certainly shows sound understanding of key points in several texts which you have drawn in. Your examples are also pertinent. Well done; but do try to shorten your response and highlight areas of agreement and disagreement with the authors.

The feedback appears to confirm elements of the semantic analysis: the response was described as "well-researched" and showing a "sound understating of key points *in several texts* which [I] have drawn in", as well as the use of pertinent examples. The feedback also brings to the fore something quite important: a lack of awareness of the horizontal nature of the discipline of education. Even though several texts were brought into conversation within the response, it is the knowledge from others contained within these texts that is being legitimated, downplaying my role as a legitimate knower within the field. In short, my voice is not that evident within the response, showing a lack of gaze towards the discipline. The semantic plots of all three responses analysed within the first module (Learning and Teaching in Higher Education) can be seen presented sequentially in Appendix B:

4.1.2 First Breakthrough: Challenging an Author and Finding a Voice

The pattern described in the response to the book chapter by Moon (2004) proved to be the dominant one for the duration of the teaching and learning course and continuing within the second module of the PGDipHE, Assessment in Higher Education. The next

turning point, however, did occur within this second module and in the fifth of the nine responses examined. This was a response to a paper by Leong, 'On varying the difficulty of test items' (2006). In the paper, the author discusses what raises and modulates the difficulty of a test question and offers up an "item difficulty framework" (2006, p. 1). Performing the semantic analysis on my response yields the following plot on the semantic plane (Figure 8).

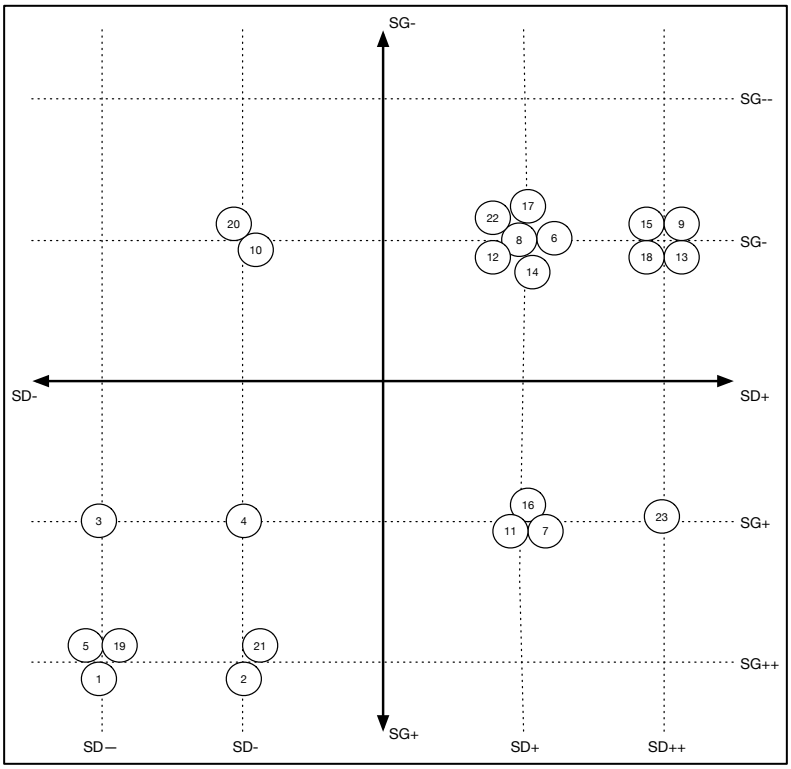

Figure 7: Reading Response five (Leong, 2006) - Emergence of voice

Table 6: Movement between the four semantic codes in the fifth reading response (Leong, 2006)

Codes	**Progression of text** ⇨
Rarefied	
Prosaic	
Rhizomaric	
Worldly	

A careful examination of Figure 7 and Table 6 and comparing them to Figure 6 and Table 4 (first response) yields two interesting and significant points:

- There are proportionally fewer movements into the prosaic code. From the plot and table, one can see that in this fifth response the prosaic code is used quite early on and towards the end of the response relating to the sketching of and returning to my own context.
- There is an observed emphasis on staying within the rhizomatic and worldly codes.

What is not evident from the sematic analysis is the very first time a strong disagreement with the author's position is highlighted. Below I have presented the respective passage, with the pertinent section underlined towards the end of the quote:

> When thinking of assessment, I have become acutely aware of the importance of alignment in a particular course. In order for assessment tasks to be meaningful, these tasks and by extension their component questions need to reflect the teaching objectives as well as the way in which these objectives have been taught (Biggs, 1999). At the same time, I have realised, the importance of assessment as an extension of teaching and learning and as a means of promoting student-self regulation (Carless, 2015; Nicol & MacFarlane-Dick, 2006) through meaningful formative and summative assessment. <u>Taking these concepts into account while reading Leong's article, I realised that rather focusing on whether a question is easy or difficult, one should actually be talking of whether a particular question is *appropriate* or not.</u>

This passage shows an effective use of multiple sources to build a foundation from which to challenge Leong's position. Not only does this passage show an example of increasing complexity of meaning (SD↑) but also evidence of recognition of myself as a legitimate knower, signifying a shift to a knower code and the beginning of the development of a trained/cultivated gaze characteristic of education. This shift also highlights the importance within horizontal knowledge structures of interacting with significant others who have a particular gaze. It is through these meaningful interactions that the acquirer

is allowed "metaphorically to look at (recognise) and regard and evaluate (realise) the phenomenal of legitimate concern" (Bernstein, 2000, p. 173).

Further evidence of a shifting gaze can be also found in the very next response to the paper by Boud and Molloy, 'Rethinking models of feedback for learning: the challenge of design' (2013). In my response to this paper, my awareness of being a legitimate knower within the discipline of education is evident not only in the points of disagreement with the author's position, but also in the choice of the bodies of knowledge used to build an argument. In all responses thus far, personal experience as well as educational principles drawn from the prescribed readings have been used brought into varying degrees of conversation. Prompted by a discussion around the mechanical origins of feedback, the discussion is extended beyond the confines of education literature. Links were drawn between engineering concepts of feedback and control systems, utilising control system block diagrams to explain the role of feedback in self-regulated learning. In the analysis of this response one can observe the intentional breaking down of boundaries between bodies of knowledge which were then used to create richer meanings. The semantic analysis of this response also yielded a far more focused and principled discussion that is firmly positioned in the worldly and rhizomatic codes. For the other plots, refer to Appendix B:.

4.1.3 A Final Shift: An Attempt at Moving Beyond the Confines of the Papers

From the analysis of the reading responses thus far, I have been able to track a gradual change in written discourse: a shift away from dwelling in the prosaic (every-day highly contextual examples) and rarefied codes (general statements, platitudes) towards building complexity of meaning through bringing many different sources in conversation with each other, bringing to the fore points of agreement and disagreement. In the last three responses analysed, a further shift was noted: that of an emerging practice of engaging at a more theoretical level. The progression through codes as well as the settling around the rhizomatic and worldly codes through the three responses to papers by Roberts (2015), Barnett (2009) and Luckett (2001) can be seen in the plots presented in Appendix B:. What is also evident in these last three responses analysed was an apparent freedom to

explore and "play" with ideas, something that was not observable in the initial responses. Presented below is the semantic plot of the last response analysed, to Luckett's article 'Conceptualising an epistemically diverse curriculum for academic developers' (2001).

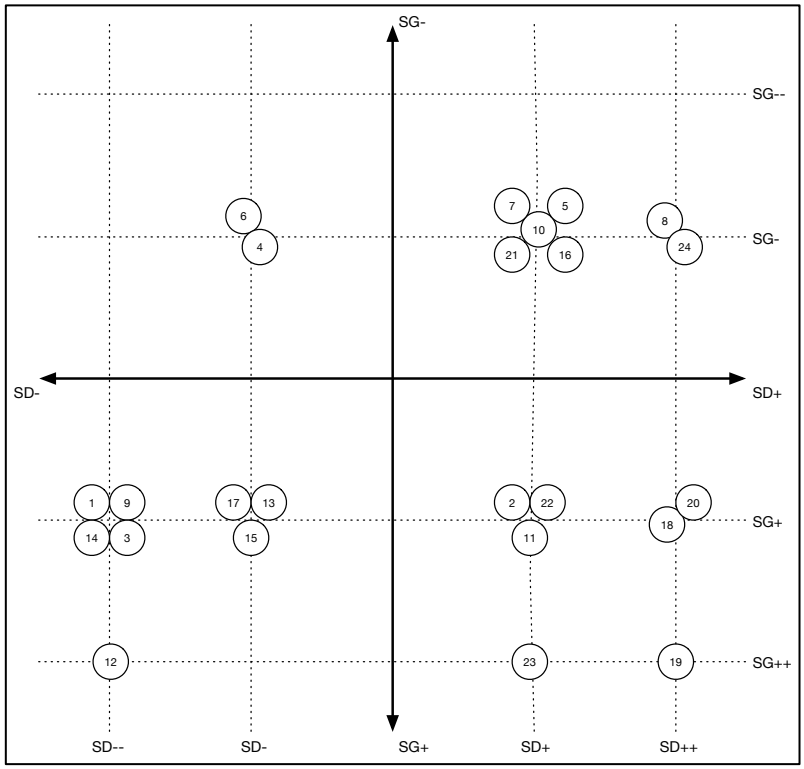

Figure 8: Reading Response nine (Luckett, 2001) - Move towards theorising and exploring

Table 7: Response to article by Luckett (2001)

Codes	**Document Segments** →
Rarefied	
Prosaic	
Rhizomaric	
Worldly	

The main characteristic of this response is my willingness to engage with the papers at hand drawing links between the prescribed readings and attempting to look *beyond* them and creating links with new theoretical concepts. The idea of curriculum as a journey is discussed, explored further and linked not only to the idea of moving through an *epistemically diverse* curriculum but also imagining how this diversity could be enacted through a waving between highly theoretical, everyday, general and applied knowledge

seen as a movement between LCT's rhizomatic, prosaic, rarefied and worldly codes on the semantic plane. By comparing the plot in Figure 8 to the previous three plots presented, a clearer shift is evident towards legitimating complex and interconnected meanings (rhizomatic code) as applied to more contextual situations (worldly code). It was during the writing of this last reading response that I was introduced to the LCT dimension of Semantics: first through a prescribed paper and fortuitously through attending a talk by Karl Maton, the creator of LCT, held at the Wits School of Education. I was taken by the explanatory power LCT offered as a language of description coupled with a clear and succinct graphical representation. LCT as a framework spoke to my sensibilities as an engineer. It not a coincidence that I used LCT in several subsequent assignment in the PGDip as well as within this very study.

Where does this analysis lead to thus far? The discussion started with a description of a critical incident initiated by the unexpected feedback comments on the first response written. Through a rudimentary analysis using LCT's semantic codes, I showed that in the course of the PGDip a change in written discourse, which showed a shift towards a knower gaze, took place. The analysis showed how over time (compared to the early responses written and analysed) there is a noticeable shift away from the everyday and towards the theoretical and applied. This shift in itself is significant as it shows that over time that through the course, my discourse started matching the intended outcomes of the programme as a whole as mentioned in the course documentation (WSoE, 2017b), which states that a student should be able to:

- *Critically reflect* on and *deepen your engagement with theories* and trends in higher education at local, national and international levels
- Reflect on *your role and practices as teachers*, course designers and assessors in your discipline
- Adopt a *creative and critical use of appropriate information and communication technologies*
- Undertake *research to reflect on and inform your own teaching and learning and assessment practices*
- Build a community of practice around quality teaching and learning and scholarship in higher

Reflecting on these five points, it is evident that one of the main aspects of education (as well as the PGDipHE programme) is an emphasis on reflection, engagement with theory and application of theory, which when thought of in relation to constructing texts that legitimate these positions, denotes an expected gravitation to predominately rhizomatic and worldly codes. In education, as Shulman (1987) points out, one engages in the application of theoretical (disciplinary and pedagogical knowledge) in complex (social) contexts.

4.2 A Morphogenetic Journey

In this realist study, the levels of the empirical and the actual have been investigated thus far. The analysis of the temporal progression of nine reading responses yielded visible changes in written discourse within the domain of the *empirical*. The same applies to the presentation of personal experiences and narratives during this time. A good example of this was my reaction to unexpected and misunderstood feedback comments. The use of the LCT dimensions of Semantics and Specialization has allowed for an exploration of the domain of the *actual*, revealing the nature of these qualitative shifts in discourse: away from the everyday and the highly contextual towards a general and more analytical approach. In turn, one can point to a related shift in gaze linked to an increased awareness of the horizontal knowledge and hierarchical knower structure associated with education. A common theme especially in the latter reading responses was that of comparing the progression through a given curriculum to a journey. In fact, this theme was prevalent throughout the duration of the PGDipHE, providing inspiration for a number of assessment tasks.

Having qualitatively described the shifts in discourse and gaze through LCT's explanatory framework, the next step in the analysis was the examination of the emergent powers and potentials of agents over time through the interplay between structure, culture and agency within the social environment of the PGDipHE. For this reason, Archer's morphogenetic framework was chosen. Within this framework, three main time periods

are identified: Time T_1, in which the structural and cultural conditioning is set up predisposing agents entering at this time to act in a particular way. In the second stage (T_2 – T_3), social interaction takes place in which people (entering as primary agents) interact with the pre-existing structural and cultural landscape and where corporate agency is formed. Finally, the last stage of the morphogenetic sequence (T_4) speaks to a process of structural, cultural or agential elaboration, where agents emerge having a new personal and social identity.

4.2.1 Time T_1 - Before and at the Start of the PGDipHE: Structural and Cultural Conditioning

At the starting time T_1, the Cultural and Structural Emergent Properties (CEPs and SEPs) exist and come together to create the necessary structural and cultural conditioning prior to the social interactions that will take place during the second time period $T_2 – T_3$. As an electrical engineering academic, I was the product of years-long socialisation within the University's, and within the School of Electrical and Information Engineering's specific structural and cultural environment. As an engineer, I identified as a disciplinary researcher first and foremost and as a teacher of the discipline at a secondary level.

At the level of the cultural system, it is important to note that, as emphasised by Legitimation Code Theory, all knowledge practices have both knowledge and knower structures. These structures are by no means contradictory. Invoking the one does not negate the other. What varies from practice to practice, however, is their relative weighting, the degree in which they are legitimated within the practice. What makes this social space interesting is that, in terms of cultural conditioning, one is working with a situational logic of complementarity within the cultural system. What is more, this complementarity is *necessary* with respect to the degree of legitimation but also *contingent* regarding the degree of agency one can exercise when navigating this space. This configuration at the cultural level may lead to a situational logic of protection or opportunism. In other words, the mutual reinforcing of ideas on the one hand, and the increased opportunity for what Archer refers to "cultural free play" on the other. At the level of the cultural system, these situational logics translate to a combination of

ideational systematisation, the "strengthening of pre-existing relations, the development of relations among parts previously unrelated, the gradual addition of parts and relations to a system, or some combination of these changes" (Archer, 1988, pp. 171–172), as well as the potential for the specialisation of ideas.

Applying this understanding to the current context, one can see that the predominantly hierarchical knower structure of education with an emphasis on social relations (ER–, SR+) places particular demands on students entering the programme: learning is seen as a social activity with a greater emphasis placed on interactions with significant others. These "others" are to be found not only amongst the other agents and social actors (students and the facilitators), but also amongst the authors of the various prescribed texts. Activities within the course, including assessment tasks, emphasised this understanding in line with the trained/cultivated gaze associated with education. Within the programme, reflection is given a central role placing the academic in conversation with accepted practice and propositional knowledge. As seen in the first part of the analysis, the preparation of regular responses to weekly readings has an important role to play in the conditioning of the space: reading responses act in a way that forces one to take a position with respect to the readings, assisting the student to gradually understand and come to grips with the horizontal knowledge structure of education as a discipline. At the same time, there was a gradual change in Discourse associated with the adoption of a gaze towards education. A process of becoming a legitimate knower.

The structural landscape that characterises this context emerges from the mutual interaction of two roles: those of an academic on the one hand and a student on the other. As an engineering academic, despite being registered for the PGDipHE, my lectures and other administrative duties needed to continue. Most, if not all academics are registered for the programme on a part-time basis. Lecturing and administrative demands can enable or constrain not only the decision to undertake further studies but also how academics will respond to the structural demands imposed by the programme itself (Kahn, 2009). As a student, one is subjected to the demands of the structural reality imposed by the curriculum of the PGDipHE. Failure to perform adequately as a member of staff or as a student will lead to failure as a whole. A middle ground must be found. Within the context

of this study, I found myself within a very supportive professional environment. Over the years there has been an increasing interest in the PGDipHE with more and more academics from engineering registering for the programme. Through this process, the value of participating in the PGDipHE has been recognised, leading to a more accommodating approach towards staff members undertaking these studies.

From an agential level, much can be gleaned from examining the biographical narrative presented at the beginning of this research report. Some of the key points are summarised below:

- I grew up within a family of teachers having moved to Greece and returned to South Africa to study engineering at Wits.
- My career path was influenced by my parents (to study engineering). I did not have a particular "drive" to gravitate towards a particular career choice. I had many different and conflicting interests.
- I expressed an interest in teaching while completing my postgraduate studies in engineering.
- I experienced a sense of unease/distress arising from being torn between my identity of teacher and that of an engineer.
- It was this sense of unease coupled with an exposure to the theoretical world of teaching and learning that lead me to act (and register for the PGDipHE in Higher Education).

As Archer reminds us, the capacity to act to address particular concerns and commitments – the way people exercise their agency – is dependent to large extent on one's mode of reflexivity. Examining the above points, what emerges is a mode of reflexivity that is predominantly meta-reflexive. Meta-reflexives are value- rather than task-driven and a key characteristic is that their "particular cultural concerns are at variance with their structural contexts" (Archer, 2007, p. 302). Meta-reflexives typically exhibit lateral rather than vertical mobility as they search, spurred by their lengthy internal conversations towards meeting their ideals. Although I did not notice this at first, I increasingly felt

uneasy and unfulfilled within my role as an engineer. I often described myself as an "ill-fitting puzzle piece". I was more drawn to teaching, yet my role within my department as well as involvement with professional bodies such as the South African Institute of Electrical Engineers (SAIEE) and the Engineering Council of South Africa (ECSA) emphasised my identity as an engineer. My mode as a predominantly meta-reflexive was confirmed by taking Archer's ICONI questionnaire (shown in Appendix A:) in which I scored 4.33 for the meta-reflexive mode[3]. Another key characteristic of meta-reflexives which has a bearing on this analysis is their capacity to hold and be guided by *their own* internal conversations. Archer characteristically refers to both autonomous and meta-reflexives "…as 'little gods' of their own internal conversations" (2007, p. 299).

4.2.2 Social Interaction Within the PGDipHE (Time $T_2 – T_3$)

I entered the PGDipHE programme as what can be described as a primary agent, unaware of my agency to act in a new and unfamiliar context. My role was a passive one, the conditioned "me". I entered an environment characterised by a situational logic of necessary complementarity at the level of the cultural system. Having been socialised within the epistemically heavy (ER+, SR–) world of engineering, I was unaware of the socially centred nature of education (ER–, SR+) as well as the complementary relationship between these two knowledge structures. The preceding semantic analysis pointed to a lack of understanding of or an inability to recognise the organising principles associated with education. In other words, I saw the disciplines as two quite distinct, incompatible and competing entities. What I experienced can be described as an *apparent* contradiction stemming from the code clash between engineering and education.

The move from primary to corporate agent is directly linked to the relationship and interaction of the individual with the cultural and structural emergent properties of the social space one finds oneself in. Corporate agency is exercised amongst students through engagement with peers (Case, 2015b). In the case of education, the development of the

[3] See Appendix A:. A score of 4 and above on any, assigns a subject to the Communicative, Autonomous, Meta-reflexive and Fractured category, as their dominant mode of reflexivity - whichever is their highest score over 4. "Fractured" scores of over 4 are held to trump other scores. Such subjects are registered as "Fractured" regardless of their other scores - even if these are higher

associated trained/cultivated gaze is reliant partly on the acquisition of (propositional) knowledge but is also heavily reliant on knowers fostering stronger interactional relations with significant others. As such, the teaching and learning context as set up by the overall programme structure and curriculum fostered and enabled this shift. One cannot ignore one's agency to act. The way I was able to navigate this space was closely linked to my meta-reflexive mode of reflexivity. The way one conducts and manages the internal conversations guide the way agency is exercised towards achieving their *modus vivendi*. The explicit pedagogical, assessment and curriculum choices within the programme acted in such a way as to force engagement with the horizontal knowledge structure of education.

The semantic analysis was able to show a gradual increase in my own agency evidenced by an ever-increasing degree of confidence, creativity and the sense of taking control of the learning process. Three distinct stages were identified, each linked to the three core courses of the PGDipHE: A first stage of *confusion* and reliance on highly contextual everyday discussions (in Teaching and Learning), a second stage characterised by *challenging* the authors (in Assessment), and third stage of moving beyond the confines of the readings and towards *theorising* within the curriculum and research modules. How did these shifts come about?

The first significant interaction was linked to a powerful critical incident after receiving feedback on the first reading response written within the first course (Learning and Teaching in Higher Education). The critical incident brought to the fore intense emotions of disappointment, anger and to an extent fear. Emotions have a key role to play as they are commentaries on our concerns and commitments. What is more, emotions can modify these concerns enabling a dynamic, reflexive response (Williams, 2012). Being predominantly meta-reflexive, this incident provoked internal conversations guiding me towards deeper reflection. Although shaken by the experience, I started considering that there was something lacking in my understanding, spurring me towards action.

It was within the second course (Assessment in Higher Education) that the bigger changes started to become evident, coupled with a greater move towards corporate agency and the

development of a social identity, which Archer describes as the "capacity to express what we care about in social roles" (Archer, 2002, p. 17). The impetus for this shift can be found in the core of the assessment course: an emphasis on application. Within the course, one can see a marked change in my written discourse characterised by a greater degree of confidence to become creative in responding to readings. Furthermore, an increased sense of my authority to challenge authors is evident. Outside the bounds of the course, my sense of social identity started manifesting itself within the courses I taught. I found myself not only adjusting my teaching and assessment practices based on the knowledge I had gained, but also initiating conversations about teaching and learning within the School of Electrical and Information Engineering.

Within the last core course of the PGDipHE (Curriculum Design and Development in Higher Education), a further growth of agential awareness was observed which can be attributed to the way the course was structured and scaffolded in relation to the previous courses. Whereas the previous two courses emphasised acquisition of basic teaching and learning knowledge and application of assessment theories coupled with reflective practice, this last curriculum module built previous work and further emphasised a much deeper theoretical and analytical engagement. A particular feature of this course played a significant role in fostering the development of my gaze as well as social identity: reading responses were prepared weekly in preparation for the next week's topic and circulated to all students and facilitators. Furthermore, these responses were treated in a purely formative manner encouraging a greater degree of creativity. This practice encouraged a meaningful construction of knowledge through engagement with others, facilitating further opportunities for the development of corporate agency.

As discussed, a situational logic of necessary complementarity between the two knowledge structures leads to systematisation at the Cultural System level. Within this context, systematisation is linked to a process of arriving at clearer, more complete understanding of the relationship between the two knowledge structures, as they are both mutually reinforcing. Although situational logics of complementarity typically lead to morphostatic rather than morphogenetic scenarios, in this case becoming aware of the relationship between the two complementary knowledge structures provided an impetus

for growth: not only acknowledging the importance of only the epistemic relations within education but also the social relations that play an important, although understated role within engineering. Social interactions, fostered within the programme as well as the general curriculum structure (assessment strategies, taking a position during reading responses etc), played a key role in reaching this level of awareness. My own mode of reflexivity also contributed to the way I navigated this space. My propensity for holding lengthy critical internal conversations when encountered with contradictions and being more value-driven enabled me to explore the relationship between the two knowledge structures in a more meaningful way.

4.2.3 Time T4 - Growth and Further Elaboration

So far, I have discussed the three core courses of the PGDipHE. In a sense, these courses provided the foundation, the springboard for initiating the process of elaboration and ultimate change. The last course of the PGDipHE, aptly named New Directions, aimed at assisting academics to "identify and research an emerging issue of significance in the broad university community or [their] teaching, assessment or curriculum practice" (WSoE, 2018b, p. 1). It is within this course that one can take the first steps as an independent researcher in the field of higher education as the final deliverable is a draft paper on a chosen topic.

The data analysis started with the presentation of a critical incident that was instrumental in *initiating* the morphogenetic process. It is fitting to end the analysis with the presentation of yet another critical incident that served to *confirm* that a change did indeed take place. Below I present the incident in the form of a short narrative:

> After successfully completing the curriculum development module of my PGDip, I was asked to present my experiences of the course and by extension the PGDipHE programme at the annual meeting of the Professional Development Special Interest Group of the Higher Education Learning and Teaching Association of South Africa (HELTASA) as part of a panel discussion. The panel consisted of academics from Wits and other South African higher education institutions. As an electrical engineer, I had

never thought that I would be pursuing studies in higher education, let alone presenting my experiences at an educational forum. I remember feeling quite anxious and ill-at ease. At the start of my presentation, I wondered if I would be found out as a fraud akin to. an impostor syndrome. As my presentation progressed, I stared gaining confidence. I noticed that things were going well as I saw members in the audience listening to what I had to say and nodding in agreement or approval. I also heard myself speaking a different language from that to which I was accustomed. I also found myself thinking and expressing my thoughts differently. By the end of the presentation and the session, I was both relieved and puzzled. Relived that the presentation and panel discussion was over. Puzzled, as I now found myself quite comfortable discussing educational matters with other academics and academics developers. Things had gone a lot better than I had anticipated. The comments I received were good, and I was able to field questions successfully. The presentations of the other panellists revolved around similar experiences ad issues. Throughout the rest of the symposium, I found myself participating in and contributing to various discussions.

What is interesting about this narrative is that although by the end of the course I had developed a sense of agency to act and take control of my own learning as well as engage in aspects of teaching and learning within my own teaching context within the university, I did not fully internalise or acknowledge that a change had indeed taken place. It appears, however, that I needed a form of external validation or acknowledgement. To this effect, one is reminded of Wenger's understanding of identity formation within communities of practice (1998a). The formation of identity is closely linked to aspects of validation, participation and creation of meaning, or reification in the shift from the periphery towards the centre. Identity is negotiated as a result of participation, it is fostered through community membership, and it has a certain trajectory. Drawing on Gee's understanding of identity and Discourse, the critical incident I experienced served as a recognition by others of having a particular Discourse, of being a particular kind of person and of embodying a new social identity. I could see my sense of self represented through my newly acquired D-Identity and especially the effects of belonging to the PGDip affinity group. In summary, the way I can visualise the development of my agency through the course can be seen in Figure 9.

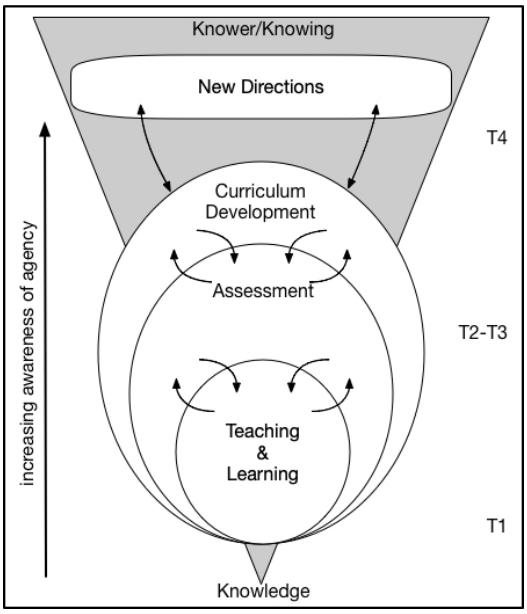

Figure 9: Development of agency within the PGDip in HE

In summary, the data analysis has been presented in two parts. The first was an in-depth semantic analysis of three responses that signified three main shifts that took place in the programme. The analysis clearly highlighted that a shift in gaze did indeed take place. The social realist analysis that followed highlighted the qualitative nature of this shift. Having observed qualitative shifts in discourse in the nine reading responses selected for analysis, an LCT semantics analysis was performed on these responses at the first level. The analysis revealed the nature of these qualitative shifts: a movement away from the contextual and personal in the early responses towards a more principled and analytical approach that characterised the latter ones. This shift is also evidence of the development of a particular gaze towards education through not only engaging with propositional knowledge but also through meaningful interactions with significant others (evidence of a trained/cultivated gaze). At the second level, a social realist analysis of the data revealed the factors that constrained or enabled these shifts in identity over time: the complementary relationship between the horizontal and hierarchical knowledge structures of education and engineering respectively and its relationship to my own mode of reflexivity, and the role of curriculum and pedagogy as well as the important role of experiencing validation and recognition within the programme itself as well as within the broader teaching and learning community.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

I started this research report by quoting Cavafy's poem, 'Ithaca' as a metaphor for the journey I embarked on. On the one hand, it was a journey of discovery and of shifting identities through engaging within a Postgraduate Diploma in Higher Education. On the other hand, I have also come to the end of a journey retrospectively *researching* my journey through the same Postgraduate Diploma. What have the affordances of these journeys been? As a reminder, the two research questions guiding this study, developed and presented at the beginning of this research report, are:

1. *How does the engagement within a formal educational programme such as the PGDipHE enable shifts in academic identity?*

2. *How can these shifts in identity and gaze be retrospectively described and accounted for?*

5.1 How does engagement within a PGDip enable shifts in academic identity?

The research showed that at a very basic level, engagement within a programme such as a PGDipHE can indeed be a vehicle for shifts in academic identity. This was shown through the semantic analysis of the nine reading responses chosen. These shifts are a sign of a changing gaze as I progressively acquired an understanding of the ordering principles of education and my ability to recognise them and realise them within legitimate texts. This shift in gaze from a blank to a trained and cultivated gaze was facilitated through the engagement with the propositional knowledge particular to education as well as through meaningful interactions with significant others: authors of texts and other actors within the course (students and facilitators). Code clashes (and associated gaze clashes) have the potential to *constrain* or *enable* the degree of participation and engagement in the course, affecting the shift in gaze and of identity. As an engineer, the knowledge insight I brought into the course translated into a blank gaze towards education, making my initial engagement in the course difficult and troubling. In

other words, this insight/gaze clash could have been constraining. However, the complementary approach I brought with me and adapted from engineering, enabled me to work through this clash and make sense of the PGDip work. This complementary approach was centred around being able to deal with diverse and ill-defined problems.

The engagement within the discourse community of the PGDipHE that emphasised interactional relations between peers and texts, resulted in a shift in written discourse. This shift in written discourse is evidence of a much greater shift or modification in my overall Discourse. My position with the university did not change. I am still a senior lecturer and academic within the School of Electrical and. Information Engineering. My I-identity has thus remained relatively unchanged. My sense of *self*, however, did shift through acquiring a new D-identity: being recognised as having a particular written and spoken discourse though interaction with other "rational" individuals (Gee, 2000, p. 100). The greatest change I have noted is related to my now belonging to an additional affinity group, that of teachers and educational researchers. It is important to note that I have not foregone my engineering affiliation. In fact, it was this engineering Discourse that enabled me to explore and make sense of the new group I found myself in. Even my decision to use Legitimation Code Theory was informed by my engineering knowledge insight. As a framework, it spoke to my design-inclined ways of thinking and practicing.

This brings me to the Archerian social realist analysis of the study. Two "forces" emerged as vital in facilitating the identity shift tracked within this study: the curriculum and my mode of reflexivity. The gaze clashes described were experienced as unsettling, thus they gave rise to intense internal conversations. The way one conducts these conversations and takes action is directly linked to one's mode of reflexivity (Archer, 2007)Through the analysis of the narratives presented, I show traits predominantly associated with being a meta-reflexive. The constant searching, questioning and value-orientation associated with this mode of reflexivity provided the impetus to shift towards acquiring a social identity and being recognised by others as an educationalist.

The role of the curriculum in structurally and culturally constraining or enabling student learning cannot be overstated. The structural and cultural conditioning set up within the

social environment of the PGDipHE predisposes one to act in a certain way through setting up legitimate channels of communication as well as emphasising what counts as legitimate knowledge. Within the context of the PGDip, the ongoing practice of writing responses emerges as catalytic in the development of one's gaze, which influences the way one orients oneself towards a practice and is ultimately recognised by others as a certain kind of person. The significance of writing these responses is that they

- Force the author to take a position with respect to the paper
- Engage within the content of the paper with a particular text-based reality in a way this illustrates the particular (horizontal) structure of educational knowledge
- Encourage the development of a *conversation* with the author of the article and other authors

5.2 How can these shifts in identity and gaze be retrospectively described and accounted for?

The answer to this question lies within the semantic analysis of the nine reading responses and within the translation devices used to code the data. As mentioned, the semantic analysis afforded a closer look at qualitative shifts in written discourse by examining the way context and content were used to create meaning. Furthermore, the way meaning was created within the texts is directly related to what was valued: knowledge, principles and procedures, or the emphasising of links, relationships and personal voice? The way this study defined variations of semantic gravity and semantic density is of importance:

- Semantic gravity was defined in the traditional sense as showing shifts in abstraction within the responses: movements from highly contextual everyday descriptions to abstraction.
- Semantic density was defined in such a way as to illustrate changes in complexity of meaning. This complexity was highlighted through looking for an increased interconnectedness of related concepts, characteristic of the horizontal knowledge structure typical of education.

In this way, variations of semantic density and gravity in the responses revealed how earlier responses were characterised by an overreliance on simply stating theoretical positions and contrasting them to everyday experiences, signalling the presence of a blank gaze towards education. In latter responses the pattern changed to include a meaningful weaving of concepts, a waving between contexts, and most importantly a degree of abstraction without ignoring my own emerging voice. As this change occurred gradually over time through the fostering of intertextual relations and engagement with educational knowledge, I could track shifts towards a trained and cultivated gaze which is typical of education.

This study is located firmly within the realm of the Scholarship of Teaching and Learning which is an attempt to cultivate an "informed, reflecting and enquiring teacher whose focus is on the improvement of their teaching so as to improve their student's learning" (Tight, 2019, p. 29). One of the main affordances of the PGDipHE is the placing of the academic in the shoes of the learner entering a new field, allowing for a process of reflection to take place leading to a greater awareness of one's role as a teacher. This process of reflection and research into teaching and learning should be done in a scholarly fashion rather than only simply reflecting on interesting teaching and learning experiences and observations in a "common-sense", everyday manner (Moon, 2004, p. 82).

This study showed how one can apply such a reflective framework in a scholarly and principled manner. The choice of using my experience as a case study of such reflection drew on elements of autoethnography. The use of Legitimation Code Theory framework allowed for a relatively objective approach to analysing my own shifts in identity. The strength of this approach rested on the development of translation devices that enabled me to create an external language of description to delve into and analyse the data. This process made it possible to make explicit otherwise unnoticed relationships, in this case, the shifts in discourse linked to a change in gaze and its link to identity. Gee's definition of identity as being a certain kind of person and especially his definitions of Institutional-Discourse- and Affinity-Identity were particularly useful. Finally, the use of Archer's

morphogenetic framework and her concept of modes of reflexivity provided an important tool to uncover mechanisms that lead to shifts in identity.

5.3 Limitations and Recommendation

This case study of transformation of gazes and identity was based on a reflection on my journey and experiences through the PGDipHE programme at the university of the Witwatersrand. Although the research did show how engagement within a PGDipHE can yield qualitative shifts in one's identity, one can argue that focusing on a single, personal account can be limiting. It would therefore be interesting, within the South African context, for future research if the study were extended to include a much larger number of academics and across different institutions. At the same time, the influences of other factors such as race and gender on such shifts in identity would be worth investigating. In this study, the LCT dimensions of Specialization and Semantics were used to provide a suitable conceptual framework to account for changes in identity within a PGDipHE programme.

5.4 In Conclusion

The purpose of this realist case study has been the exploration of how engagement in a PGDipHE programme has enabled shifts in academic identity. The use of Archer's morphogenetic framework as a theoretical framework coupled with the explanatory power of Legitimation Code theory illustrated the following:

- Engagement in a PGDipHE programme has the potential to shift one's academic identity. Such a shift is facilitated through engagement within the discursive community set up by the curriculum structures, pedagogy, and assessment. This interplay of structural and cultural elements proved critical in facilitating the emergence of one's personal powers and potentials.
- One's mode of reflexivity can be instrumental in the engagement with the course. Internal conversations, brought to the fore and amplified by the often-troubling

nature of learning, played a prominent role in facilitating shifts in academic identity.

- The use of Legitimation Code Theory's concepts of gazes and insights proved to be an effective way of analysing shifts in identity conceptualised around Gee's understanding of big D Discourse. Furthermore, the LCT dimension of Semantics proved to be an excellent means of making these shifts in gaze (and identity) explicit.
- Finally, the research conducted re-affirms the importance of engagement in the Scholarship of Teaching and Learning through a process of reflection, provided it is done in a principled and scholarly manner.

Within this piece of research, I have presented and analysed my engagement with the courses of the PGDip in Higher Education at Wits University. A reader may be left with the impression that I underwent a clear, linear and relatively straightforward transformation and that they journey somehow "ended". As someone exhibiting predominantly meta-reflexive qualities, the journey may have unfolded in a much smother fashion, exercising my agency towards effecting change and growth. This may not be true for others exhibiting other forms of reflexivity. The whole experience may unfold differently for an autonomous reflexive guided by personal ambition or some goal. A fractured reflexive may experience greater distress when faced with difficulties or the realisation of a transformation taking place. The transition between times T_2 and T_3 of the morphogenetic cycle can be messy. As a final note, the journey to Ithaca has not ended. Ithaca is not a final destination, but a promise of more journeys, or more opportunities to grow. Reaching the completion of my Masters through this piece of research and having the benefit of the experiencing (and reflecting on) the struggles associated with learning and growth within the programme.

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APPENDIX A: ARCHER'S ICONI QUESTIONNAIRE

Some of us are aware that we are having a conversation with ourselves, silently in our heads. We might just call this 'thinking things over'. Is this the case for you?

YES ☐ **NO** ☐

ON THE WHOLE	**Strongly Agree** 7	6	5	4	3	2	**Strongly Disagree** 1
1. I do daydream about winning the lottery.	☐	☐	☐	☐	☐	☐	☐
2. I think about work a great deal, even when I am away from it.	☐	☐	☐	☐	☐	☐	☐
3. I dwell long and hard on moral questions.	☐	☐	☐	☐	☐	☐	☐
4. I blot difficulties out of my mind, rather than trying to think them through.	☐	☐	☐	☐	☐	☐	☐
5. My only reason for wanting to work is to be able to pay for the things that matter to me.	☐	☐	☐	☐	☐	☐	☐
6. Being decisive does not come easily to me.	☐	☐	☐	☐	☐	☐	☐
7. I try to live up to an ideal, even if it costs me a lot to do so.	☐	☐	☐	☐	☐	☐	☐
8. When I consider my problems, I just get overwhelmed by emotion.	☐	☐	☐	☐	☐	☐	☐
9. So long as I know those I care about are OK, nothing else really matters to me at all.	☐	☐	☐	☐	☐	☐	☐
10. I just dither, because nothing I do can really make a difference to how things turn out.	☐	☐	☐	☐	☐	☐	☐
11. I'm dissatisfied with myself and my way of life - both could be better than they are.	☐	☐	☐	☐	☐	☐	☐
12. I know that I should play an active role in reducing social injustice.	☐	☐	☐	☐	☐	☐	☐
13. I feel helpless and powerless to deal with my problems, however hard I try to sort them out.	☐	☐	☐	☐	☐	☐	☐

X. In general, what are the three most important areas of your life now - those that you care about deeply? (Please give the most important first).

1._____

2._____

3._____

Y. Your (current or last) occupation_____

Z. Age _____ **Gender** _____

Willingness to be interviewed _____

Name(s) _____
Phone/e-mail _____
Home address

Scoring Subjects on ICONI

N.B. Please note carefully that for Question 6 and Question 11, numerical scores should be INVERTED when calculating an individual's score.

1. The questions are divided into 4 categories, that is there are 3 questions indicative of 'Communicative reflexivity', 3 questions indicative of 'Autonomous reflexivity', 3 questions indicative of 'Meta-reflexivity and 4 questions indicative of 'Fractured reflexivity'.

2. The scores for the four modes of reflexivity are calculated as follows:-

Communicative reflexive score = (Q1 + Q5 + Q9)/3

Autonomous reflexive score = (Q2 + Q6* + Q11*)/3 (*= inverted)

Meta-reflexive score = (Q3 + Q7 + Q12)/3

Fractured reflexive score = (Q4 + Q8 + Q10 + Q13)/4

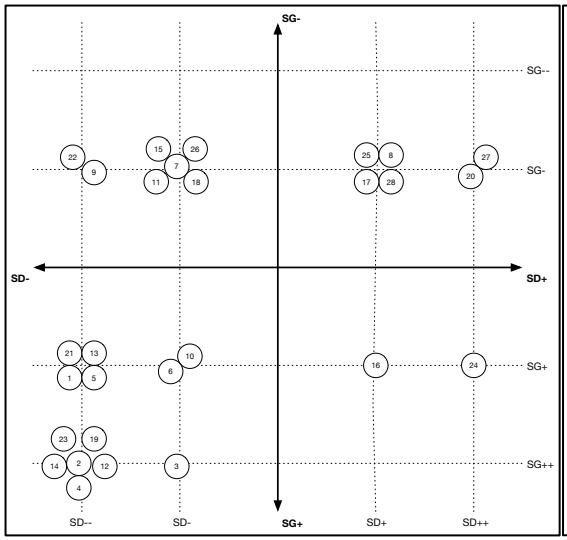
3. A score of 4 and above on any of the four categories of questions assigns a subject to the C, A, M , F category, as their dominant mode of reflexivity - whichever is their highest score over 4.

4. F scores of over 4 are held to 'trump' other scores. Such subjects are registered as 'F' regardless of their other scores - even if these are higher.

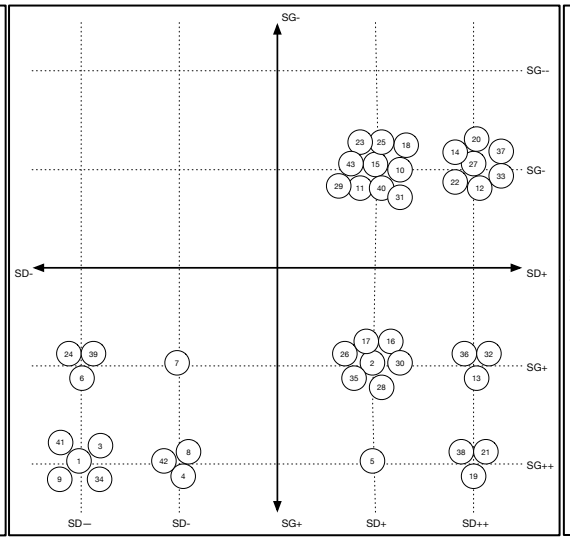
5. Regarding question 'X' – it is presented here as we used it, that is as an open-ended question about subjects' ultimate concerns. However, this has created some difficulties in later collapsing their responses into manageable categories. Although a lot has been learned through this, we would recommend that others take advantage of our experience and employ fixed choice categories. We can supply some suggestions here which basically seek to tap 'C' concerns (inter-personal relationships with family and friends), 'A' concerns (work, career, performative achievements, financial success etc.), 'M' concerns (intrinsic interests, socio-ethical pre-occupations, spirituality etc.) and 'F' concerns (resolving problems, establishing a better way of life, overcoming present difficulties).

APPENDIX B: SEMANTIC ANALYSIS OF READING RESPONSES

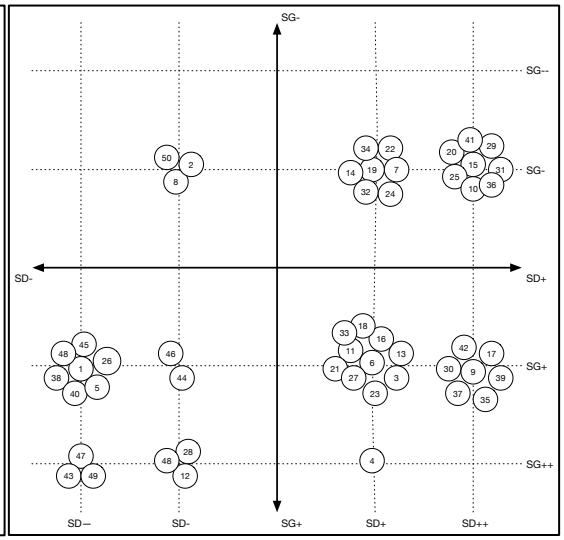
Presented below are the semantic plots for all nine reading responses analysed. The significance lies in the gradual shift from the prosaic and rarefied towards the rhizomatic and worldly codes. This shift in the understanding of meaning construction point to a fundamental shift in gaze.



Response to (Biggs, 1999)

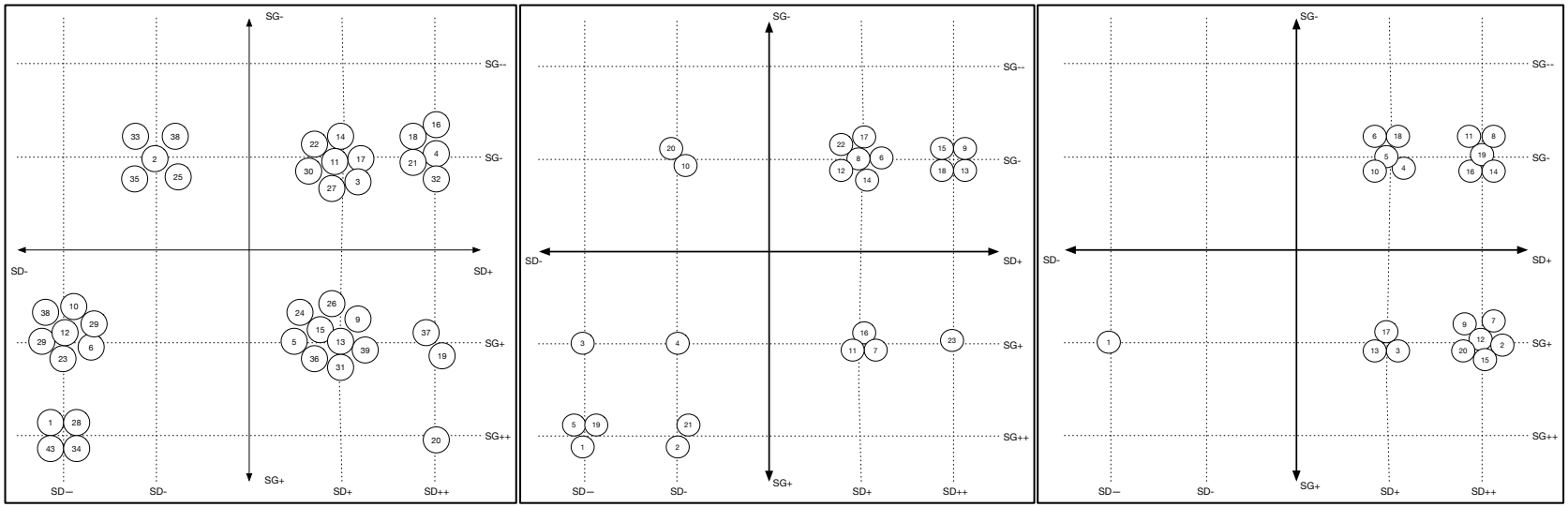


Response to (Moon, 2004)



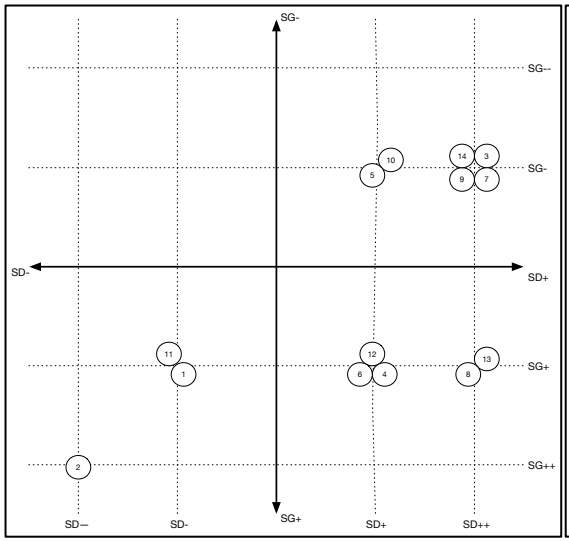
Response to (Mann, 2001)

Learning and Teaching in Higher Education: Responses to articles by Biggs, Moon and Mann

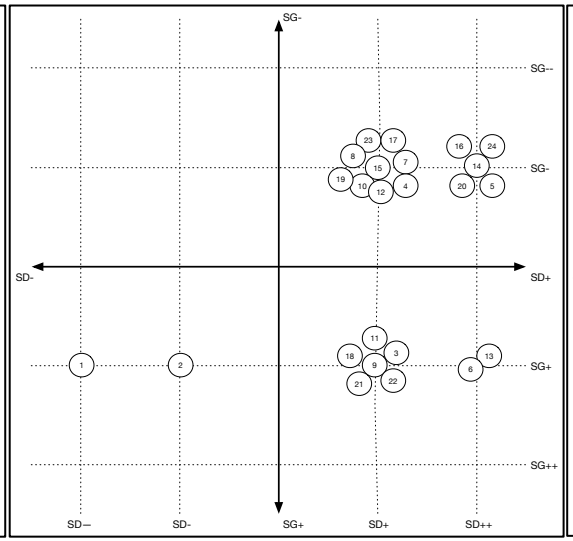


Response to (Carless, 2015) Response to (Leong, 2006) Response to (Boud & Molloy, 2013)

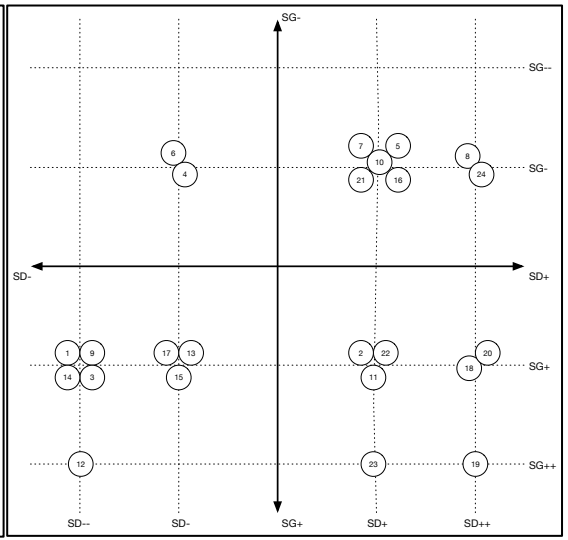
Assessment in Higher Education: Carless, Leong and Boud & Molloy



Response to (Roberts, 2015)



Response to (Barnett, 2009)



Response to (Luckett, 2001)

Curriculum Design and Development in Higher Education: Responses to papers by Roberts, Barnett and Luckett

APPENDIX C: AN EXAMPLE OF CODING FOR SD AND SG

Reading Response to Bigg's 1999 article "What the student does: Teaching for enhanced learning"	Code (SG, SD)
This article by Biggs (1999), resonates particularly with me. It reminds me of the difficulties, successes and failures that I had first as a student and later on as a young academic. There were times when, as a student, I felt that by stockpiling notes and increasing my sources of information I would be able to gain a deeper understanding of the topic at hand. I was often in awe of some of my colleagues who appeared to acquire a much deeper insight into a topic with seemingly less work. As a young lecturer, I often felt despondent when despite the effort I put into my weekly lectures, I was rewarded with very bad marks in class tests and poor attention and participation in class especially in my first years of teaching. As a student my failing was that I adopted a surface approach to learning. The priority at the time, was the need to pass that test or exam, not to learn deeply. As a young lecturer I was too often prepared to lay the blame on the students or myself for any shortcomings in the course.	1SG+, SD-- 2SG++, SD--
Thinking back to my undergraduate years I realise that in many courses, the objectives, the teaching activities and often the assessment was not aligned. Yes, there were Course Briefs and Outlines that were handed out, laying down the rules, content and expectations. Our lecturers went through the work diligently following the Course Brief, but the focus in many cases was on content. The tests and exams were designed to test our knowledge, however they were almost always seen as a hurdle that had to be overcome. In essence, these three components appeared to be disjointed. It sometimes felt as if only the teaching component really contributed to my learning experience.	3SG++, SD- 4SG++, SD--
The main theme in the article is the importance of alignment of all these three components: objectives, teaching and assessment. This alignment must be true and deep, not typical and mechanical. The point is made that all three components need to actively contribute to the learning experience. When students engage in deep effective learning, they start behaving differently. They act differently as Perkins and Blythe mention (Perkins & Blythe, 1993). This is as a result of seeing and experiencing the world differently. The successful alignment of objectives, teaching and assessment can result, under the correct conditions, in the creation of a very conducive environment for the student to engage in deep learning.	5SG+, SD-- 6SG+, SD- 7SG-, SD- 8SG-, SD+
Objectives need to be clear and well defined for both the student and the teacher. The teacher needs to have a clear understanding of what needs to be taught and the student needs to be clear on what is expected in the course. Thus, a clear path should be laid out for the student to follow. Teaching should be designed in such a way as to ignite a burning desire to walk this path. As Biggs mentions, motivation is not a prerequisite for teaching. Motivation	9SG-, SD-- 10SG+, SD-

should be the result of good teaching. Students should feel free to focus on the learning activities and tasks without seeing assessment as a 'big stick approach' and as a hurdle that needs to be overcome. Fear is never helpful in education.	11SG-, SG-
When I started teaching I was asked to deliver an introductory course in electrical engineering to second year engineers of other disciplines. It was a service course that had a very bad reputation. Very large classes which translated to lots of marking and disinterested students which translated to challenging teaching. In my first couple of years I followed what Prosser and Tigwell (Prosser & Trigwell, 1998) calls a teacher-focused approach to teaching. My job was to do my best to transfer my knowledge to the students. I tried teaching in the best way I could, but without really paying much attention to the needs of the students. Any learning problems or deficits were blamed on the students or myself as a teacher. In my second and third year of teaching I made an effort to attend as many teaching workshops and courses I could find in order to better myself as a teacher – again, without paying much attention to my student's needs. Although my teaching style improved, I did not notice a drastic improvement in my results. It was only much later when I became a more experienced teacher that I slowly started to realise the importance of the student body. A successful teacher should be able to grasp what it means to understand the pertinent concepts in his field and in the way they should be understood. In other words, the successful teacher should have a good idea of the objectives as well as the context in which these objectives are founded. The next step is to devise the appropriate teaching activities to start materialising the objectives of the course, always assuming a student-focused rather than a teacher-focused approach. These are the first steps in alignment	12SG++, SD-- 13SG++, SD- 14SG++, SD-- 15SG-, SD-
When designing one's teaching to follow an aligned approach, (Biggs, 1999) suggests starting by placing the curriculum objectives at the centre. It is also very helpful to specify at the beginning the level of understanding required. It is very important to present this information in a graded way, following a taxonomical model. Biggs suggests using appropriate verbs to bring the objectives to life and to grade the levels of student understanding required. By doing this from the very beginning, one is able to start aligning the objectives with the assessment criteria. The importance of the assessment part of the teaching experience is, in my opinion, the most underestimated. Assessment is very powerful as it gives an indication to the teacher as to the quality of learning taking place. It also informs the students of what is expected of them (Ramsden, 1992)	16SG+, SD+ 17SG-, SD+
Students often place great emphasis on the assessment component of a course. This is obvious as it is the component on which, in their eyes, rests their success or failure. As a student and as a teacher, I have always been surrounded by students desperately looking for past exam papers or preoccupied with how many marks they need to pass or what will be examined. These concerns have always seem to guide their learning priorities. One can use	18SG-, SD- 19SG++, SD-- 20SG-, SD++

this as an advantage. It is almost like loading the dice in the teacher's favour. If the course is correctly aligned, the students can use the assessment tasks to further highlight the objectives of the course and to steer them on the right track.	
In this article, two strongly aligned teaching methods are presented: Problem based teaching and the learning portfolio. In problem-based students are required to grapple with and solve problems relevant to their professional carriers. They are then evaluated how well these problems are solved. This approach is aligned almost by definition.	21SG+, SD-- 22SG-, SD--
Two years ago, I was asked to deliver a course in third year electronics as the lecturer of this course was on sabbatical. It was an eye-opener for me as the course followed a problem-based learning approach. The objective of the course was to prepare students to tackle and solve complex unseen electronics problems. The focus was not on content, it was on a strong conceptual understanding of problem solving skills. The classes were run as tutorials where very well designed problems were presented to the students to solve collaboratively in groups. This process enabled the students to actively discover and learn new concepts and at the same time overcome their fear of complex circuits. The test and exam was similarly laid out and aligned with the objectives and the teaching approach.	23SG++, SD--
It essence it is a top-down approach. The objectives feeding into the teaching activities and into the assessment tasks.	24SG++, SD+
On the other hand, the learning portfolio can be thought of a bottom up approach where the assessment tasks are the ones driving the learning process. One can think of the learning portfolio as a 'learning tool'. As Biggs states '*grappling with the task you want your students to learn is automatically a learning process which becomes a learning outcome*'.	25SG-, SD+ 26SG-, SD-
In conclusion, alignment of objectives, teaching and learning activities and assessment is extremely important for the creation of a conducive environment for deep learning to occur. It gives the students the necessary clarity of direction and freedom to focus on the aspects of learning without having to constantly watch their backs. It provides consistency. Designing an aligned teaching approach to a course is not straightforward and requires quite a bit of effort from the part of the academic. I believe, however, that once the processes are in place, aligned teaching creates a far more pleasant approach as it allows for a more student-focused approach, which is likely to generate greater levels of motivation and ultimately success	27SG-, SD++ 28SG-, SD+

APPENDIX D: ETHICS APPOVAL CERTIFICATE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 West

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H19/10/40**
PROJECT TITLE	Changing identities and gazes through participation in a PGDip(HE) programme: A case study of transformation
INVESTIGATOR(S)	Dr N West
SCHOOL/DEPARTMENT	Electrical and Information Engineering/
DATE CONSIDERED	18 October 2019
DECISION OF THE COMMITTEE	Approved
EXPIRY DATE	25 November 2022

DATE 26 November 2019 **CHAIRPERSON** _____
(Professor J Knight)

cc: Supervisor : Dr L Dison and Ms L Slonmimsky

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I agree to completion of a regular progress report. For Minimal and Low studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

_____ 26 / 04 / 2020
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES