

**The knowledge-knower structures used in the assessment of graphic design
practical work in a multi-campus context.**

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Abstract

This case study explicates the knowledge-knower structures that are valued in the assessment of Graphic Design (GD) practical work in a multi-campus Private Higher Education (PHE) context. Assessment, which provides the measure for student success and progression, plays a significant role in Higher Education (HE). It is acknowledged that, in addition to increased pressure on educators to deliver high pass and throughput rates, there is often scrutiny of their assessment practice to ensure that it is fair, reliable, valid and transparent. The aspects of reliability and validity are particularly significant in for-profit private higher education institutions, where a strong focus on efficiency may result in added scrutiny of assessment practices. Although the assessment of GD practical work exemplifies these pressures and objectives, its characteristics and practices set it apart from many of the more standard forms of assessment found in HE. Not only is GD practical work predominantly visual rather than text-based, but complex achievements and tacit knowledge are assessed. This form of assessment traditionally relies on panel or group marking by connoisseurs who consider what is commonly termed 'person', 'process' and 'product' when making value judgements. Therefore, in GD assessment knowledge, the design product, the graphic designer and what the graphic designer does may all be valued. GD assessment, where outcomes are not easily stated, relies on the tacit expertise of assessors and can often be perceived to be subjective and unreliable. It therefore sits uncomfortably with results-driven HE and institutional priorities.

In light of this context and the complex and social nature of GD assessment, a critical realist approach provided the guiding metatheory for this case study. Critical realism considers the unseen but real mechanisms that exist and interact within a context to create a phenomenon such as an assessment practice. In this case study the knowledge-structuring theories of Basil Bernstein and Karl Maton were used to uncover these mechanisms. Bernstein and Maton propose that new knowledge, the curriculum and pedagogy, which includes assessment, communicate the valued disciplinary knowledge and who controls these communications.

For this study the institutional documents and voices of assessors provided insight into the GD assessment practice; data was generated through a lecturer survey, the study guides and assessor conversations at both the formative and summative assessment stages. Given the significance of both knowledge and expertise in GD, Specialisation, one of the Legitimation Code Theory (LCT) dimensions, provided the conceptual tool whereby the generated data were analysed and categorised, and the underlying valued knowledge-knower structures, or specialisation codes, were identified.

The identified specialisation codes revealed a number of code clashes, matches and shifts, which highlighted instances of mixed or conflicting communication regarding what was valued and used in GD assessment. These clashes, matches and shifts have significant implications for curriculum design, pedagogy and assessment. As a result the findings may have relevance for students, lecturers and assessors who work in practice-based fields which require the assessment of complex achievements and rely on a specialised gaze to judge standards.

Informed by the findings of this study, I argue that there is a fundamental conflict between what is valued within the broader national South African Higher Education system and Private Higher Education institutional context, and the nature of GD assessment. The broader structures, guided by a techno-rationalist approach to assessment and the pressures of massification, success, compliance and institutional efficiencies, value explicitly-stated outcomes and criteria, propositional knowledge and a positivist ideal of one correct mark for any one assessment, while the GD assessment practice values the more social and tacit elements of procedural knowledge and a specialist knower as evidenced in a largely tacit GD gaze that assessors possess and students aim to develop. The uncovering of the knowledge-knower structures used in GD assessment has the potential to make the assessed gaze more explicit to lecturers, assessors and ultimately to students. My findings offer a deeper understanding of the assessment of knower code disciplines which require a specialist gaze for the judgement of student work, and the pressures experienced in this type of assessment in a HE context.

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Acronyms

CBT	Competency Based Training
CHE	Council on Higher Education
DoE	Department of Education
GD	Graphic Design
HE	Higher Education
HEQC	Higher Education Quality Committee
HEQF	Higher Education Qualification Framework
HEQSF	Higher Education Qualification Sub-Framework
HoP	Head of Programme
LCT	Legitimation Code Theory
NGO	Non-governmental organisation
NQF	National Qualifications Framework
OBE	Outcomes Based Education
PHE	Private Higher Education
PISA	Private Institution South Africa
QA	Quality Assurance
SAQA	South African Qualifications Authority

Chapter 1 Introduction

The research documented in this dissertation emerged from my experience as an academic and academic manager, and my personal preoccupation with assessment. This preoccupation arose from the challenge of attempting to ensure equivalence of standards for a Graphic Design (GD) degree offered on multiple campuses. The research was therefore positioned within the context of a Bachelor of Arts (BA) Graphic Design degree offered on multiple Private Institution South Africa (PISA)¹ campuses, spread across South Africa. As a Private Higher Education (PHE) for-profit institution (see 2.1.1)², PISA was part of the small, but growing, PHE sector.

The GD programme and ensuring equivalent standards, specifically for the practical studio-based modules, became one of the more challenging aspects of my work (4.1.3). I found that, as a creative arts educator with more than thirty years' experience and seven years' experience as Dean of faculty, I was at the nexus between embracing GD assessment as a familiar, somewhat mysterious and idiosyncratic practice and having to respond to the upheavals that its idiosyncratic nature caused within a demanding institutional structure. The upheavals mainly arose when the marks, also referred to as grades, awarded at the summative assessment stage were challenged and disputed. These challenges were more keenly experienced within the current HE performance-driven strategies (Council on Higher Education [CHE], 2010) of commercialisation, regulation, accountability, quality assurance and pressure to deliver high quality, cost-effective education to a growing student body (2.1).

1.1 Context

Working within an Outcomes Based Education (OBE) philosophy (2.1.3), the curriculum and assessments at PISA were centrally designed and then distributed to the remote campuses. GD lecturers on the coordinating campus designed the curriculum and

¹ Private Institution South Africa (PISA) is a pseudonym.

² Links to chapters, numbered sections, tables and figures are indicated in brackets. Links to more specific sections are indicated as page numbers.

courseware, the latter consisting of study guides, module outlines, assessments, marking criteria and marking guides (termed 'rubrics' in this institutional context). These documents were circulated to the lecturers and students on all campuses offering the degree. The design of the curriculum and courseware was guided by an OBE approach, which is commonly used in 'Western'³ design education (Davies, 2000; Ehmann, 2005; Ellmers, Foley, & Bennett, 2008). At PISA, the content, learning outcomes and marking criteria were aligned, while the in-class and studio teaching were left open to the individual lecturer's interpretation. Within an OBE approach, the assessment principles of fairness, transparency, reliability and validity become noteworthy objectives (Elton and Johnston, 2002; Johnston, 2004, Yorke, 2011). According to the South African Qualifications Authority (SAQA), fairness ensures that "assessment should not in any way hinder or advantage a learner" (SAQA, 2001, p. 16). Transparency relates to the clarity and explicitness of outcomes and assessment criteria in order for them to be understood by a range of stakeholders. Reliability assumes "the same judgements being made in the same, or similar, contexts each time a particular assessment for specified stated intentions is administered" (SAQA, 2004, p. 73). In addition it is reflected in inter-assessor reliability, where different assessors make consistent judgements for the same student work (Morgan, 2011). Validity aims at "measuring what it says it is measuring, be it knowledge, understanding, subject content, skill, information, behaviours, etc." (SAQA, 2004, p. 73). This approach, informed by a positivist perspective of assessment, assumes that knowledgeable and well-trained assessors, using explicit, clear, aligned learning outcomes and marking criteria, should arrive at the same value judgement for any one piece of evidence at any point in time. Yet it has been acknowledged that relying on criterion-referenced assessment does not always ensure reliability (Cannatella, 2001; Shay, 2008a).

In my experience as an educator in creative art and design, marks awarded to students in GD and other creative subjects may vary between individual assessors and at the

³ As with many colonised countries, Western art and design traditions and education systems informed the GD education practices discussed in this study. More recently South African design educators have addressed some of the tensions between this Eurocentric approach used in design education and the South African HE context (Cadle, 2009; Carey, 2006).

different stages of assessment (2.1.4), for instance between the formative and summative stages. A common practice in art and design education requires students to work on and submit a number of practical projects, called briefs, during the year. The design brief, or assessment task, takes the form of a written outline describing the design problem to be solved (Oak, 2000). Briefs may contain explicit objectives, a context and technical requirements, or may be intentionally ambiguous and open-ended. On the PISA campuses, after submission, the work produced for the brief was marked and feedback provided. At the end of the year students submitted the same work, or improved versions of the same work, in portfolio form for summative assessment. The briefs could therefore be considered a combination of both formative and summative assessment, which is common practice in art and design (B. Jackson, 1995). In this study the briefs are categorised as formative and the portfolio as summative assessments.

At both the formative and summative stages of assessment, the student work may have been marked by a panel of assessors and moderators, rather than by individual assessors (2.2.4). As the same student work was often presented at both formative and summative assessment stages, but marked by different people, shifts between the marks awarded at these two stages could be extremely confusing for students and other stakeholders. In my experience as Dean, if the final summative mark awarded was lower than the student's formative average for the briefs, this was particularly confusing and difficult to justify. In spite of implementing various changes to the assessment process, this phenomenon had occurred on at least one PISA campus each year, over a period of seven years, affecting a small number of students. In the case of a dispute of this type, I would be called on to explain to stakeholders why and how this shift in the marks had occurred. These mark variances were often perceived, by myself and others, to indicate that either the formative, or summative mark awarded was inaccurate.

The phenomenon of shifting marks in the assessment of creative art and design is not unique to the PISA context, as I had experienced similar events at other institutions where I had worked as an educator in different creative fields. In addition, Morgan

(2011) mentions a formal inquiry that was conducted at Newcastle University in Australia where students queried the results awarded in a design studio architecture course. In the record of this inquiry, Cowdroy and Williams (2006, 2008) emphasise the complexity and difficulty of making value judgements in design, as it differs in a number of ways from the more standard forms of assessment (2.2). The difficulties of establishing a language to describe assessment criteria and the related student learning in art and design are further explored by Harland and Sawdon (2011). Issues of transparency, reliability and fairness are therefore not unique to the GD assessment practice that I describe in this case study, and these challenges are acknowledged by others.

Those who decree, design, implement, and participate in assessment systems that are based on notions of validity, fairness and reliability, and which also allow rights of appeal and possible litigation, are unlikely to find a return to a system based on expert peer review acceptable. What is required is an assessment process that both values and recognises creativity, and meets the requirements of the quality and standards frameworks. (Kleiman, 2005, p. 16)

Queries and conflicts regarding marks and mark variances were therefore key motivators for me to embark on this study. With a background in photography and many years spent in art and design education at a number of institutions, I was very familiar with the existing traditions and culture of art and design assessment. However, I felt that in order to respond to these queries and challenges, and possibly naively, to arrive at a solution, I needed to better understand the complexity of the phenomenon of GD assessment. The focus of my study, therefore, became one of identifying and explaining the underlying structures that make GD assessment practice what it is.

1.2 Knowledge and assessment

Existing research addressing GD assessment is limited (Ehmann, 2005; Hounsell et al., 2007) and is often concerned with the feedback component of formative assessment. More recently, knowledge theories and knowledge-knower theories (3.1 and 3.4) have been used to uncover the disciplinary knowledge valued in various fields of design (Carvalho, Dong, & Maton, 2009; Carvalho, 2010; Steyn, 2012; Shay & Steyn, 2016)

and GD curricula (Clarence-Fincham & Naidoo, 2013). While some educators aim to make disciplinary knowledge, as found in the curriculum, accessible⁴ to students, it may be equally important to reveal the knowledge that is valued and used during assessment (Shalem & Slonimsky, 2010). Assessment as an element of curriculum discourse (3.3.2) plays a role in communicating what is valued within a discipline, enabling assessors and students to recognise valued disciplinary knowledge, which is vital to their participation in assessment.

In order to provide an understanding of the assessment practice described in this study, it was necessary for me to consider the practice through a theoretical lens that offered an alternate, sharper and more detailed view than my own subjective observations and experiences. The choice of theories was guided by the critical realist metatheory (3.1 and 4.1), chosen as this informed all stages of my research. Critical realism considers reality to exist independently of our knowledge of it, and that our understanding of the world is socially produced and therefore fallible (Danermark, Ekstrom, Jackobsen, & Karlsson, 2002). This approach allowed me to consider knowledge as an object of empirical study, while valuing the perspectives that my own experience and that of individual assessors, who were part of the practice, brought to the process. The choice of critical realism and the substantive theories used, as opposed to other possible perspectives, is discussed in more detail in section 3.1.

The knowledge theories of Bernstein (1971, 1986, 1996, 1999) and explanatory framework of Maton (2000a, 2004, 2007, 2014b) provided the substantive theories used in this case study. Although Bernstein's knowledge structures suggested an underlying framework, these proved to have limited application in this case study (3.4 and 4.1.6.2), where the focus was on the assessment of creative work, which resulted from the design students' practice.

One of Maton's (2014b) key propositions is that both specialist knowledge, and a specialist knower with certain attributes, are valued in all disciplines, therefore a

⁴ This can be referred to as epistemological access (Morrow, 2007).

discipline can be analysed and represented in terms of knowledge-knower structures (3.4). The Legitimation Code Theory (LCT) dimension of specialisation provided the conceptual tool (Maton, 2014b) which I used to establish a language of description and to analyse the data (4.1.6). This offered me insights into the underlying knowledge-knower structures as found in the GD assessment practice (6.3) without having to, for instance, separate theory from practice (p.155). The language of description used (4.1.6.1) connected the discourses relating to practice-based knowledge and expertise in design to the knowledge-structuring theories (3.3 and 3.4) and to the data. The study guides issued at PISA and observations of individual and panel formative and summative marking sessions on various campuses were used to generate the data (4.1.5). Applying the knowledge-knower theory to data generated from both texts and observation sessions provided me with multiple perspectives and access to a deeper level of the GD assessment practice and the complex 'knowledges'⁵ valued in GD. My interpretation and analysis of the data therefore led to a deeper understanding of the assessment practice and why reliability could be problematic in this field.

1.3 Research question

In order to better understand what makes GD assessment practice what it is, my research was directed by the following question:

- What underlying knowledge-knower structures are revealed by the assessment criteria used when judging graphic design practical work within a multi-campus private higher education context?

This question is supported by five sub-questions:

- What characterises graphic design assessment?
- How does the discipline of graphic design describe knowledge and the knower?
- What knowledge-knower structures are espoused in the evaluative criteria as

⁵ I use the word 'knowledges' to encompass the various types of knowledge used within a practice such as graphic design. See Niedderer (2007, 2008, 2013) for further discussion on the challenges of defining knowledge in craft and design.

they appear in the institutional documents?

- What knowledge-knower structures are used as explicit evaluative criteria by individual assessors at the formative and summative assessment stages?
- What knowledge-knower structures are used as tacit evaluative criteria by individual assessors at the formative and summative assessment stages?

1.4 Objectives

The prime objective of this research was to arrive at a better understanding of GD assessment. This better understanding would inform possible improvements to existing assessment practices, curriculum design and pedagogy at PISA and beyond the institution. A second objective was to uncover both the explicit and deeper, tacit criteria used by assessors who evaluate complex achievements, thereby making the underlying knowledge-knower structures identifiable, and open to analysis and interpretation. This could ultimately not only benefit design educators, but could assist them in making what is valued within the discipline more transparent to students. A third objective was to use LCT(Specialisation) to identify if there were code clashes, matches and shifts in the knowledge-knower structures as described and used as criteria at the various assessment stages and to consider the significance of these for design education. These findings were used to identify the disjunctures between the underlying structures uncovered at the formative and summative assessment stages, between the espoused and enacted assessment, and differences between campuses.

1.5 Significance

This research contributes to an understanding of design knowledges, design education and design assessment. As indicated previously (1.2), there is little research that addresses assessment in GD and even less that considers what assessors value when marking GD practical work. There is, as Morgan states, “a clear need for empirical research that examines the assessment of creative works in universities” (2011, p. 7). Through this research and its findings, the discourse and understanding of assessment in the creative arts and design is further developed. As knowledge is central to curriculum design, pedagogy and assessment, bringing to light

the underlying knowledge-knower structures that are espoused and enacted in assessment, and how these might compare to disciplinary knowledge structures, provides useful insights which might inform practices not only within the case study, but in the broader design education community.

As discussed in section 1.2 providing access to the knowledge valued in a curriculum and assessment is a vital part of supporting students to gain epistemic access (Shalem & Slonimsky, 2010; Lockett & Hunma, 2013; Muller, 2014). The findings of this study, by revealing more clearly which knowledge-knower structures are valued (Chapter 6), makes the achievements valued in the field of GD more transparent to the course and assessment designers, lecturers and assessors. The results of this understanding may also benefit students and other stakeholders. The study illustrates and clarifies the rules that govern access to this field of study, as well as how success which is necessary for progression⁶ and graduation is defined. The study and findings could extend to inform HE policy regarding the assessment of disciplines that have a strong emphasis on practice.

GD is a field where complex achievements (2.2.1) are assessed. This type of achievement is most often referred to in relation to professional competencies required, such as in the practice-based fields of counselling, medicine and education (Knight & Yorke, 2005, p. 6). Issues regarding the assessment of complex achievements have been explored by Knight and Yorke (2003) as well as by Shay (2005), who describes the challenges of judging complex achievements as evidenced in final-year engineering projects. My research therefore contributes to a growing body of knowledge on the assessment of complex achievements and the use of tacit criteria (2.2.2) in assessment, and this is relevant to a number of different fields.

The use of the conceptual tool of LCT(Specialisation) in this study advances the development of the theory (7.1). In describing how this theory was linked to the language of description and to the analysis of the data, I have attempted to make my

⁶Progression is when a student advances from one level of a programme to the next.

process visible and open to scrutiny. In addition, the study substantiates how LCT(Specialisation) (p.79) can be used for a fine-grained analysis of assessment criteria in practice-based fields that require complex achievements, thereby contributing to the development of the theory and its application.

1.6 Outline of chapters

Following Chapter 1, in which I have presented an overview, the objectives and the significance of this study, this dissertation is divided into six further chapters. In Chapter 2, I explore the broad contextual background of the case study, focussing on the structures that influence and create pressure on the GD assessment practice at PISA. These include the various governmental policies and regulations that impact on the for-profit PHE institution and the resulting emphasis on assessment as a measure of success and performance. The specific multi-campus context is compared to HE institutions with similar structures. Using these examples, I establish the implications such structures have for assessment. Furthermore, the uneasy relationship between OBE, which includes criterion references assessment, and assessment in the creative arts and design is explored. By proposing that GD assessment has a number of unique characteristics, I argue that these characteristics make it unusual when compared to more traditional forms of assessment⁷. The nature and culture of GD assessment therefore contribute to the difficulty of aligning the GD assessment practices with the regulatory requirements, policy guided pre-determined assessment criteria, the institution's for-profit objectives and their application in the multi-campus structure.

Chapter 3 addresses the conceptual framework as well as the substantive theories used. I establish the key concepts of the critical realist metatheory, in order to make

⁷ As pointed out by one of my external examiners, the use of the term 'traditional assessment approaches' may imply a generalization and othering of assessment practices used in non-design disciplines. I acknowledge that a definition of traditional forms of assessment is challenged by changes in education and assessment. Assessment in many disciplines has changed and evolved to incorporate a range of innovative practices. This is illustrated in a study of innovative assessment across a number of disciplines by Hounsell et al. (2007). I acknowledge the diversity of approaches to assessment that occur, but have focused on the characteristics of design assessment and its practices for this study.

clear the ontological and epistemological basis that guides this study. Bernstein's (1971, 1986, 1996, 1999) knowledge-structuring theories provide the foundation for considering disciplinary knowledge at three stages: when the valued knowledge is distributed, when certain knowledge is selected for use in education and when it is used in the classroom and in assessment. A more detailed discussion of the conceptual tool of LCT(Specialisation) (Maton, 2010b, 2014b) establishes how the concepts of knowledge and knower are used to analyse what is valued in a discipline.

Chapter 4, the research design chapter, describes the research map and journey that I have taken in this critical realist case study. I address the case study method and how methodological, explanatory and ethical issues were considered and dealt with. These included the ethical challenges that were faced, such as the sensitivity of doing research on assessment, and my roles and perceptions as both an insider, outsider and an academic manager. In addition, the approach to and challenges of generating and analysing data in a practice-based context are discussed. This includes the strategies I used to establish and apply a language of description that aligned the LCT(Specialisation) analytical tool with the data generated and that could be used for the analysis of the data.

In Chapter 5, I present the debates regarding the production of new knowledge in the field of GD. I propose that GD education be considered a 'region', as defined by Bernstein (1986), which is influenced by technology, industry and practice, and draws on knowledge from a number of other disciplines. How the various types of knowledges might be used in the curriculum and assessment are explored, in particular the generation of new knowledge through practice-based research.

In Chapter 6, the analysis of the empirical data and key findings of the case study are presented. I firstly relate the context discussed in Chapter 2 to the analysed data. The contextual elements are identified, based on their influence and impact on the assessment practice at PISA and the valued knowledge-knower structures. Secondly, the key findings are described as knowledge-knower structures and then as code clashes, matches and shifts. The findings highlight where codes align or differ

between modules, at the formative and summative stages, on different campuses and between the various levels of modules. I identify the potential impact that the code clashes, matches and shifts might have on assessment. Finally, the absence of sustainable design, a trend identified in Chapter 5, is described and I offer a possible explanation for this absence.

Chapter 7 concludes the dissertation with a synthesis of the findings in relation to the research question and sub-questions. This includes outlining the advancement of the LCT(Specialisation) theory and how this contributes to the broader discourse and analysis of knowledge-knower structures in practice-based fields. I discuss the possible implications of the findings for the institution, the assessors and the students, as well as for myself as Dean, researcher and individual. In addition, I consider how the study and findings might contribute to the understanding of the assessment of knower codes and to the broader field of design education. The potential for the research to transform future curricula and assessment design is explored, as well as establishing how the findings may inform the broader knowledge-knower and assessment discourses. The limitations of the study are described and recommendations for further research are offered.

Chapter 2 Contextual background

The purpose of this chapter is to describe the broader social context in which this case study of GD assessment was positioned. In the study, I identify the criteria used by assessors in the judgement of graphic design practical work and explore the knowledges valued⁸ and used in this form of assessment. Assessors do not practise in a vacuum. In a HE context, they interact with a number of broader social structures as well as discipline-specific cultures and their related discourses. When explaining the phenomena that occur in teaching and assessment, it is critical to focus on “individual’s intentions and on the ways in which these intentions are structured by institutions and wider social structures” (Ashwin, 2008, p. 152). A practice in which people are involved therefore cannot be separated from the social context in which it takes place. In this case study, the social structures included the national and institutional objectives, HE frameworks and regulations of GD assessment. Culture may be reflected in the institutional culture as well as the assessors’ “theories, beliefs, values, arguments” (M. Archer, 1998, p. 506).

In section 1.1, I indicated that this study is underpinned by a critical realist metatheory, which informs all stages of the research. In taking a critical realist approach (3.1), I consider that assessors, as agents, act and interact within social and cultural contexts and, as individuals or groups, may reproduce or transform structures (Danermark et al., 2002). The assessors, and myself as an academic manager, were agents who were part of the assessment practice and had the potential power to influence and change the practice. We were nonetheless influenced by the larger education system and the disciplinary culture, as these created the parameters and conditions in which GD curricula and assessments were designed, in which assessment took place, and in which the broader expectations regarding assessment were established. Although the focus of my research was on assessment practice, this contextualisation is included in order to illustrate how the concepts, characteristics and values of GD assessment are

⁸ The use of knowledges is used deliberately to describe what is expected of students in their practical work, as this work may evidence different forms and types of knowledge (2.2.2).

shaped by other discourses. I concur with those who argue that “the social, cultural, and material contexts within which practice occurs may invite or reject innovation, complement or inhibit the activities required for success, and sustain or alter adherence to entrenched practices” (Kontos & Poland, 2009, p. 1).

2.1 Private higher education and policy

What follows is a brief history of PHE in South Africa, in which I focus on how it has been influenced by the South African post-apartheid government’s Higher Education (HE) objectives and policies. In addition, I describe the specific PHE institution of the case study. That PISA is a for-profit institution, operating on multiple campuses, has a number of implications for this case study.

PHE is an integral part of the rapidly-changing and fluid international HE system. This system may be influenced by economics, politics, ideology, technology, policies, the knowledge economy, competition, markets and globalisation. Within a ‘supercomplex’ world, HE and its roles become difficult to define (R. Barnett, 2000, 2004). In South Africa, HE is comprised of public institutions, which are funded by the government, and private institutions, which receive no government funding. PHE institutions may be not-for-profit, or for-profit, but do not receive financial support from the government and are largely supported by student fees. The public institutions dominate the HE landscape with regards to student numbers, even though in 2012 there were 115 registered private institutions (CHE, 2012) and in 2015 there were 26 public institutions (Businessstech, 2015).

All institutions in South Africa wishing to offer recognised HE qualifications are regulated by government-appointed bodies and must operate within certain policies and frameworks. These policies and frameworks reflect certain national objectives.

Since the transition to democracy in 1994, higher education in South Africa—like other sectors—has been subject to a series of policy papers and bills which seek to reconstruct the field in various ways. A central ambition of the policies has been to enhance levels of state control over the higher education system so as to steer the system more effectively towards the goals of

economic development, social reconstruction and equity. (Moore, 2003, p. 304)

In the late 1980s and early 1990s, South Africa was part of a global trend that saw rapid growth in PHE, especially of the for-profit institutions such as PISA. From its initial establishment in 1989 under a different name, the evolution of PISA within the South African HE environment followed a path influenced by both global and local developments and external and internal pressures.

The international growth in PHE has been attributed in part to the massification of education, where larger numbers of students seek access to HE and public institutions often cannot meet this demand (Fehnel, 2002; Froneman, 2002; Altbach, Reisberg, & Rumbley, 2009; Case, 2013). It is estimated that public institutions in South Africa can only accommodate close to 1 million students (Businessstech, 2015). Many PHE institutions were established to accommodate the overflow of students who could not find place in public institutions. However, in South Africa massification did not take place as rapidly as in other countries (CHE, 2009). Yet students chose to move to PHE for a variety of other reasons (Mabizela, 2007). These include that PHE provided access to students who could not gain entrance to public universities because of poor Matric⁹ results (Sehoole, 2004; Kruss & Kraak, 2005). PHE could develop and offer niche programmes that met the changing needs of students and industry. The private institutions were more market orientated and could quickly adapt and cater to the needs of students, parents and industry. For instance, PISA initially offered face-to-face classes to distance education students from the University of South Africa (UNISA), a public institution. These students felt the need for additional academic support (Fehnel, 2002). In addition, at a time of political transition, PHE provided an environment safe from strikes, boycotts and riots. In some African countries, PHE offered academics a more stable work environment (Mabizela, 2007).

The rapid growth in PHE in the 1990s surprised many, although the participation of PHE had been actively encouraged by the new South African government as a solution to

⁹ Matriculation is the final level of schooling in South Africa.

massification. In addition, by encouraging the development of PHE, the cost of education shifts to students and their parents (Altbach et al., 2009). It is claimed that, from the government's ideological perspective, massification in the South African context was seen as a democratising or opening up of HE to a larger and more diverse student population and was something strongly encouraged (Hall, Symes, & Luescher, 2002), especially to provide access to students who were previously excluded from HE on a racial basis. The private institutions were initially seen by government to play a significant role in increasing access to previously excluded students and in providing alternate structures and qualifications that would complement those offered by the public institutions (Khatle, 2012). Muller, Maassen and Cloete see this phase of policy development as reflecting the new government's ideological aims for HE, those of "democracy, equity, responsiveness and development" (2006, p. 3). As a result of this opening up of HE, there was an influx of foreign universities and of corporates into the South African PHE environment. Some partnered with existing public institutions, while others were small providers¹⁰ with a narrow focus (Fehnel, 2002). Initially, the GD degree at PISA, then called a University, and owned by a South African group, was to be conferred by an American College. This initiative was rejected by the American Accreditation Commission, and the American College only provided technical assistance with setting up the GD qualification (Payne, 1999).

Alongside the international massification of HE comes a global reduction in government funding of public institutions (Hall et al., 2002; Altbach et al., 2009), which South Africa has not escaped (Wangenge-Ouma, 2012a). The 2015 protests regarding fee increases at public institutions in South Africa relate in part to a reduction in government subsidies (Fourie, 2015). Hand in hand with a reduction in funding, the adoption of "quasi-market approaches to allocating resources, including incentive and performance funding, and competitive allocation of research funding and tuition fees" (Hall et al., 2002, p. 15) occurred. These quasi-market approaches, although applied to the public institutions, reflect a neo-liberal approach that Allais (2007a) claims has more recently informed the

¹⁰ PHE institutions are commonly referred to as private providers (Froneman, 2002), possibly reflecting the more commercial orientation of PHE.

broader HE policies in South Africa. She argues that neo-liberalism in HE reform emphasises the production of human resources and the measurement of efficiency in delivering these resources (Allais, 2007a, p. 69). This is supported by Ball's claim that educational reform is "embedded in three interrelated policy technologies; the market, managerialism and performativity" (2003, p. 215).

In certain cases, PHE saw the government's legislative and policy response to the growth of for-profit institutions as reactionary and aimed at curtailing growth in the sector (Khatle, 2012). Others considered it a necessary step to control the market, which "weeded out unscrupulous providers and maintained control over the activities of legally registered providers" (Sehoole, 2012, p. 4). The initial phase of partnerships between private and public institutions was halted in the late 1990s, when a "moratorium on public-private partnerships" (Fehnel, 2002, p. 356) was put in place. By 1999, private institutions could no longer be called universities (Khatle, 2012), the institution described in this study underwent a name change and the Private Institution South Africa (PISA) was formed. Once again this can be seen as a form of protection of the public universities, as the title 'university' is sought after and carries certain prestige (R. Barnett, 2004).

Although there was, and still is, little empirical evidence or even accurate data on student numbers at PHE institutions (Bezuidenhout, de Jager, & Naidoo, 2013), the perception in HE during this stage was that students would leave the public institutions that were struggling to survive in the new open environment, and enter PHE. In addition, the quality of education at some PHE institutions was being questioned. The South African government's White Paper 3 on Higher Education Transformation of 1997 indicated that a regulatory framework would be established and that "only private institutions with the necessary infrastructure and resources to provide and sustain quality HE programmes will be registered" (RSA DoE, 1997, section 2.56). After 2000, the government implemented strict regulations and policies, requiring the registration of PHE institutions with the Department of Higher Education and Training (DHET) and the accreditation of courses offered at all higher education institutions. This resulted in a

reduction in the number of PHE institutions and eliminated the ‘fly-by-night’ private providers. In addition, a number of smaller institutions were acquired by larger corporations (Fehnel, 2002).

The following phase in HE policy making and regulation, although still informed by ideology, was more market-driven, and defined by economic policy and a shift towards the expectation of HE to “deliver the requisite research, the highly trained people and the knowledge to equip a developing society to address national needs and participate in a rapidly changing and competitive global context” (Ogude, Nel, & Oosthuizen, 2005, p. 1). In the period 2000 to 2002, PHE, along with public institutions, became part of a regulatory system in which the government was more focused on institutional efficiency and effectiveness (Kraak, 2004). With this change in approach came a greater focus on ensuring quality, resulting in increased government control, regulation and scrutiny of HE, especially of PHE. Khatle (2012) claims that the initial opening up of HE was a ploy to gain international visibility and to entice PHE providers into the education system, while the ultimate aim was in fact government regulation and control. Certainly changes in policy were not always well received by PHE, as the perception was that the government had used policy in a reactive manner to curtail the growth of PHE (Khatle, 2012). The restrictions were critically perceived to be “obstructive” (Cairns, 2001) and “insurmountable” (Cloete & Gillwald, 2014). From an alternate perspective, the reaction might be seen as the government responsibly protecting the consumer and the public institutions, and therefore supporting social and economic goals that would benefit the country.

For-profit PHE institutions currently compete with both private and public institutions for students in South Africa. There are mixed perceptions regarding PHE, including that they provide a poorer quality education, as profit is seen to take priority over quality education (Hayward, 2006). In an African context, Havergal (2015) refers to PHE institutions as “teaching shops”, but indicates that these institutions play an important role in providing access to students, even if there is no focus on research and development. Although PISA offered a few postgraduate qualifications, even an

Honours in GD at one point, research and this level of study were not seen as priorities. PHE institutions are not obliged to conduct research, follow the government's transformation agenda, or align the courses they offer with national objectives (Sehoole, 2004; Khatle, 2012). For instance, the perception is that they would rather offer the more popular and profitable courses in business and commerce, than courses the government has targeted for development, such as science and engineering. Another perception is that PHE institutions compete with public universities for students, resulting in a reduction of income for the struggling public institutions (Kraak, 2004). Another perception is that academic staff may be employed predominantly on a contract or part-time basis, and this increases the challenges for small PHE institutions to provide adequate support for students (CHE, 2004a). Conversely, the service-oriented focus of PHE, with smaller campuses and smaller classes, may be more attractive to students and parents who, Bezuidenhout et al. (2013) claim, are becoming increasingly discerning consumers. The fact that PHE can set up institutions at no cost to the government aligns with an international move to reduce government spending on HE and to shift the financial burden to the student, public and business sectors.

The consequence of the rapid development of PHE institutions and the various changes to HE policies has resulted in a tightly regulated and quality assured PHE sector. As with all HE institutions, there is a high level of scrutiny from the Higher Education Quality Committee (HEQC) and the CHE (2004b). In a positive light, the aims of these bodies is to "improve quality, be competitive internationally, protect the public from fraud, and make tertiary institutions accountable" (Hayward, 2006, p. 27). Khatle claims that the ultimate consequence of non-compliance for a PHE institution is that "if they default they are threatened with immediate cancellation of their registration to operate" (2012, p. 62), making the stakes of non-compliance for these institutions, their students, their staff and their shareholders significant.

Although the literature relating to the HE policy developments in South Africa does not often refer directly to assessment, the results of summative assessment provide the data for evaluating student success and therefore institutional success. "Governments

often link these achievements with the knowledge economy, innovation and national well-being. They expect evidence that the achievements are promoted and assessed” (Knight & Page, 2007, p. 13). Increased student numbers, decreased funding and pressure to perform more efficiently impact on assessment and place “markers under pressure to achieve high levels of consistency and reliability in their marking” (M. Price, Carroll, Donovan, & Rust, 2011). Elton and Johnston (2002) indicate that, with increased student numbers, there is pressure to achieve assessment consistency without raising costs, while in fact assessment should be becoming more varied in order to accommodate the increasingly diverse student population.

As described above, the role of PHE has shifted with changes in the HE landscape, which has been influenced by international trends, massification and the shifting strategies and objectives of the government. The evolution of PISA has reflected many adaptations driven by the changes in government policy. These adaptations were often strongly influenced by the goals of compliance and performance, and both of these in turn impact on assessment practices.

2.1.1 For-profit private higher education

In terms of internal pressure, for-profit HE institutions are required to both generate profits and deliver high quality education. In 2010, a global company paid £31 million (approximately R362 million at 2010 exchange rates) for 75% of the PISA group (Meissa Limited, 2011). The remaining 25% was acquired in 2013. PISA was the global company’s first contact-based higher education acquisition, and signalled a shift from the corporation’s traditional business to a more direct presence in the growing education market. According to the then Chief Executive, this market was being supported by “a global middle class willing to invest more in education” (Global Company, 2012, p. 3).

The quality of the education or service offered by a PHE institution (PHEI) would in part be evaluated by the market, consisting of students, parents and potential employers (Mabizela, 2007). In order to survive in an ever more competitive and comparative HE environment, which includes both public and private institutions, PHEIs such as PISA rely on attracting students to the institution (Bezuidenhout et al., 2013). In the broader

sector competition and compliance put additional pressure on academics to comply with Quality Assurance (QA) protocols, generate research outputs and maintain certain pass rates (Jansen, 2004). Currently research outputs are not a high priority for most PHE institutions as these are not sources of revenue. On the other hand, compliance with policies and regulations is seen as a significant obligation, as is maintaining certain pass and throughput rates. The results of assessment in the form of pass and graduation rates continue to be a measure of success used by institutions and governments, although drawing these types of assumptions regarding success from the results of assessment has been challenged by a number of authors (Knight & Yorke, 2005; Rust, 2007). Within a for-profit PHE environment, good pass and throughput rates may, in my experience, provide convincing marketing material and be seen as a measure of lecture performance. For instance, in my experience, when pass rates and averages for a module were compared across campuses, the lecturer was often seen to be the key influencing factor. Inter-faculty, inter-campus, or inter-lecturer competition can be fostered within this type of performance-valuing system, with success being measured based on the results of assessment.

2.1.2 The implications of a multi-campus structure on assessment practice

As mentioned in Chapter 1, PISA qualifications, including the BA in Graphic Design, were offered on a number of campuses in South Africa. There were many generic systems, processes and procedures for managing assessment within this structure. However, as the focus of this case study was on GD practical modules, I will describe the PISA GD assessment practice in more detail before linking it with the broader international approach to multi-campus assessment practices. The development of programmes and materials for modules at PISA was centralised at the coordinating campus, while more than a dozen remote-campus were spread throughout South Africa. Offering degrees on a number of campuses provided PISA with an opportunity for growth, without stretching facilities on any one campus. This is similar to the expansion strategies adopted by international universities in creating branch campuses (Wilkins & Huisman, 2012). Although each PISA campus functioned independently, managing their own staffing, facilities and budget, the responsibility for curricula design,

including content, structure and the pacing of classes, rested with the lecturing staff at the coordinating campus. All course material, including module outlines, teaching and assessment schedules, study guides, marking rubrics and lecturer guides, was thus designed at the coordinating campus by module leaders, who were also lecturers. The course material included all assessment tasks, assessment criteria, memoranda and marking rubrics. Lecturers on all campuses were expected to follow these as closely as possible.

The coordinating campus also performed a QA role in evaluating the reliability and standard of the marking of formative assessment on the remote campuses. For theoretical modules, external examiners, known as moderators (CHE, 2004b), were appointed by the coordinating campus, and all campuses submitted samples of summative assessments to them. For practical GD work, each campus appointed external moderators, who were approved by myself as Dean. The reason for the moderation taking place on each campus was primarily a practical one, as the summative assessment for GD practical studio-based modules consisted of a portfolio, and these portfolios were often large and bulky, and contained three-dimensional work such as packaging. These could not easily be transported to one centre for moderation.

There are similarities between the PISA multi-campus structure and the multi-campus universities, transnational, or branch campuses found in a number of countries. Internationally, the phenomenon of a central university that sets up a number of campuses within its own country, or within other countries, is on the rise (Wilkins & Huisman, 2012). A multi-campus structure is also relatively common amongst the public universities in South Africa, where an institution may offer different programmes at a number of different campuses (Nel, 2007). PISA was an example of a multi-campus institution where a small number of degrees were offered on several campuses at various centres in South Africa. The structures and processes used were similar to the transnational offerings in other parts of the world, such as the degrees offered by certain Australian universities in other countries (Wallace et al., 2008). Altbach (2011) points out a number of practical issues with replicating a central university on different

international sites. These include low numbers of enrolments at small centres; the difficulties of sourcing equally well-qualified and experienced academic staff; funding of small campuses; academic autonomy when a central campus dictates curriculum, content, pacing, assessments and standards; and differing expectations between campuses and local communities. The students drawn from the campus communities may differ and therefore have disparate learning needs. Based on my experience of overseeing the GD degree on the PISA campuses over a period of seven years, I propose that many of the same practical issues indicated above occurred at PISA, even though the campuses were in the same country.

Assessment approaches used in multi-campus HE contexts, whether transnational or within one country, have not been extensively researched (Wallace et al., 2008; Mahmud et al., 2010). One exception is research funded by the Australian Learning and Teaching Council (ALTC) (2010), which sheds some light on the assessment challenges that face transnational operations. These transnational institutions, similarly to PISA, have a centrally-designed curriculum presented on a number of sites. The ALTC's research, and articles by Wallace et al., (2008) and Mahmud et al. (2010) highlight key concerns that resonate with the PISA multi-campus context in relation to equivalence, transparency, fairness and reliability as expected of assessment and assessors. They point out that assessors have different interpretations of student achievement, that there is often an imbalance, or perceived imbalance, in the power relationships between those who set the assessments, those who moderate them and those who implement them on the remote campuses (Wallace et al., 2008; Mahmud et al., 2010). Moderators who see only the product of assessment are seen to be objective, while the lecturers who know the students are seen to be subjective. There is increasing pressure on lecturers, who are often employed on a part-time or contract basis, to achieve good results (Wallace et al., 2008; Mahmud et al., 2010). This type of pressure is not unique to multi-campus institutions as "casual staff, in particular, may feel under pressure to mark generously when they face evaluation by students and fear poor appraisal following low marks" (Smith and Coombe (2006), as cited in Bloxham, 2009, p. 211). In multi-campus contexts, qualitative disciplines that contain tacit

knowledge (2.2.2) prove more difficult to standardise and to guarantee inter-assessor reliability than, for example, quantitative disciplines such as maths and science (Wallace et al., 2008; Mahmud et al., 2010).

The studies dealing with assessment at transnational institutions illustrate some of the complexities of establishing and maintaining commonly-understood assessment expectations and standards within a structure such as the PISA multi-campus one. In spite of the fact that the CHE indicates that “the detail of what happens within a programme is controlled by those who teach it” (CHE, 2004b, p. 23), this is not always possible within a multi-campus structure, and sometimes not even possible when dealing with large student numbers on one campus. As M. Price (2005) indicates, establishing commonly agreed on standards is challenging even in local academic communities, and there is no set agreement as to how these communities establish and maintain standards, especially within the current pressurised academic environment. Maintaining consistency for assessment and standards is therefore an aspect of HE that concerns all, especially when courses are presented and assessed by multiple lecturers on multiple sites. The multi-campus structure may result in fragmentation, with little opportunity for assessors to collaborate, exchange ideas and discuss standards. In the PISA structure, the assessment procedures and concepts that were circulated were primarily unidirectional, from the coordinating campus to the other campuses, with a heavy reliance on written texts, such as learning outcomes and marking rubrics to communicate assessment outcomes, criteria and standards. The rubrics were not highly detailed, but provided four broad mark ranges as an indication of the expected standard. These were articulated by the descriptions “not achieved, not quite achieved, achieved and well achieved” (Appendix B). It was expected that the rubric would be used in conjunction with the learning outcomes for a specific brief. The lack of detail and finite description of standards may have been indicative of the difficulties of stating what a particular mark or mark range might evidence for each student’s interpretation of a brief. The difficulty of designing and reaching agreement on mark bands and descriptive criteria for art and design subjects is addressed in some detail by Harland and Sawdon (2011).

The context of a private for-profit institution with a multi-campus structure thus has a significant impact on how performance and success, based on assessment results, may be perceived. Success linked to the results of assessment and the maintenance of the same standards across multiple campuses can result in a number of influences and pressures on the assessment practice. Firstly, a for-profit PHE institution relies on student fees for survival and to keep investors satisfied. Consequently, not only is the quantity of enrolled students important, but it is also preferable that students remain at the institution for the full duration of their studies. The results of assessment are therefore linked to the financial success of the institution. Secondly, performance can be described by the institution through the comparisons of pass and throughput rates between previous years, modules, lecturers, campuses and faculties, creating an unhealthy climate of competition and even suspicion. The success of students and related pass and throughput rates may become areas of contention and anxiety for staff, especially those appointed on a contract basis, or when financial reward is linked to student success.

In the profit-driven environment, GD (2.2) requires expensive and time-consuming methods of assessment. I provided the example of external moderators performing summative assessments on each campus, whereas theory modules could be centrally assessed by one person. The cost effectiveness of this type of assessment in a profit-driven institution may be queried. In addition, communicating a common shared standard becomes problematic when the basis for value judgements is not collaboratively constructed and when text is the medium of communication. All of these factors contribute to the culture within which the assessment practice functions and to how assessment principles such as reliability and equivalence of standards are perceived.

2.1.3 Assessment within an outcomes-led qualification framework

The National Qualifications Framework (NQF) provides a framework for all qualifications in South Africa, where whole qualifications or components of qualifications can be registered. The framework aims to allow for comparison and mobility between different

types of qualifications, and for the comparison of qualifications from different disciplines and countries. This framework, established by SAQA, has been through various revisions and amendments (Walters & Isaacs, 2009). The current Higher Education Qualifications Sub-Framework (HEQSF) (RSA, 2013) addresses all HE qualifications. In the HEQSF, predetermined level descriptors indicate the generic competencies and degree of complexity for all levels of programmes and disciplines in terms of “types of learning outcomes and assessment criteria that are appropriate to a qualification at that level” (SAQA, 2012, p. 4). With employability high on the government’s agenda, the level descriptors apply to the skills that graduates would need in the workplace and in academia. These descriptors may feed into assessment criterion, but they are not discipline specific.

The HE qualifications and levels of qualifications are designed using an OBE approach. As the NQF and OBE approach are intertwined in South African HE, Allais (2007a) refers to the “outcomes-led qualification framework” which encompasses both aspects and where outcomes are the driving force of education. “Outcomes-based qualification frameworks are really assessment frameworks, because the emphasis is on the statements against which learners can be assessed” (Allais, 2007b, p. 257). The HEQSF describes the required structures of qualifications and informs curriculum design, teaching and learning, and assessment (RSA, 2013).

In the introduction to this chapter, I outlined the context of this case study, which consists of a broader HE system incorporating the specific PHE institution. The institutional structures and national QA bodies create pressures of accountability, compliance and performance, which are in part linked to reliability and validity in assessment. Although all of the assessment principles mentioned in section 1.1 are of great importance, an over-emphasis on reliability and validity assumes a positivist view of assessment, in which finite standards can be set and assessors are presumed to be objective (Bloxham, 2009). Orr (1999, 2007) critiques the positivist paradigm which is linked to a techno-rationalist agenda, where assessment processes and procedures are assumed to result in an accurate measurement of outcomes. These may be used to

measure efficiency (Delandshere, 2002). The techno-rationalist discourse propagates a view of assessment as a linear process where the alignment of clear outcomes, tasks, pedagogy, criteria and standards will result in one, ideal and accurate mark being awarded by any assessor. The concepts embedded in the discourse of the HEQSF guide curriculum design and influence how programmes, modules and assessment events are constructed. I will briefly mention a few key debates regarding the HEQSF before moving on to the distinctive nature of design assessment and how this relates to the principles guiding that framework.

As previously indicated (2.1), the South African government has used educational policies to propagate certain priorities, agendas and ideologies, which have influenced the description of knowledge and the forms of knowledge valued.

Indeed the NQF encapsulates the desire of education policy makers to erode three sets of boundaries: between education and training, between academic and everyday knowledge, and between different knowledges, disciplines or subjects within the academic domain. (Ensor, 2004, p. 340)

Ensor (2004) discusses the forms of knowledge that are described and privileged in the HEQSF and categorises them into either a 'disciplinary discourse' or a 'credit exchange discourse'. Those supporting the disciplinary discourse question how disciplinary knowledge, which requires the sequential building of knowledge through immersion in the discipline and "an apprenticeship into powerful ways of knowing" (Ensor, 2004, p. 343), can be achieved through the NQF objectives of modularisation and student choice. Examples of the disciplinary discourse can be found in the work of Moore (2000, 2003), Gamble (2006), Muller (2006) and Young and Muller (2010). Those who subscribe to the disciplinary discourse criticise the skills-based bias which privileges everyday knowledge over disciplinary knowledge (Muller, 2006). Walters and Isaacs (2009) describe how the OBE approach used in the NQF has an embedded competency-based training (CBT) discourse. They define CBT as an "approach to vocational and occupational training that places emphasis on what a person can do in the workplace" (Walters & Isaacs, 2009, p. 10). This emphasis on doing and performance results in little or no differentiation between learning and knowledge, and

therefore powerful or content- and concept- rich knowledge merely underpins performance (Young, 2006a). The implication of this is that students are not exposed to the theories and knowledge that are needed to understand, master and develop the knowledge that underpins a specific practice (p.139).

Those who support the disciplinary discourse claim that knowledge theories (3.3) provide access to what is valued within a discipline, assuming that “Knowledge is structured, in part independently of how we acquire it, and knowledge fields differ in their internal coherence, their principles of cohesion, and their procedures for producing new knowledge” (Young & Muller, 2010, p. 15).

A curriculum, and the assessment associated with it, should therefore reflect the type of knowledge valued by that discipline and this should be made accessible to students. As the disciplinary knowledge structure is specific, the assessment outcomes and criteria may only be understood by insiders or experts. This makes it more difficult to involve stakeholders from outside of the discipline to participate in discussions regarding curriculum design, for instance. Therefore, the approach rejects the broader objectives of the NQF where cross-disciplinary comparison of standards should be possible and external stakeholders should be able to understand level descriptors and outcomes no matter what the discipline (Allais, 2007a).

Who shapes how knowledge is described and what forms of knowledge are privileged and valued has a strong bearing on curriculum design and assessment (Watson & Robbins, 2008). When considering assessment in relation to the objectives of the government to ensure effectiveness, efficiency, transparency, reliability and appropriate standards, outcomes-linked assessment plays a significant role in describing student performance. The discourse of the HEQSF has generated a number of concepts that influence assessment. These include an emphasis on skills, learning and doing, rather than on discipline-specific knowledge. With the aim of providing access to stakeholders, curricula and assessment are presented as clear and objective processes that can be applied to any discipline, no matter what forms of knowledge are valued by that discipline. As methods used by lecturers to design curricula and assessments at PISA

were informed by the HEQSF and the OBE philosophy, they influenced the assessment practice documented in this case study.

2.1.4 Graphic design assessment processes at PISA

As indicated in Chapter 1, the curriculum for the GD degree was centrally designed at the coordinating campus by module leaders who were also lecturers. The module leaders followed an OBE approach when designing the course and assessments. Using the HEQSF to guide module development required the module leaders to link the learning outcomes to the overall outcomes of the course and module, and to ensure that they were appropriate for the level. This form of alignment relates to the constructive alignment approach proposed by J. Biggs (1999). In an OBE approach, criterion-referenced assessment “is a process during which evidence of performance is generated and evaluated against agreed criteria” (CHE, 2004b, p. 121). The outcomes and linked criteria in the GD degree related in part to the skills that students would need in preparation for their future careers. These outcomes and criteria therefore aligned with the knowledge, skills and attributes needed for professional GD practice (5.2.1). The possible structure of this type of qualification, which has a more career or professional orientation, is discussed in section 5.1.

As mentioned previously, transparency and clarity of outcomes and assessment criteria are objectives for the HEQSF. The objectives aim, firstly, to strengthen credibility and stakeholder confidence (CHE, 2004b, p. 122). Secondly, they provide students with the opportunity to prepare for assessments and understand what is expected of them, and if necessary dispute the judgements made (Morgan, 2011). Orr (1999, p. 176) proposes that with a transparent curriculum, outcomes and assessment criteria a course can be more easily transported, meaning that different lecturers could teach the same modules at different sites. This was one of the assumptions of the multi-campus structure operating at PISA. As M. Price (2005) indicates, there is often heavy reliance on explicit text-based documentation to ensure common understanding of criteria and standards when multiple markers assess large groups, the assumption being that lecturers who have not designed the course materials are able to use these documents effectively to ensure fair and reliable

assessment and consistent standards against the stated outcomes. The approach assumes a techno-rationalist concept of assessment, where the use of explicit and clear outcomes and criteria are assumed to achieve reliability and ensure parity of standards. However, this approach is challenged as, “like all of the texts produced in the contemporary climate of quality assurance, there is the illusion of a cycle, of a linear cause and effect chain” (McDougall, 2004, p. 169).

In theory, with the HEQSF approach, stakeholders are able to study the outcomes and assessment criteria and should be able to compare these with similar outcomes from other disciplines, thereby enabling a comparison of standards. In my experience of GD assessment, students and parents who assume a clear and linear assessment process may be able to link some outcomes and criteria with the visual products that are submitted for assessment, but the less technical criteria and the interpretation of standards become problematic. Students may feel they have met all of the stated outcomes and yet not received good grades. This is affirmed by Austerlitz et al. (2008), who found that, in art and design education, both parents and students expected clearly-defined and explicit outcomes that accurately described the learning anticipated of the student. There certainly are significant educational benefits to students understanding outcomes, criteria and standards (Rowe, 2007; O’Donovan, M. Price, & Rust, 2008; Smith, 2013). Yet, reaching an understanding and common agreement of these criteria in fields such as design and other courses that expect complex outcomes is not straightforward.

The assessment structure for GD practical modules at PISA took a fairly traditional approach common to art and design education, where students built up a summative portfolio of practical work by completing a number of formative briefs throughout the semester or year. The types of practical modules ranged from those that required hand skills, such as drawing, to those that required students to become skilled at advanced computer software, such as 3D animation. The course material indicated the pacing of classes, including the submission dates for all assessment tasks. Although the content for each class was described, no details regarding teaching techniques or approaches were indicated – this was left to the individual lecturer’s discretion. This aspect meant that the

concept of constructive alignment of curriculum, outcomes, pedagogy and assessment (J. Biggs, 1999), as propagated by the OBE approach, was not always adhered to. However, the approach did guide the design of the curricula, learning outcomes and assessment criteria.

In keeping with an OBE approach, the assessments largely fell into the authentic assessment category, in that students carried out tasks similar to those they would encounter in the professional world (Gulikers, Bastiaens, & Kirschner, 2004). Each brief issued defined the learning outcomes and marking criteria and these were provided to all lecturers and students at the beginning of the year. At certain points during the design process, student work might have been formally presented to the group for lecturer and peer feedback. In studio pedagogy there is often ongoing feedback (Cennamo & Brandt, 2012). At PISA, after the student submitted work for a brief, it was supposed to be marked by a panel of at least two campus lecturers, then feedback would be given and marks awarded.

An expectation in the multi-campus context included parity of experience for all students on all campuses. In addition to having access to the same facilities and to equally-qualified lecturers, students on all campuses would be expected to achieve the same outcomes and would be assessed using the same criteria and standards. In a strategy to achieve consistent standards on all campuses, PISA guidelines for GD indicated that a panel of at least two lectures should mark each brief at the formative stage, using the outcomes stated in the study guide. This system of panel or group marking (2.2.4) aims to eliminate claims of bias and to assist new lecturers in learning the assessment processes and procedures, as well as maintaining the standards of the Institution. In addition, a marking rubric (Appendix B) and, in some modules, exemplars of marked student work were provided by the module leaders, and in this way standards were communicated to lecturers on all campuses. As part of an ongoing internal moderation process, a selection of student work and completed marking rubrics for all formative briefs were submitted to the coordinating campus by each campus. The student work was moderated by the module leader on the coordinating campus and feedback was provided in the form of a written report. In my

experience, at this point variances in the achievement of outcomes and marking standards between campuses were often identified. If these variances were significant, or reoccurred, the module leader discussed the matter with the Head of Programme (HoP) and Dean. In most cases, the module leader and/or HoP would communicate with or visit the campus and discuss the outcomes and marking with the lecturer on the remote campus. As with the transnational example (2.1.2), this could be a difficult encounter for both module leader and remote campus lecturer. The perception might have been that the remote campus lecturers were being policed and their judgement questioned. This could be particularly awkward if the module leader was younger and less experienced than the remote campus lecturer. When an external moderator 'corrects' marks, the lecturer may feel that they have to defend both their students and their teaching practice (Morgan, 2011). In extreme cases, when consistent and substantial shifts in the standard of student work and the moderated marks occurred, various other parties such as the Academic Coordinator, myself as Dean and the Campus Director became involved.

At PISA, in order for students to be allowed to submit the final portfolio, they had to achieve an average of 40% for all formative briefs. Students with the required average submitted final portfolios which were internally and externally moderated and these two marks made up the final summative mark. The assessment processes and procedures were very comprehensive and complied with the SAQA requirements (CHE, 2007). However, as mentioned in Chapter 1, inter-assessor reliability and the maintenance of similar standards across all campuses was not always achieved, even with these processes and procedures in place.

2.2 The characteristics of design assessment

As indicated previously (1.2), research addressing GD assessment is somewhat limited. In this section I therefore draw on research from the broader field of assessment, especially the assessment of 'wicked'¹¹ or complex achievements, as well as assessment in the creative arts and design. The assessment of complex achievements may occur in a

¹¹ The term 'wicked problems' appears to have been coined by Horst Rittel (Buchanan, 2001; Stolterman, 2008) and refers to open-ended complex problems for which there may be multiple solutions.

number of fields, such as teaching, nursing, medicine and social work (Knight & Page, 2007), where students prepare to enter a profession or vocational practice. In higher education, GD, art and the broader field of design follow many of the same assessment procedures, such as project-based authentic assessment (Çıkış & Çil, 2009) and call for similar achievements, such as creativity. There are therefore many similarities between GD assessment and the assessment practices found in the creative arts and other fields of design: they also reflect many of the same challenges when positioned within an OBE approach.

The discourse regarding the application of OBE and criterion-referenced assessment (2.1.3) in creative fields such as art and design appears contradictory. There are those who see the benefits of such an approach (B. Jackson, 1995; Davies, 2000; Costandius, 2006; Cheung, 2012), and those who question its appropriateness (Cannatella, 2001; Gordon, 2004; Dineen & Collins, 2005; Hardy, 2006; Harding & Hale, 2007), or see the need to shift what evidence should be assessed (de la Harpe et al., 2009; English, 2010). These debates informed my initial understanding of the challenges to reliability in design assessment.

In considering the literature on art and design assessment, I propose that there are four characteristics of assessment in these fields that set them apart from assessment in many other disciplines. Through describing these four characteristics, I am able to move from the broader HE systems, to explicate the culture of design assessment practice. The characteristics that form part of the design assessment culture include that:

- complex or wicked competencies are assessed
- person, process and product may be evaluated in assessment
- tacit knowledge is used by both student and assessor and
- panel or group marking is a common practice in this field.

2.2.1 Assessing wicked competencies

Design is considered to be a practice that integrates knowledge and skills from a variety of disciplines and fields, as designers work to deliver products, services and solutions to

an ever-changing society. Designers make use of technology and media that constantly evolve and they often work collaboratively in teams for a number of clients or stakeholders and therefore are required to work in complex and uncertain contexts (Austerlitz et al., 2008, p. 6). As a practice, design requires the solving of wicked problems, which are ill-defined problems where the problem itself must first be defined (B. Archer & Roberts, 2005). These problems, once identified, may elicit a number of potential solutions (Buchanan, 1992). The type of wicked competency required might be described as

... 'soft' skills, graduate attributes and complex achievements (Knight and Yorke 2003), all of which can be described as 'wicked' competences; an achievement, such as creativity or critical thinking, cannot be precisely defined, takes on different shapes in different contexts and is likely to keep on developing. (Knight, 2007)

Given the requirements of the HEQSF to design explicit outcomes and clear assessment criteria, the difficulties of stating these complex competencies clearly can be seen as one of the challenges to achieving reliability in design assessment. It appears that "it is relatively easy to talk about and to see technical skills and abilities" (Austerlitz et al., 2008, p. 18), possibly making outcomes and assessment criteria for technical skills in design more straight forward to define, state, agree on and identify (Davies, 2000). Yet, defining learning outcomes for thinking skills and complex achievements such as creativity is difficult (Knight & Yorke, 2003). In design, students are encouraged to design creative solutions which are new, unique and different to anything seen before. It seems contradictory to expect a lecturer to define all the outcomes for a brief, when in fact they are open to the possibility that students might arrive at unexpected solutions which the lecturer had not considered. This "wow" factor includes "creativity, originality, inventiveness, inspiration, ingenuity, freshness and vision" (Gordon, 2004, p. 61) all of which are not easily defined or measured.

In later work, Knight and Page (2007) challenge the premise that the assessment of wicked competencies is difficult or not achievable. They indicate that the fault lies with the course or programme design, and whether the curricula, teaching, learning and

assessment provide the opportunities for a student cohort to learn the appropriate knowledge, skills and attributes. In addition, they encourage an approach in which wicked competencies for a cohort of students are considered as part of a course, rather than an outcome for individuals and specific modules. This approach enables the assessment of 'far transfer' achievements, which will be required of students in their future careers (Knight & Page, 2007, p. 68). Their challenge highlights the interconnectedness of assessment, pedagogy and curriculum.

As wicked competencies are best assessed in the workplace, or in work simulation environments (Knight & Page, 2007), the approach relies heavily on the assessor possessing high levels of field-specific expertise and skill (Allais, 2007b). Being both time consuming and expensive (Knight, 2004), this type of assessment is under threat from the pressures resulting from large student numbers (M. Price et al., 2011). As design education attempts in many ways to mimic professional experience, by making use of problem-based learning, including the introduction of 'live briefs'¹², connoisseurs or experts are required to assess practical work (B. Jackson, 1995; Niedderer, 2007; Orr, 2010c). With an increase in student numbers and an emphasis on cost effectiveness and efficiency (2.1.1), the time-consuming nature and need for the involvement of experts becomes problematic in PHE. As Dean, I had seen this form of assessment queried on small, more isolated campuses where experienced experts were not readily available and budgets were limited (6.2).

All in all, the wicked competencies required for GD are seen as a combination of skills, knowledge and attributes that equips students to arrive at appropriate and creative solutions in a world characterised by increasingly complex problems. Considered in relation to the HEQSF and a multi-campus for-profit context, a number of challenges emerge, such as the reliance on expert judgment in authentic situations, outcomes and criteria that cannot be explicitly pre-defined and multiple solutions which may evolve and change during the design process. Another factor is that the wicked competencies needed in a practice require the use of tacit knowledge, which is common in many

¹² Live briefs are briefs that students complete for actual clients.

practices (Gamble, 2001), especially one such as GD, which has a strong craft tradition (Friedman, 2000b).

2.2.2 Tacit knowledge in assessment

In this section, I look at the role of tacit knowledge as used in assessment, and will describe it in terms of the tacit expertise of the assessors. The tacit knowledge that GD students are expected to develop through their design education will be discussed in section 5.2, as this relates to the types of knowledge valued in GD.

As previously stated, clarity and explicitness of curricula and assessment are aims of the HEQSF (2.1.3). It is nonetheless acknowledged that curricula and assessment may contain implicit and tacit elements. In the assessment discourse, there are two terms that are used to refer to the opposite of 'explicit' – these are 'implicit' and 'tacit'. Taking the definition of implicit to mean something which is “not definitely said, but is suggested” (Oxford University Press, 2013), implicit criteria may relate more to the evaluative criteria assessors use in order to judge the level or standard of student work. For example, in GD, explicit criteria may correspond to technical requirements such as submitting a certain number of pieces for a corporate identity, while an example of implicit criteria could be how effectively the corporate identity communicates the company ethos, one being a quantitative judgment and the other a qualitative judgement (Fraser & Killen, 2003). Implicit criteria may also refer to the bias or preference on the part of the assessors towards a particular approach, style or type of work, which is sometimes referred to as the basis of a 'hidden curriculum' (Rowe, 2007; Belluigi, 2009; Morgan, 2011, 2012). In spite of this, Morgan (2011) claims that most lecturers in the creative arts are aware of their bias and attempt to put it aside when marking. If implicit or tacit criteria are used, there may be a lack of alignment between the explicitly-stated curriculum, what lecturers value and use, and what students experience in assessment. Students may suspect that there is a hidden curriculum, especially when marks do not match feedback or expectations.

Students found it necessary to search out hidden assessment requirements – not what was published as requirements and criteria but the 'clues' they felt

they had to find out if they wanted to succeed and to be rewarded in the assessment system. (Rowe, 2007)

There are a number of views on tacit knowledge, with most descriptions based on the work of Polanyi (1958, 1966). He provides an example of tacit knowledge in how we read the mood of a person from their facial expressions, without being able to describe the individual characteristics that lead us to this understanding. Built on practice and experience, tacit knowledge forms the basis for explicit knowledge. R. Kimbell and Perry define tacit knowledge as “the things that we have a hunch about, but that have not been formalised or externalised into explicit knowledge” (2001, p. 7). Niedderer (2009, p. 62) proposes that tacit and explicit knowledge are characteristics of the form of communication, while propositional and practical or procedural knowledge address the nature of the knowledge (p.147). With tacit knowledge, the phrase that comes to mind, which may be familiar to many design educators and students, is ‘I know it when I see it’. Assessors in most disciplines make use of a combination of tacit and explicit knowledge to judge the level or standard of student work (M. Price, 2005; Watson & Robbins, 2008; Shay, 2008b; M. Price et al., 2011).

When setting design briefs, lecturers may have a sense of what students might create, the process they may follow and how the product might be evaluated, but, as these intuitions are tacit, they are not easily communicated. Therefore when an assessor designs, interprets and evaluates an assessment task, they are relying on being able to understand a message “that we could not tell” in the hope that they “will discover that which we have not been able to communicate” (Polanyi, 1966, p. 6). This seems an almost impossible task and yet tacit criteria are very much part of the assessment in creative fields such as art and design (Orr, 1999; Belluigi, 2007; Björklund, 2008).

Assessors, as experts or connoisseurs, draw on a wealth of experience and knowledge when making value judgements. Eraut (2006) proposes that four components make up tacit expertise; these are: understanding, skills, knowledge use and decision making. Table 1 below illustrates this multi-dimensional understanding of tacit expertise.

Table 1: Tacit expertise based on Eraut (2006, p. 3)

Understanding	Skills
Implicit or incidental learning	Routinised
Implicit aggregation of episodes and impressions	Non-verbal or meta-verbal
Hidden constructs	Intuitively monitored
Knowledge use	Decision making
Transforming and resituating knowledge	Rapid and intuitive
Retrieving knowledge from memory	Holistic assessment
Recognising when to use some knowledge	Judgement in complex uncertain situations
Sensing how to use some knowledge	

Rather than a definition that links tacit knowledge only to skill or practice, Eraut (2006) includes a number of components including the use of knowledge in the process of judgement and decision making. Judgement and decision making apply to both the making and the assessment of GD pieces (p.117). If the judgements that assessors make are difficult to articulate and rapid and intuitive, as Eraut (2006) claims, then aligning this expertise with the HEQSF requirements and objectives would prove to be difficult. It also makes the explanation and defence of value judgments to stakeholders challenging in the face of a positivist insistence requiring explicit, clearly-defined outcomes and criteria. Judgements based on tacit expertise challenge “the notion that academic standards can be documented and codified in such a way that they may be available for the passive consumption of all stakeholders in higher education” (Rust, M. Price, Donovan, & Brookes, 2003, p. 151).

With design assessment requiring tacit knowledge, establishing shared standards becomes problematic. Some contend that a common understanding of what assessors value in a discipline is built and learnt through a socialising process (M. Price, 2005; Watson & Robbins, 2008). The concept of building a shared understanding of disciplinary knowledge and standards within a design community of practice has been

explored by Drew and Shreeve (1984), Kethro (2007) and Shreeve (2007), although the focus in these studies is on the integration of students into the community of practice as an approach to improving learning. M. Price (2005), however, debates whether all disciplines and assessment communities share the same tacit knowledge, or if this is just an assumption which is difficult to test. She indicates that standards are not often a feature of a disciplinary discourse and they are therefore not explicitly shared. This lack of explicitness is further complicated by claims that metaphors are used extensively to describe knowledge in the design studio (Logan, 2007). In this study, for instance, an assessor referred to work being “on point” (Yassin, Audio ACGD300, MS summative, 2014). Considering how knowledge may be shared and that neither knowledge nor standards are explicitly stated, reaching a common understanding of what is valued when judging student work is challenging. In addition, Logan (2007) found that standards, especially towards the end of a qualification, are for many design educators based on the students’ readiness to enter the professional design practice. As design educators are often also design practitioners, or have spent some time in industry, their experience of a specific section of the industry may differ from that of a fellow assessor, and therefore what they value may differ. This assumption of a shared understanding of criteria is raised again in my discussion of the research findings (6.2, p.168).

Tacit criteria, although not stated as outcomes or assessment criteria, are used in the assessment of practical design work and yet assessors and students may be unaware that these criteria are being used. This provides a fundamental challenge to arriving at a shared understanding of outcomes, assessment criteria and standards for assessors and students across multiple campuses where texts with explicitly-stated outcomes and criteria are the main medium for communicating what is valued. This approach has been challenged.

The transfer of useful knowledge involves the transmission of both explicit and tacit knowledge. Consequently, a single-minded concentration on explicit knowledge and careful articulation of assessment criteria and standards is not, in itself, sufficient to share useful knowledge of the assessment process. (Rust et al., 2003, p. 151)

Shay (2008b) acknowledges that in education the judgements made by assessors are 'deeply tacit', but suggests that, unless we are able to identify what forms of knowledge are valued within our discipline, we cannot assess this knowledge meaningfully. She proposes the use of knowledge theories to assist with describing what forms of disciplinary knowledge are valued, and therefore assessed. This is taken up by Steyn, who agrees that "a theory of knowledge helps to make visible the often tacit assumption and grounds for legitimation implicit in design curricula, which can privilege some students over others" (2012, p. iv). The consideration of the knowledges valued in GD assessment practice plays a central role in this case study (3.3) and these knowledges may be evidenced in the person, process and product.

2.2.3 The assessment of person, process and product

In art and design assessment, knowledge, skills and attributes are said to be evidenced in the person, the process and the final artefact¹³ or product (M. Biggs, 2002; de la Harpe et al., 2009; Demirkan & Hasirci, 2009). The person is the student as designer, the process is how they go about designing, and the product is the final design product or service, which might range in GD from a poster to a flash mob. In search of an objective form of design assessment, Christiaans and Venselaar (2005) query whether all three aspects of person, process and product can, or should, be assessed, especially the assessment of person. Their interpretation of person considers only personality traits, which they assert are dispositions and not easily changed through education. They therefore claim that the product or artefact should be "the only result that is accessible for assessment" (Christiaans & Venselaar, 2005, p. 220). This assumption is supported by B. Jackson (1995). However, in a study of journal articles on architecture, art and design, de la Harpe, et al. (2009) identified that the assessment of person, process and product all received attention in the literature. Ongoing debate regarding what should be assessed continues, but there is evidence that all three areas are considered in design assessment.

¹³ Both artefact and artifact are used in this document.

The assessment of person, design process and design product provides a number of challenges to the assessor, student and, in my experience, to parents and other stakeholders. Which of these elements is being assessed, how it is assessed and which dominates at the various stages of assessment may not be clear to all stakeholders, including students and lecturers. The following section will address some of the challenges that assessment of person, process and product pose to the assessment practice that functions within the HEQSF.

2.2.3.1 Person

It is acknowledged that, in addition to the product and process, the individual design student as person is assessed (de la Harpe et al., 2009; Zehner et al., 2010; Orr & Bloxham, 2012). That students experience assessment in art and design as personal is supported by McKillop (2006) and Smith (2013). Yet assessors may be conflicted about including and using criteria where students, as well as their work, are the focus of assessment (Morgan, 2011). Orr (2010a) and Orr and Bloxham (2012) establish that assessors in panel marking sessions (2.2.4) discuss students, although their comments do not necessarily relate to a judgement of quality, standards, or the grades awarded. Barrow refers to the assessment of person in terms of their being able to “understand his or her self in relation to the rules that bound the production of ‘truth’ in the discipline” (2006, p. 363). This relates to Maton’s (2010b, 2014b) description of the specialist knower who may make claim to the knowledge valued within a discipline (3.2.5). Exactly what outcomes and criteria are used to assess the person may or may not be explicitly stated and shared. In addition, the criteria, if explicit, implicit or tacit, may vary with the pedagogic intent and between different contexts, institutions, lecturers and even briefs.

Although there is little available literature on the assessment of the person in design, it appears that three areas may be assessed. The first considers the development of the student as a professional design practitioner, as they are expected to learn the rules of professional practice. The second looks at the development of the student as a socially-responsible and ethical designer and person (5.4 and 6.4). The third acknowledges the progress of the individual student. The three areas of assessment do not only relate to

what needs to be learnt, but may also indicate what kind of person or identity is required to be accepted as a GD practitioner (5.2.1).

The first approach to the assessment of person in design evaluates the student's development as a professional design practitioner. Students would therefore be expected to understand how the discipline and practice function, what procedures and knowledges are valued and how to evaluate themselves and others, against these rules. Through pedagogy and assessment, students are encouraged to think and act differently and can align themselves with the practice and its set of rules, or challenge them (Barrow, 2006). Logan (2007) claims that comparing the student and their work to that of a professional practitioner for assessment purposes tends to occur mostly towards the end of the design qualification. For design students

... the 'world of the studio course' (including the assessment associated with it) and the 'real world' of the designer were equivalent worlds, and that one's success in the studio would be a good indicator of future success as a designer. (Barrow, 2006, p. 363)

It seems evident that, in a career- or vocationally-focused course such as GD, industry-based professional practice would be used as a yardstick against which to evaluate students' work and their behaviour. Considering an evolving educational field such as GD, which shifts and changes with various influences such as trends in technology and industry (p.133), this might prove to be problematic.

The criteria used to evaluate the person as design practitioner may be influenced by the assessor's perception of the 'ideal practitioner' or 'ideal student', a perception that may be a somewhat unrealistic mirror of themselves.

The ideal design student could be described as engaged, passionate, dedicated and willing to work long hours, in addition to having rounded skills, excelling at every aspect of the modern art and design curriculum, able to write, argue, debate, articulate, present, negotiate, draw, create, invent, and innovate, all within the context of the current politico-social global environment and capable of adapting and changing as the fast changing modern world throws technologies and problems their way. (Austerlitz et al., 2008, p. 16)

The student's growth as a professional design practitioner also implies the development of his/her ability to judge the quality of his/her own, and others' work (Prentice, 2000). These skills may be more visible when demonstrated in written reflection (p.45), or verbally in the critique (crit)¹⁴, which includes peer assessment and feedback (Davies, 1989). There is little evidence that this ability is directly or explicitly assessed, possibly because professional practitioners and the attributes or identities valued may be implicit within a discipline (Clarence-Fincham & Naidoo, 2013). It was common practice in my experience for assessors to refer to acceptable industry behaviour or standards during assessment and feedback sessions, and this was indicated in the data (6.3.2). Yet these criteria may be 'hidden' from the student and other stakeholders.

Mathee (2009) refers to a second approach to pedagogy and assessment in the field of photography that links to developing the student's life experience. This may be considered as an opportunity for students to transform "their intellect and character (the moral and ethical framework of their being)" (Barrow, 2006, p. 370) and would be supported in assessment by the use of reflection. Joubert and Economou provide an example of a project for design and photography students, with the aim of "emphasising social, environmental and ethical consciousness" (2009, p. 98). Although they indicate that outcomes and criteria that related to student engagement and transformation were designed and used, including assessing the transformation of students' ideas and preconceptions of people and situations and their commitment to change, they state that no grades were awarded for these criteria because of ethical considerations (Joubert & Economou, 2009). In the design industry, issues of sustainability and human-centred design versus commercial objectives may be sources of conflict and require ethical decisions to be made (6.4). Akama (2012) points out the difficulty of balancing ethical and moral choices against the commercial practice of design. She proposes an alternate approach in which ethics and morals are not prescribed by any one party, but are seen in relation to "the activity, the objects we use, the people we talk to, all become

¹⁴ Different areas of design may use the term crit, or jury. These are presentation and feedback sessions where students present and substantiate their work to a panel of peers and assessors. Within the PISA context, the word crit was used to describe these events.

enmeshed in the embodied practice of reflection, transformation and self-awareness” (Akama, 2012). This type of transformation, which is necessary preparation to face the ethical and moral issues that design students encounter in the industry, has not received enough attention in design pedagogy (Oak, 2000; Moalosi, Rapitsenyane, & M’Rithaa, 2010). That designers should have an ethical and socially-responsible practice is a focus of the broader design discourse (5.4), yet in education there is a hesitancy to assess these elements of person.

The third aspect of the person that may be assessed accommodates the progress or improvement that an individual student makes over time, which may be described as ‘ideographic’, ‘mastery’ or ‘ipsative’ assessment (Morgan, 2011, p. 54). Commonly used at the formative stages, this form of assessment is seldom used at the summative assessment stage, or for the generation of marks. Hughes argues for the benefits of ipsative assessment and ipsative feedback when she indicates that it “has the potential to enable learners to invest in achievable goals, to become more intrinsically motivated through focusing on longer term development, and to raise their self-esteem and ultimately their performance” (2011, p. 366).

When marking art and design work, assessors often discuss students’ circumstances, personalities and their working approach to projects, as these are used as a way to track a student’s development (Orr & Bloxham, 2012). Similarly, in my experience, aspects such as improvement and hard work are often valued by GD lecturers, students and parents. In Smart and Dixon’s research into the assessment of performing arts, students questioned the fact that the final product carried the greatest significance, and that assessors valued “creative skill and ‘talent’ above other qualities which they perceived to be equally important such as hard work, dependability, personal and inter-personal skills” (2002, p. 197). This is confirmed by Smith (2013), who found that students studying interior design felt that the emotional investment and hard work should be rewarded in assessment and with grades. Nonetheless, ipsative assessment is not seen as acceptable practice in HE assessment (Orr, 2007; Hughes, 2011). This implies that the individual progress that a student makes could not be accommodated

where the same outcomes and criteria for a brief are used for every student. In addition, the PISA multi-campus structure required a pre-defined sequence of submission dates, therefore students were assessed at the same point irrespective of their individual rate of progress.

2.2.3.2 Process

The design process, especially one that applies to all areas of design and to all individual designers, is a highly-debated concept (Friedman, 2000b; Reyman et al., 2006). In this case study, the design process that I refer to encompasses the various steps the student must take, from problem identification through to the production of a product or service. In design education, process can be seen as one of the key learning opportunities (Ellmers & Foley, 2007), as it is here that students must make use of various types of knowledge and take the majority of their strategic and creative decisions. The lecturer is often very involved at each stage of the design process and may facilitate “explorations of conceptual and procedural knowledge to support the design work being completed” (Coleman, 2015, p. 264). Because of the challenge of assessing student learning from merely the product, GD practical work is often accompanied by what is referred to as ‘process work’. At PISA, each student’s process work was documented in a visual diary, which might include research or source material, rough drawings illustrating a number of concepts at various stages of development, and written explanations. Documenting the design process provides evidence of the individual student’s creative and thinking processes that assessors can consider. Process work may reveal the student’s “sensitivity to problems, fluency of ideas, ability to produce a quantity of solutions, flexible thinking, production of original ideas that demonstrate analysis and synthesis, and self-evaluation” (Pritchard and Albon (2003), as cited in Morgan, 2011, p. 65). The process work may indicate the connections that students have made to the broader social contexts, design traditions and professional practices. The evidence in the visual diary may also be used by assessors to check the authenticity of a student’s work, to ensure that the ideas, images and text have not been copied.

In some cases, design objectives, strategies, process work and the final product may be formally presented to peers, lecturers and even industry practitioners for review and feedback. This can happen at different stages during the progress of a brief. In addition, students may be required to reflect on their learning as part of the process work; this is aimed at assisting students to build metacognition, or an awareness of their own learning process and progress (Bland, 2005; Winters, 2011). Based on the work of Schön (1987), reflection on learning, often in the form of reflective journals or reports (Davies, 1998; Ellmers, 2000; N. Jackson, 2004; Orr, 2010c), has been integrated into design pedagogy and assessment, especially at the formative stages. Journals usually contain both images and text, which may be challenging for students who are not always comfortable with expressing themselves in writing. In some cases design students are resistant to written reflection, which they see as too 'academic' (Ellmers et al., 2008, p. 80). A further challenge may be the evidencing, or reflecting on the wicked problem solving strategies that integrate explicit knowledge, procedures and judgement with tacit elements such as intuition, especially if students are not adequately trained in reflection.

As the design process advances, students may or may not be successful at the various stages, but even failures can be perceived as learning experiences (Fremantle & Kearney, 2015). The shift of emphasis from product to process in design education engages with the concept that a student may learn a great deal through the process of conceptualising, designing and making, but not necessarily arrive at a particularly good final product. Equally they may generate a good product, but not have learnt a great deal (Davies, 1989).

2.2.3.3 Product

The GD product in the PISA context would be the final design piece, such as a short animation, web site, poster or corporate identity. Buchanan (2001) sees design products as being broader than this and includes the design of communications, experiences and services. Although the artefact has and continues to be the focus of most summative assessment opportunities, there is still debate regarding how knowledge can be

embodied in the product, or even if the same 'rules' for the creation of knowledge should apply to art and design (Scrivener, 2002). This is further discussed in section 5.2.2.2. The acceptance that the design product embodies certain knowledges is supported by the increasing recognition of practice-based research within art and design HE research communities. This indicates a shift to acknowledging that evidence of knowledge, and even evidence of new knowledge, may be 'read' or found in the artefact.

In design education, the collection of design artefacts or products in the form of a portfolio has traditionally been used for the summative assessment event. There are those who feel that the product embodies both person and process and therefore all three can be assessed through considering the artefact alone (B. Jackson, 1995; Goldschmidt, 2003; Christiaans & Venselaar, 2005; Lindström, 2007). This opinion is not necessarily held by all. "Outstanding design artifacts do speak for themselves and for their makers. Nevertheless, artifacts do not articulate or clarify the design process" (Friedman, 1997, p. 56). Others claim, as discussed previously, that, for student learning to be evidenced, additional material such as process work and reflective journals should be included, especially to explicate the design process (Bruton, 2007; Ellmers et al., 2008; N. Jackson, 2008). In addition, some claim that elements that relate to a student's work ethic, dedication and participation cannot be assessed from the product alone by an 'outsider' assessor (Graham & Sims-Gunzenhauser, 2009), this is substantiated by Orr's (2010c) findings that, in the creative arts, the assessor should know the student.

The debate regarding the difficulty of 'reading' the student's knowledge, problem solving, thinking, judgement-making and many other skills and attributes from just the final product therefore remains contested. This is further discussed in section 5.2 in relation to the generation of new design knowledge. It appears that in design education the inclusion of process work assists in making the individual student's objectives, as well as their research, thinking, decision making, planning and conceptualising, more open to scrutiny and therefore to evaluation. This is of particular importance when

students choose very different creative solutions when presented with wicked problems. Each student's work may, in these instances, have to be assessed in terms of their own self-defined solution and related outcomes.

Based on the previous sections, it has been established that person, process and product are all elements that are considered in design assessment and yet there appears to be some dispute as to how, when and even whether this should occur. When considering the assessment of person, assessors are hesitant to acknowledge and use criteria related to the transformation of the student. The hesitance could be based on the difficulty of establishing and using clear criteria, as well as on ethical considerations. Assessment of person implies the assessment of the individual against their own set of criteria, something that would be difficult when attempted within the HEQSF framework and with large student numbers. There appears to be some agreement on the importance of assessing process which can provide evidence of research, planning, judgement and thinking skills. These elements may be documented in reflective journals, visual diaries or presentations, although not all of these might be made available to all assessors at each assessment stage. Once again this may be constrained by the practicalities of space, time and cost, as it is time consuming for assessors to study visual diaries and to read each student's reflections (p.198). A number of factors therefore result in an emphasis on the final product as evidence to be used in summative assessment. As the final product is open to interpretation by each assessor (Souleles, 2006; Belluigi, 2015), this can lead to a range of possible value judgements, rather than one absolute mark. As panel or group marking is often used in art and design assessment, the differing perspectives of assessors are brought together in an environment where marks are debated and negotiated.

2.2.4 Panel or group marking

Making use of a panel of experts to evaluate and grade art and design practical work is common practice in art and design assessment. This system was required at PISA at both the formative and summative assessment stages (2.1.4). The number of assessors making up the panel varied in size, but PISA policy required at least two internal

assessors to assess the formative briefs, generally the lecturer of the module and one other lecturer. For summative assessments, a panel of lecturers awarded an internal mark for the portfolio and then at least one external moderator moderated this mark with the lecturer present.

A common aspect of panel marking is that student work is discussed and marks are arrived at through discussion, negotiation and agreement. Orr (2007) and Morgan (2011) propose that these panel marking sessions and the conversations held are in themselves one of the ways that lecturers share and learn about standards. Panel marking values discussion and the sharing of interpretations, standards and marks, which Johnston (2004) considers an interpretivist approach to assessment, as each assessor brings their identity and what they value to the debate. From these sometimes differing perspectives, what is valued and the standards to be applied must be negotiated and constructed by the participants. This begs the question of exactly how agreement is reached and whether assessors have an equal say in devising standards and describing what is valued. Orr (2007) found that more junior assessors deferred to their more senior colleagues when assessing art. In the research of Harman and McDowell (2011), although lecturers projected a positivist view of assessment including their own objectivity when using outcomes and criteria, the community was not united in their identity as assessors. Their identities were based on various discourses circulating in the design school and “linked to the multiple social purposes served by assessment” (Harman & McDowell, 2011, p. 49). As a particular discourse may dominate in a particular institution, for instance industry practices and standards, other discourses such as design theory may be subjugated. Shifts in what assessors value may change with time, with changes in institutional priorities, such as an emphasis on employability, or when new assessors with different experiences are introduced. An interpretivist perspective therefore contrasts strongly with a positivist perspective to assessment, which supposes that one objective, correct mark can be awarded for any piece of work (Johnston, 2004). It therefore contrasts with the HEQSF concept of externally set, pre-defined, clear outcomes and criteria, and marking against these, as individual assessors may identify and value different outcomes and use different criteria.

Although some see panel marking as an attempt to ensure objectivity (Dziwa, 2013) and an effort to give legitimacy to a subjective process (Gordon, 2004), Orr (2010c) claims that panel marking is a characteristic that defines art and design pedagogy, rather than merely a process followed for compliance. She points out that panel marking is the opposite of the anonymous and standardised marking which is often a requirement in massified education (Orr, 2010c). Panel marking can be time consuming and labour intensive, and therefore costly (Walker & Barfield, 2006). In my experience, the external moderation of approximately twenty first-year GD student portfolios can take a full day. This type of assessment is therefore potentially at risk in a for-profit institution, where high student numbers, efficiency, reliability and cost effectiveness are linked to institutional or programme viability (2.1.1).

Research into panel marking in art and design has tended to focus on the formative assessment stage that takes place within the design critique or jury event (Ellmers, 2000; Elkins, 2001; Belluigi, 2015). Aspects that have been addressed include student understanding and learning in these situations (Blair, 2004, 2006; Reid & Solomonides, 2007; Shreeve, Wareing, & Drew, 2008), the aspects of design that are emphasised in verbal exchanges (Oak, 2000) and the power dynamics of these events (Webster, 2006, 2007, 2010). Susan Orr's extensive body of research (1999, 2007, 2010a, 2010b, 2010c, 2011) speaks most directly to identifying what knowledge, skills and attributes assessors value in art and design practical work. In addition, she is critical of a positivist paradigm to assessment in creative art and design education. Orr (2011) considers the identity of the assessor as critical to what is valued in assessment, while Elkins (2001) sees the assessor as representing a particular community in the fine art crit. Belluigi (2015) also considers the identity of the assessor and their professional practice in fine art assessment. It appears that the assessor's identity may be formed by his/her role as artist, educator, ex-student, art practitioner or position in the design/arts arena and in the institution. This ties in with Shay's (2005, p. 664) claim that assessment is socially situated and therefore variations in marks are not in fact 'errors', but rather a reflection of different assessor perspectives. Logan (2007) too identifies that design educators may serve two masters, the institutional assessment discourse and process, and the

expectations of the design industry. Identities in design assessment are not only in conflict, but in flux as this identity is often re-negotiated (Harman & McDowell, 2011, p. 50). Therefore, within panel marking, assessors bring a range of perspectives to the event which may align, be in conflict, and even shift over time or within specific circumstances.

Some propose that, through the panel marking process values, criteria and standards can be shared within a community of practice (Kethro, 2007; Orr, 2011). Harland and Sawdon (2011) describe how a community of practice, which includes staff and students, can be used to establish assessment criteria. The theory of a community of practice as proposed by Wenger (1998, pp. 72–85) is based on ‘mutual engagement’, ‘joint enterprise’, and a ‘shared repertoire’, through which the community builds, negotiates, shares and constructs meaning. In this way the community has a common understanding, which will influence what they consider to be legitimate knowledge, pedagogy and assessment criteria and standards. Elkins (2001), when describing critiques held in fine art, refers to these panels as ‘interpretive communities’ (Fish, 1980), and when there is agreement amongst the panellists they become ‘stable communities’. However, there has been some criticism of the concept of the community of practice within assessment. For instance, the assumption that individuals within these communities share the same standards may not be the case. As Shay (2005) points out, conflict and disagreement occur within other disciplinary communities, while Jawitz (2007) proposes that novice or new assessors may find it difficult to adjust to local standards. These standards often remain tacit but, even if they are made explicit, outsiders and even some insiders may not understand them (Allais, 2007b). Craft apprenticeships, as communities of practice, tend to be local and context specific and therefore meaning cannot be shared with outsiders Bird and Gamble (1996), as cited in Allais, (2007b). Kethro uses the community of practice framework to analyse assessment approaches in design and found that assessors “embody outward programme repertoires of design practice, but do not essentially represent the inward educational values of assessors” (2007, p. 56). In other words, the potential conflict of identities described in the work of Logan (2006), where lecturers take up positions as

either educators, or design practitioners, may play out at different stages in the assessment process and in different circumstances. This conflict between educational objectives and standards and industry objectives and standards appears to be an acknowledged source of potential conflict when it comes to design assessment, as both elements play a role in the construction of curriculum and assessment (Clarence-Fincham & Naidoo, 2013). If these communities have a shared understanding of criteria and standards, which is debatable, they may only have a limited reach. Therefore, within a multi-campus structure, standards on one campus may not extend to a common understanding of standards on another campus.

In spite of the variety of perspectives, identities and power dynamics at play during panel marking sessions, the conversations held between assessors provided a valuable source of qualitative data for this study (4.1.5.6). As panel discussions range over the value of student work, as well as the students themselves (Orr, 2007), these are conversations in which the knowledges valued and value judgements made come to light. Nevertheless, interpreting the panellists' conversations and accessing the knowledge-knower structures used as the basis for value judgements was challenging. I indicate a number of the more general issues below, some of which I encountered in the data analysis stage (4.1.6).

- Elkins (2001) points out that in a critique, which could similarly apply to panel marking sessions, assessors who are talking while thinking and formulating opinions may use different 'languages' informed by their identity and may not elaborate on their judgements. What they say and mean may not always be clear.
- The discourse used by the experts can be difficult to interpret by the non-expert (Webster, 2007), such as myself.
- There may be mismatches between what is stated in the conversations and the grades awarded (Orr, 2007).
- The use of tacit knowledge implies that what is valued may not always be

verbalised (Björklund, 2008) in these panel discussions.

- The shifts in identity discussed previously imply that what is experienced in one situation may not apply in a different situation. For instance, when marking with a colleague of equal status and marking with a more powerful external moderator, the identity of the assessor, what they value and the judgements that they make, may shift.

2.3 Conclusion

In this chapter I have positioned this case study within the broader context of HE, the institutional structures and the culture of GD assessment. I began by describing the HE system in South Africa and how the government's ideologies underpin the policies and objectives for HE. These policies have also had a very direct impact on the growth of PHE and on the compliance and performance expectations for the specific PHE institution and its multi-campus structure. I have concluded that the government's regulatory and compliance focus has resulted in increased scrutiny of the performance of the institution. It has also contributed to a positivist view of assessment and an emphasis on transparency, validity and reliability. This, coupled with the defining of student and institutional success based on pass and graduation rates, puts pressure on assessors in PHE to achieve success and to be able to justify the judgements that they make. As the Dean, I was positioned at the border between the institutional objectives of profitability, efficiency, compliance and success and a complex social assessment practice with its own rules and culture. Both aspects influenced my role as researcher (4.1.3).

In the second section of this chapter, I described the assessment processes, procedures and characteristics which fall within the traditions and culture of art and design assessment. The complexity of wicked outcomes; the use of tacit knowledge; accepting that person, process and product may all be used to evidence learning; and the complexities of the panel marking system were described.

By considering these characteristics of design assessment, I have highlighted that design assessment does not always align well with the objectives of the HEQSF and

criterion-referenced assessment system which dominates HE in South Africa. Nor does it always accommodate the profit-driven aspects of PHE and the multi-campus structure that PISA used to maximise its offerings within the South African market. I have concluded that defining and agreeing on what knowledges are valued in the design discipline and the related assessment is complex, influenced by a shifting assessor identity and open to interpretation. The structures and cultures discussed in this chapter were all explicit and observable parts of the case study context (4.1) which influenced the underlying knowledge-knower structures that the GD assessment practice was built on (6.2). In order to identify what underlying knowledge-knower structures were valued in GD assessment, I introduce the metatheory and knowledge theories that were used in the case study in the following chapter.

Chapter 3 Conceptual framework

This chapter makes explicit the metatheory and conceptual framework that I selected for use in this case study of GD assessment practice. Critical realism serves as the metatheory, and the substantive theories of Bernstein (1971, 1986, 1996, 1999) and Maton (2008a, 2010a, 2010b, 2014b) offer the language used to describe knowledge, knowledge-knower structures and the organising of knowledge in the curriculum, including in assessment. The broader objectives of this chapter are to provide insight into the epistemology and ontology that guided my research, and how these align with the topic, the theories used and the aims of my study. The more direct and practical connections between the research design, the metatheory and knowledge theories are dealt with in Chapter 4.

I begin by introducing the philosophy of critical realism and its key concepts. As there are various types and interpretations of critical realist thinking, I have primarily used the work of Bhaskar (1998a, 1998b, 2008a, 2008b) and Danermark et al. (2002) as a basis for the description. In section 3.1 I describe the role of critical realism as the metatheory which informs the ontology and epistemology of this case study. In the following sections, the critical realist philosophy and social realist view of knowledge are linked to the knowledge theories used.

In educational research we are concerned with 'knowledge questions', where knowledge is considered as an object that may be studied (Corson, 1991, p. 235). A social realist approach sees knowledge not only as social, but as real, with properties, powers and tendencies (Maton & Muller, 2006; Maton, 2014b). For that reason, I make use of the concepts provided by Bernstein (1971, 1986, 1996, 1999) and Maton (2008a, 2010a, 2010b, 2014b), which allow for the examination and consideration of knowledge and the underlying knowledge-knower structures, and how a practice-based discipline such as GD may have its own unique forms of knowledge structures. Reaching a deeper understanding of how disciplinary knowledge is organised at the different stages of education has enabled me to consider the impact of the GD specialist knowledge-

knower structure and the significance of changes to this structure, especially on aspects such as achievement and assessment.

Bernstein's (1971, 1986, 1996, 1999) theories provided me with a valuable framework with which to consider the organising of knowledge. In addition, Legitimation Code Theory (LCT) Specialisation (Maton, 2008a, 2010a, 2010b, 2014b) offered the tool to critically engage in a finer analysis of the underlying organising principles of disciplinary knowledge. The concepts and language of LCT were used in my study to identify the underlying principles used to establish and control legitimate knowledge and the legitimate knower within educational practices. As the LCT specialisation dimension accommodates both knowledge and knower (3.4.1) it is well suited for analysing practice-based disciplines, such as GD. Using LCT (Specialisation) enabled me to define the organising principles or the 'rules of the game' of what constitutes legitimate knowledge and knower in the practice of GD assessment.

3.1 Knowledge theories

The following section describes the theoretical framework used in this case study. As knowledge plays a pivotal role in higher education (Case, 2011) and knowledge is the object of assessment (Shay, 2008b), the theoretical framework chosen considers the structuring of knowledge at various stages in education, including at the formative and summative assessment stages. The framework and theories facilitated access to deeper levels of reality and therefore enabled me to uncover some of the underlying causal mechanisms of the GD assessment practice.

As described in the previous section, critical realism considers knowledge to be an object that can be studied and analysed, and its effects evaluated. The knowledges used in education have structures, with properties, powers and tendencies, and therefore "the forms taken by knowledge have significance for everything from societal structure, through institutional organization, to individual identity and consciousness" (Maton, 2014b, p. 66). Critical realism offers an alternative to a positivist perspective, where knowledge is considered to be objective and free from societal contexts and values, and to a constructivist approach, where knowledge is seen as socially

constructed and reflecting the values of actors or groups (Danermark et al., 2002; Maton & Moore, 2009). Instead of accepting either a positivist or a constructivist perspective, social realism offers a 'both/and' approach, which acknowledges that knowledge should not be seen "as a reflection of either some essential truth or social power but as something in its own right, whose different forms have effects for intellectual and educational practices" (Maton & Moore, 2009, p. 2).

Existing research on GD assessment tends to focus on the experience of individuals or groups who are part of an assessment practice and the difficulties of assessing creative processes and products, as well as the role of assessment and feedback in the learning experience (p.4). There is, therefore, little focus on disciplinary knowledge, or knowledge structures in this field. That knowledge should be central to research in education, including curriculum design and assessment, is acknowledged by a number of authors (Shay, 2008b; Carvalho et al., 2009; Wheelahan, 2010; Case, 2011). Maton (2014b) indicates that there are a number of reasons why knowledge is not 'seen' and therefore not studied. He proposes that this 'knowledge-blindness' arises from a dearth of theories on knowledge, a lack of analysis on the forms and effects of knowledge, and the fact that all forms of knowledge are perceived to be the same (Maton, 2014b, p. 2). In critical realist terms, he also questions why, if knowledge has "inner structures with properties, powers and tendencies" (Maton, 2014b, p. 2), its effects are seldom analysed.

In this case study, the literature reviewed relating to disciplinary knowledge valued in GD (5.2) highlights the uniqueness of GD knowledges, as well as the difficulties of describing and agreeing on what the legitimate disciplinary knowledge in this field might be. A lack of agreement on what design knowledge is and of an adequate language to describe these types of knowledges may impede research on assessment, which is so closely linked to knowledge. In order to achieve a focus on knowledge as an object with real powers in the GD assessment practice, Bernstein's (1971, 1986, 1996, 1999) theories provided the macro concepts used to examine the underlying knowledge

structures in this study. Legitimation Code Theory (Specialisation) provided the finer-grained analytical tool for analysing the evaluative criteria used in GD assessment.

3.2 Critical realist metatheory

Critical realism is not a social theory, a research methodology or a process used to conduct research. It is a philosophy or metatheory that in this study underpins

... the most fundamental and decisive questions, on which we have to decide in research: the ontological question of how reality is constructed, and the epistemological question of our chances of acquiring knowledge about it. (Danermark et al., 2002, p. 10)

The role of the critical realist metatheory was therefore to inform my research practice and to assist me with articulating both the explicit and implicit underpinnings of my perspective.

As described in Chapter 1, a positivist paradigm had influenced my goals as Dean to find a solution to the ‘problem’ of mark variances. Given my previous research (Giloï & du Toit, 2013), reading and experience as a creative art and design educator, I understood some of the complexities of GD assessment, including the different forms of knowledges that are used and valued, as well as the role of the assessor and his/her identity as expert. These two perspectives can be seen to loosely align with Sousa’s claim that “positivists see the social world as a closed system wherein cause–effect relations can be readily observed or experienced, postmodernists’ diametrical viewpoint is that the social world is fully socially constructed by humankind” (2010, p. 456). Hence, when considering an approach that would enable me to provide a deeper understanding of GD assessment, I felt that I needed to accommodate both what was visible and observable and what was experienced by individuals. This was in order to identify what might lie beneath the surface of the GD assessment practice. Certain statements resonated with me, such as:

The common admission by academics to the use of ‘gut-feel’ and intuition is testimony to the existence of other criteria which have their legitimacy in the reservoirs of knowledge from which academics draw when making professional judgements. (Shay, 2008b, p. 298)

This statement indicates that a number of levels of understanding are used in assessment, which might include assessors' personal experience and their tacit and explicit knowledge, and that this potentially emerges from disciplinary knowledge drawn from a number of areas including professional and educational practices. Shay (2008b) goes on to acknowledge that, although assessment is a social practice, disciplinary knowledge cannot be left out of an assessment discourse. She proposes that a critical realist approach allows for knowledge, as an object, to be studied (Shay, 2008b). Given the context of this study and the existing critique of various approaches to research on assessment, I understood that a critical realist approach would allow me to study knowledge as an object that might be identified, described and considered in terms of the structures and mechanisms that generate a phenomenon. In addition, as realists "consider both the observables and unobservable of the world as objects of potential inquiry" (Sousa, 2010, p. 463), both empirical data and theories could be used to interpret the practice and experiences of the assessors, which could assist with uncovering the underlying mechanisms that influence assessment and make it what it is.

With a few exceptions (Carvalho, 2010; Di Russo & Feast, 2013; Kethro, 2013), to my knowledge critical realism has not been used extensively as an explicit metatheory for research in design or design education. An interpretivist approach within a constructivist paradigm is most commonly used in these fields (Hickman, 2008). The latter implies a focus on the experiences of individuals and groups, students and lecturers, rather than on knowledge. Shay (2008b, p. 595) asserts that, in research investigating assessment, a social constructivist approach has improved our understanding of assessment practice, but knowledge, which is the basis for assessment, has not been explicitly considered. In contrast, a critical realist approach can be used to investigate knowledge in many areas of education, as it is important to understand how and why disciplinary knowledges are structured (3.1) within educational contexts (Maton, 2014b), including at the assessment stage. In the following sections I will outline the philosophy of critical realism and how it contributed to my study.

Some of the basic tenets of critical realism are that: reality exists independent of our knowledge of it; reality is stratified; and our knowledge of reality is always fallible, but certain explanations regarding reality can be judged to be more effective than others (Danermark et al., 2002). Bhaskar (2008a) proposes that reality consists of three overlapping domains: the ‘real’, the ‘actual’ and the ‘empirical’, as illustrated in Table 2. We can only experience and observe events that take place at the level of the empirical. Observable events at this level indicate a tendency for the objects of the natural and social worlds to generate ‘mechanisms’. Although the mechanism and objects that cause events are not directly knowable, a critical realist approach aims to identify and explain them, as well as their powers and liabilities. The explanation arrived at can be used as the starting point to implement change, as a critical realist approach ultimately aims to transform practice (Corson, 1991; Danermark et al., 2002).

Table 2: Domains (Bhaskar, 2008a, p. 47)

	Domain of the Real	Domain of the Actual	Domain of the Empirical
Mechanisms	✓		
Events	✓	✓	
Experiences	✓	✓	✓

In a structured reality, Bhaskar (2008a) refers to there being two sides to knowledge. The first “are the real things and structures, mechanisms and processes, events and possibilities of the world; and for the most part they are quite independent of us” (Bhaskar, 1998a, p. 17). The social world is therefore made up of structures which are relatively intransitive, these are real and contain powers and mechanisms that are the objects of research. These structures, although independent of people, cannot exist without people. Examples of such structures might be markets, the economy and communication structures. The second side to knowledge is transitive, created by human activity and includes, for instance, the theories and models we

use to describe objects in the real domain. These transitive elements are fallible, are open to critique, and may change, be revised or replaced over time, because they are historically and socially situated (Corson, 1991; Scott, 2005). As Wheelahan indicates:

... the purpose of knowledge is to understand that objective reality, even if our knowledge is always impartial, socially mediated, and marked by the social conditions under which it was produced, which includes power and privilege. (2007, p. 641)

Acknowledging the fallibility of knowledge within a critical realist approach has a number of implications for my research. Firstly, as researcher, I do not have direct access to the domain of the real, therefore my perspective was both guided and limited by my and others' interpretations and conceptualisation of events (Scott, 2005; Elder-Vass, 2007). Secondly, the research process implies selecting between approaches, theories, voices, interpretations and many other elements. These decisions were guided by my own ways of 'seeing' (Sayer, 2010). Thirdly, as critical realism considers research to be transformative, by implication any theory, description or explanation of the world could cause changes in that world, making the ideation inaccurate (Scott, 2005). By uncovering the knowledge-knower structures valued in GD assessment, not only has my understanding of GD been transformed, but through feedback sessions with participants, the institutional practice and individual assessor's practice could potentially be transformed (7.3).

Bhaskar (2008b) claims that, while knowledge is fallible, some explanations or understandings may be better than others. There is some debate as to how one establishes the effectiveness of theories and explanations (Peacock, 1999; Fleetwood, 2006), but generally valid explanations are established through a number of methods, which are discussed in section 4.3. These include the use of both theory and empirical observation to identify and analyse relevant causal mechanisms. In addition, the researcher must consider potential mistakes, absences and contradictions (Sayer, 2010) and the implications of these. In a critical realist explanation, knowledge should be both practically relevant (Danermark et al., 2002)

and also relevant for the actors who are part of the context of the study (Jessop, 2000). Arriving at a different or a potentially better explanation requires 'judgemental rationality', which encompasses a rigorous and ethical research process, as well as reflexivity and responsibility on the part of the researcher (Bhaskar, 2008b). In addition, as knowledge is to some extent independent of actors, certain rational explanations will, when considered in the context of disciplinary and existing knowledge, be evaluated as having better explanatory power than others (Maton, 2014b). Critical realism therefore "claims to be able to combine and reconcile *ontological realism, epistemological relativism and judgmental rationality*" (M. Archer, Bhaskar, Collier, & T. Lawson, 1998, p. xi). Guided by the metatheory, my aim in this dissertation was to provide the best possible explanation for the phenomenon of GD assessment. My practical approach to establishing a reasonable explanation is discussed in relation to the research design in Chapter 4.

A social phenomenon, such as the GD assessment practice at PISA, occurs within an open system and therefore cannot be delimited or controlled, as in a closed scientific experiment. One of the characteristics of an open system is that it is peopled, as, without people, society and practices would not exist (M. Archer et al., 1998; Ayers, 2011). Critical realism asserts that these actors are both born into an already existing society, and make up society. As my research considers an educational practice within a social context, many objects, structures and mechanisms interact within the context to produce an event or phenomenon. When considering the assessment practice and what makes it possible, the knowledges valued by assessors and used as the basis to judge student work were essential to understanding the practice. These were revealed in the panel marking sessions. It was here that actors exposed their beliefs, ideas, opinions, experiences, and intentions, and the capacity to interpret their own social worlds (Corson, 1991). The data generated from the assessment documents and observed marking sessions was linked to the knowledge theories, in order to "decode and decipher the conceptual schemes informing those practices" (Bhaskar, 2008b, p. 15). The interpretation and practice of individual assessors was therefore essential for a rich

description of the GD assessment practice, although these perspectives were only part of a possible description.

Critical realism accommodates the practitioner's conceptions, both explicit and tacit, with the understanding that these conceptions may be critiqued and even refuted (Collier, 1994, p. 167). In this study, the perceptions of the assessors as practitioners were a valuable source of data. As this approach acknowledges the fallibility of knowledge, the perspectives of individuals have to be seen as part of a 'double hermeneutic', in that both myself as researcher and the individual making up society interpret meaning. In terms of critical realist ontology, people do not have experience of the real, but only of the empirical, and so may have limited understanding of the mechanisms that exist at other levels. The questions posed in critical realism consider

What sort of object are we trying to describe and explain? To what extent is it a product of the interpretations of human beings, and to what extent is it structured by deeper causes which are opaque to human consciousness? (Outhwaite, 1999, p. 292)

In my study, the analysis of the criteria as stated in the study guides and as described by the assessors was used to identify the underlying structures and mechanisms. This was necessary to gain a better understanding of the assessment practice. As the criteria used in assessment may be explicit, implicit or even tacit (2.2.2), it was essential to identify what was both present and absent in the criteria, what aligned between the valued GD knowledge that was stated in the study guides and the assessors' criteria, and what did not align. In spite of the difficulties of accessing actors' understandings and the limitations of both the assessors and my understandings of the assessment practice, these "accounts form the indispensable starting point of social enquiry" (M. Archer et al., 1998, p. xvi). The actors' accounts and perceptions are particularly important, as people maintain, contribute, interact and sometimes change the objects, structures and mechanisms that they are in contact with and therefore may act as causal agents. This implies that they may adapt and respond to events, and contribute to and change the social world. For

instance, after the member check feedback session held as part of this case study (p.113), assessors became aware of the knowledge-knower structures that underpin GD assessment. This understanding could possibly inform their own practice as well as their shaping of the institutional assessment practice.

3.2.1 Abstraction

When investigating phenomena in a complex reality, or open system such as education, a critical realist approach may make use of abstract concepts, or abstractions, as a means to conceptualise structures (Danermark et al., 2002). This is achieved through focusing on one element or a feature of an element of an event, while the others fall away into the background (T. Lawson, 1998). The abstract can thus “be understood as an ‘extract’ from reality, an extract consisting of the ‘fundamental part’, the ‘essence’ or the ‘core’ of a phenomenon, which is as real a phenomenon as any other” (Danermark et al., 2002, p. 48). However, abstraction cannot be achieved through breaking down the object into its parts, as objects cannot be reduced to their constituent parts. This is of particular significance in social research as the separating of people into their constituent parts, or a society into individuals, will not directly reveal the mechanisms that produce a social phenomenon (Danermark et al., 2002).

According to T. Lawson (1998), abstraction takes place from the initial selection of a phenomenon of study, through to the choice of theories used to identify, understand and explain structures and mechanisms. In critical realism, theory is not only used at the empirical level, but at all levels of reality (Danermark et al., 2002). This means that theories may be used to conceptualise, or abstract causal mechanisms, and by using concepts such as race or gender, a deeper-level mechanism may be represented, even though it cannot be observed (Danermark et al., 2002). My choice of focusing on knowledge and knowledge-knower theories can be seen as the first step in the process of abstraction. In this study, knowledge theories were used to identify an element of the phenomenon of GD assessment: these were the knowledge-knower structures that were specifically valued in GD. In using theories,

there is a movement from concrete to abstract, and abstract to concrete, making use of empirical observation and theory construction (Fairclough, 2005; Sayer, 2010), as illustrated in Figure 1 below. This process thus enabled me, as researcher, to shift from the empirical level to postulate about mechanisms at the deeper levels of reality.

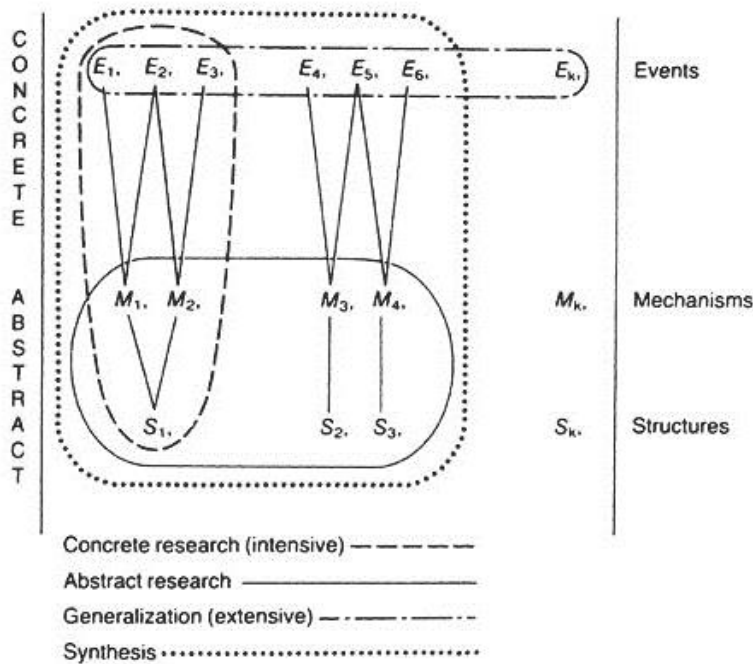


Figure 1: Types of research (Sayer, 2010, p. 159)

3.2.1.1 Abduction and retroduction

In the process of using theory and observation, deduction may be used to compare the empirical data to an existing theory. Alternately, in order to access deeper levels of reality, a critical realist approach may make use of two additional modes of ‘thought operation’: these are ‘abduction’ and ‘retroduction’ (Danermark et al., 2002). “A decisive difference between deduction and abduction is that deduction proves that something must be in a certain way, while abduction shows how something might be” (Habermas (1972), as cited in Danermark et al., 2002, p. 91). Abduction requires the researcher to propose and use a rule, or theory, to reinterpret or recontextualise the empirical data

generated about a phenomenon. By using a theory to interpret the data with 'new eyes', a different and potentially deeper understanding of a phenomenon may be achieved. I discuss the application of this strategy for this study in section 4.1.6. Abduction is therefore a way of redescribing and recontextualising the phenomenon within a larger context or structure and inferring a new and plausible interpretation of it (Danermark et al., 2002). In this study, knowledge-structuring theories (3.3), and the knowledge-knower theory (3.4) offered the theoretical framework and the lens applied to scrutinise and analyse the evaluative criteria used in GD assessment. These theories provided an understanding of the causal mechanisms that make the practice of GD assessment what it is. As discussed previously, critical realism may thus present a view of assessment that differs from the more commonly found positivist or interpretivist perspectives, in that there is a focus on knowledge. The process of abduction therefore aids in the identification and "understanding of structures, internal relations and contexts that are not necessarily directly observable" (Quinn, 2006, p. 80).

As a thought operation, retroduction aims to describe and analyse the concrete features of an event, thereby identifying possible causes and eliminating alternatives in order to establish the potential generative mechanisms at work (M. Archer et al., 1998).

The goal is to posit a mechanism (typically at a different level to the phenomenon being explained) which, if it existed and acted in the postulated manner, could account for the phenomenon singled out for explanation. Not much can be said about this process of retroduction independent of context other than it is likely to operate under a logic of analogy or metaphor and to draw heavily on the investigator's perspective, beliefs and experience. (T. Lawson, 1998, p. 156)

Therefore, retroduction may be used to establish the circumstances that need to be in place for a phenomenon to exist. In a social context such as GD assessment, this would require establishing the "basic prerequisites or conditions for social relationships, people's actions, reasoning and knowledge" (Danermark et al., 2002, p. 96). The process of retroduction (4.1.6) enabled me, as researcher, to describe the circumstances that had to be in place for something to exist, and so move from knowledge at the level of the empirical, to knowledge at a deeper level. For instance,

the contextual elements discussed in Chapter 2, such as the HEQSF and the multi-campus structure, and the characteristics of wicked competencies, tacit knowledge, assessment of person, process and product and panel marking, contributed to the circumstances that made the GD assessment practice what it was (6.2), although, at a deeper level than these observable elements, I identified the underlying knowledge-knower structures that were communicated during assessment (6.3). These knowledge-knower structures, although not directly observable, exist: without them we would have no assessment practice.

In this section I have outlined the fundamentals of the critical realist philosophy and its role as metatheory for this study. Using a critical realist approach to uncover underlying causal mechanisms allows for a practical, systematic and rich analysis of what properties must exist in order for a phenomenon to occur. Although this knowledge is fallible, transitive, and influenced by history, and our beliefs and values, as well as by the context (Carter & New, 2004), I aimed through my study to provide the best possible glimpse of knowledge that could be of value to those in similar contexts and which could be used to transform practice.

3.3 Bernstein's knowledge theories

In this section, I discuss how disciplinary knowledge structures may be described. This begins with Bernstein's (1971, 1986, 1996, 1999) work on educational knowledge codes and the concepts of 'classification' and 'framing'. I move on to his theory on 'pedagogic discourse', which provides a grammar to describe the organising principles within three pedagogic contexts: where knowledge is established, is adapted for pedagogy and is used in the classroom, including in assessment (Bernstein, 1986).

3.3.1 Classification and Framing

Educational knowledge codes describe the underlying principles that "shape curriculum, pedagogy and evaluation" (Bernstein, 1971, p. 156). The codes and their form are governed by the principles of, and relationship between, classification and framing (Bernstein, 1971, 1999). The concept of classification is used to create typologies of educational knowledge codes, as either 'collection codes' or 'integrated codes'. I will not

discuss these types of codes in this document, as they are broad and my aim is to produce a finer-grained study of specialist knowledge. Nonetheless, the concepts of classification and framing will be discussed in detail, as they are key to LCT(Specialisation) (p.79) and to how curricula can be analysed using these concepts.

In educational disciplines, classification is expressed as the explicit boundaries that exist between categories or contexts, and framing refers to the control exerted by actors within categories or contexts (Maton, 2014b). As an example of classification, the content of physics is very specific, the disciplinary discourse belongs clearly to physics and not to any other discipline, it has precisely-stated concepts and terms and is clearly bounded¹⁵ from most other disciplines (Bernstein, 1996). The object of knowledge in physics is therefore explicit, specific to physics and the knowledge and procedures used to investigate the object are specialised and limited. In contrast, drawing in a GD programme may resemble illustration, or drawing for fine art, and a range of different procedures or approaches to investigating knowledge are encouraged in drawing. This makes it difficult to isolate the knowledge as belonging to one specific field. Physics would thus be an example of strong classification (+C) and drawing of weak classification (-C). Classification may also be used to describe the physical boundaries created in education and who has access to which areas. For example, a lecture theatre may be used to conduct classes for students from various disciplines; conversely only a specific group of students may have access to a drawing studio. In the classroom, classification is also visible in how elements within one subject are taught in relationship to other elements within the same subject (Cause, 2010). For instance, in a GD programme, the lecturer may use a formal presentation to address theories relating to the legibility of fonts in typography. In the same module, students are expected to work independently on computers actually setting type in order to learn another aspect of the same subject. The classification boundaries, and how distinct they are, are therefore based on how specific the knowledge and procedures of a subject or discipline are, how

¹⁵ This does not imply that physics cannot be used or integrated into other disciplines, but it remains clearly distinguishable from other disciplines.

specialised the physical areas are and how elements within a subject are presented in relation to each other.

Framing concerns which actors control the object of knowledge and how it is investigated, and includes how student and teacher interact and who chooses which knowledge may or may not be communicated. Framing therefore indicates who has the power to decide what is transmitted and received (Bernstein, 1996, p. 12). If the lecturer chooses what is taught, framing is strong, or if the student chooses, framing is weak. Bernstein (1975) asserts that framing is visible in three elements in pedagogy, that of 'sequencing', that of 'hierarchy' and that of 'evaluative criteria'. Sequencing is indicated by who decides what content will be covered in specific classes and at what pace. For example, when working on wicked problems (2.2.1) GD students may propose different solutions and use different concepts, techniques and approaches which require each to work at a different pace for the same brief (p.227). This would indicate weak framing (-F), as the student, rather than the lecturer, initiates what should be taught and when. Hierarchy relates to the social conduct required of students. Conduct may be clearly defined by the teacher and be highly regulated and explicit, and so would be considered strongly framed (+F). It would be weakly framed if the valued conduct and behaviour were not made explicit (Bolton, 2008, p. 16). Explicit control, equal to strong framing, would require the conduct or moral order to be clearly stated by the lecturer, based on their position and status. Weak framing would occur if the moral order was either not stated, or not encouraged by personal control or personal appeals made by the lecturer (Bolton, 2008; Gamble & Hoadley, 2008). The expectation of certain behaviour in GD was described as a component of the assessment of the person (p.40), which may link to accepted professional behaviour (5.2.1 and p.198).

The final element of framing is referred to as evaluative criteria. Shay (2008b) indicates that "*evaluative* criteria in lieu of *assessment* criteria signals a discursive shift away from explicit measurables to underlying values" (Shay, 2008b, p. 601). My understanding of this is that, instead of generic assessment criteria, or criteria that relate only to performance and content, the specialist knowledges valued in a discipline would filter

through into the evaluative criteria and there should be a logic to what is assessed in relation to the disciplinary knowledges valued. The evaluative criteria, therefore, reflect what is considered legitimate knowledge, behaviour and achievement within a discipline. These criteria should be visible in the pedagogy and in the types of assessments and their content, although the underlying logic or structure would not be directly visible as it is situated in another domain (p.59). For instance, if GD students are expected to behave as professional design practitioners, this might be described in the authentic assessments that they are required to complete and in the emphasis in assessment on meeting deadlines, including significant penalties for the late submission of briefs. How explicit the valued knowledge and attributes are made, plus whether the evaluative criteria are clearly described and made available to students, completes the final component of framing. The balance of power and control between teacher and taught defines whether the framing of evaluative criteria is stronger or weaker. An implicit pedagogy, where the student controls both classification and framing (-C, - F) and tacit assessment criteria are used, is called a hidden or 'invisible pedagogy' (Bolton, 2008; Maton, 2008a). An 'explicit pedagogy' occurs when the student has little or no choice over content, and no control over sequencing, hierarchy or evaluative criteria, plus the disciplinary knowledge and behaviour are very clearly defined. This would appear as stronger classification and framing (+C, +F). Evaluative criteria as part of assessment practice, therefore, relate to who has the power and control over what is considered legitimate knowledge (Shay, 2008b) and what rules are used to judge performance within the discipline. The evaluative criteria were of great significance in this case study, as these could be described in the explicit criteria stated in the course documents, in the espoused and tacit criteria used by assessors during marking sessions, and in the individual criteria linked to the unique design solutions created by individual students.

3.3.2 The pedagogic discourse

From the foundation of the code modalities of classification and framing, Bernstein went on to provide a grammar that can be used to analyse the 'pedagogic discourse' (Maton, 2014b). Bernstein (1986, p. 25) claims that a social grammar governs how knowledge

may be transformed for use in pedagogic communication. The 'metaphorical' grammar of the 'pedagogic device' has certain relatively stable rules and these rules regulate how communication may take place. This regulation in turn affects "the potential discourse available to be pedagogised" (Bernstein, 1986, p. 28). His concept of the pedagogic device thus describes the communication of worthwhile knowledge as governed in three fields or 'arenas' of struggle (Figure 2, p.71), where new knowledge is created, where knowledge is selected for use in curricula, and lastly where knowledge is used in pedagogy (Bernstein & Solomon, 1999).

There are three rules that govern the pedagogic device, the 'distributive', 'recontextualising' and 'evaluative' rules (Bernstein, 1986, 1999). The distributive rules describe the distribution and recognition of new knowledge in the discipline and who controls this (Maton & Muller, 2006). Distributed knowledge can be found in journal articles, conference presentations and proceedings and the like. In design this knowledge may be found in these discourses, as well as in non-text form such as iconic design pieces, award-winning designs and the recognised practice of outstanding designers or design studios (5.2.1 and 5.2.2.2). The recontextualising rules apply to selecting, changing and linking knowledge for use at different sites. This knowledge is found in text books, curricula and course materials such as the study guides issued at PISA. M. Barnett refers to the selection and change of knowledge as 'translation' as it makes the distributed knowledge "more teachable and learnable" (2006, p. 146). Once again certain groups will control the knowledge used at this stage, for instance it might be that the Department of Higher Education or professional bodies have a say in what is included in the curriculum. Maton's description of the three fields and rules are included in Figure 2 below.

In the more vocationally-oriented, professional or newer disciplines such as GD, students are required to learn knowledge from the workplace. This workplace knowledge may be recontextualised and combined with knowledge and theories from within the discipline or from other disciplines (5.1). These are further reinterpreted to create theories that can be described in the course materials to support student learning

(M. Barnett, 2006; Wheelahan, 2008). The evaluative rules cover the actual pedagogy and evaluative criteria and this indicates what knowledge and attributes are used to determine success within the discipline, and who defines and controls these criteria.

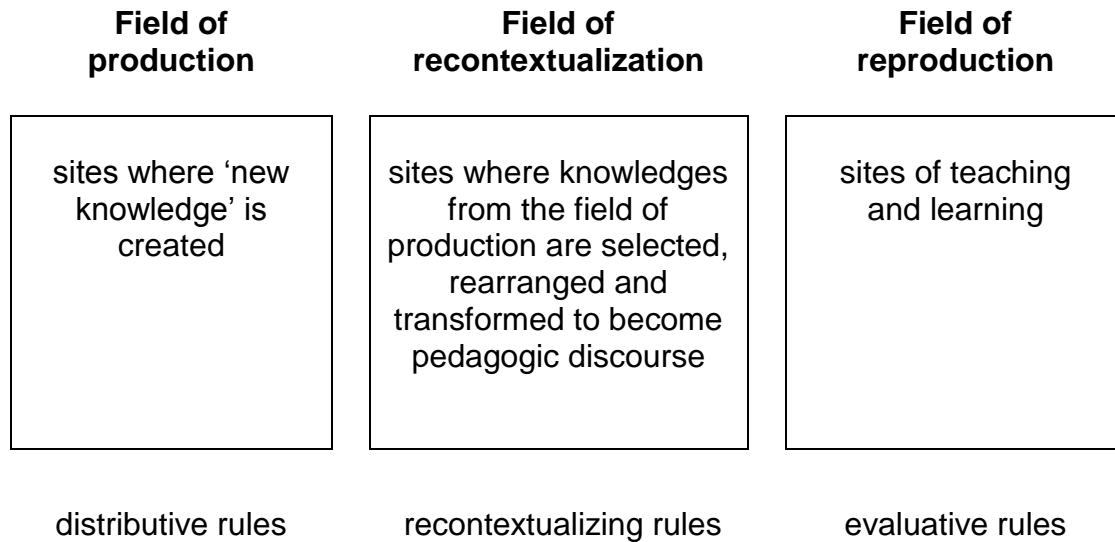


Figure 2: Arena created by the 'pedagogic device' (Maton, 2014b, p. 48)

3.3.3 Knowledge structures

In a further refinement of the structuring of knowledge, Bernstein (1999) describes the pedagogic discourse as consisting of either 'horizontal discourse', referring to everyday knowledge, or 'vertical discourse', which would be found in academia, professions and education. A horizontal discourse is made up of segments, each with its own language, each independent of the other, positioned in no specific order and embedded in its own context (Bernstein, 1996). The two discourses and their characteristics are illustrated in Table 3. Vertical discourse is found in the more academic or 'schooled' forms of knowledge found in the sciences and humanities (Bernstein & Solomon, 1999; Bernstein, 1999).

Table 3: Vertical and horizontal discourse (Bernstein, 1999, p. 162)

	Vertical discourse	Horizontal discourse
Practice	Official/institutional	Local
Distributive principle	Recontextualisation	Segmentation
Social relation	Individual	Communalised
Acquisition	Graded performance	Competence

A vertical discourse has two potential structures, hierarchical or horizontal. ‘Hierarchical knowledge structures’ are characterised by the building of knowledge through developing theories that are more and more integrated than previous theories. Theories are refuted or used to build more abstract theories and their validity can be proven through empirical procedures. ‘Horizontal knowledge structures’ may be found in the humanities and social sciences and “consist of a series of specialised languages with specialised modes of interrogation and criteria for the construction and circulation of texts” (Bernstein, 1999, p. 162). These structures are made up of segments each having their own language. The development of new knowledge in horizontal knowledge structures may be through an existing language being replaced by a new language, or by a new language segment being added to the series. In order to build new knowledge, the current languages are constantly being challenged and the result can be the creation of a new language, or a revision of the current language (Bernstein, 1999). The horizontal and vertical knowledge structures are indicated within the vertical discourse in Figure 3.

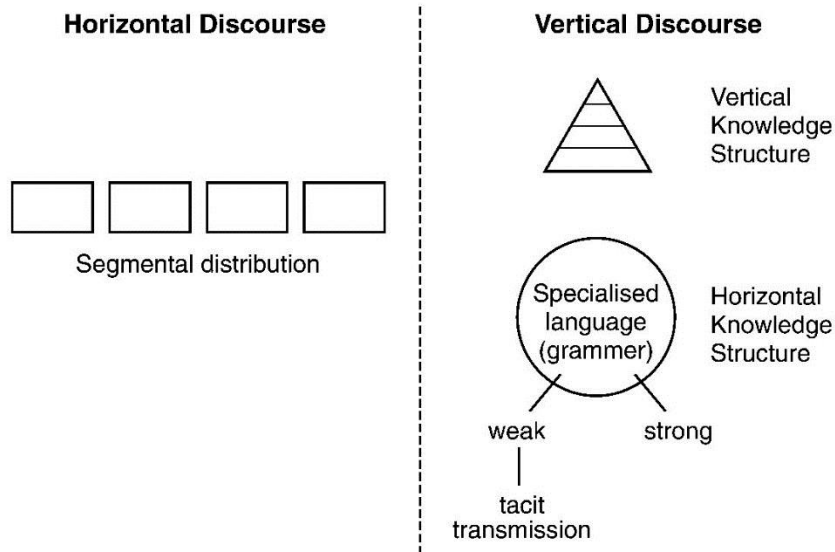


Figure 3: Horizontal and vertical discourse (Gamble, 2001, p. 195)

In relation to the concept of vertical and horizontal knowledge structures, Moore and Muller (2002) point out that disciplines with horizontal structures cannot empirically prove that one theory is better than another. Thus there are disputes and competition between the languages, as new languages challenge to replace existing languages. This can be seen in the discourses relating to design, where design is described as an art, craft, science or a unique ‘designerly’ form of knowledge (5.2.2). Each provides a different language to describe design knowledge and different accepted procedures for investigating design.

The languages within horizontal knowledge structures may be characterised by strong or weak grammar. In order to demonstrate strong grammar, concepts are precisely stated and there is consensus as to what terms mean and how theories may be empirically tested. Bernstein uses the example of mathematics as a horizontal knowledge structure with strong grammar as “it consists of a set of discrete languages, for particular problems” (1999, p. 164). A horizontal knowledge structure with weak grammar is characterised by a language that does not clearly fit with only one discipline. It is more about whose language – teacher, acquirer, workplace, or government – dominates as there is no one truth, only various perspectives that present a truth

(Bernstein, 1999). In disciplines with a horizontal knowledge structure, the acquirer or student is expected to acquire a specific 'gaze' or insight into disciplinary knowledge which is in keeping with the socially-dominant or acknowledged gaze of that time. This has significance for assessment. If the valued knowledge "depends on loyalty to socially-based ideologies and if its weak grammar subjects the theory to constant contestations of meaning, how does one begin evaluating students' learning?" (Shalem & Slonimsky, 2010, p. 760). This statement indicates that there are likely to be challenges when disciplines defined by this type of knowledge structure are assessed. For example, if design is seen as either a science or an art, the criteria for judging design could be very different. Bernstein does not extensively elaborate on the gaze, therefore it will not be discussed at this point. However, it will be described in detail later in this chapter (3.4.1.2), as the gaze plays an essential role in the knowledge-knower structure theory used in this case study.

In Muller's (2008b) critique of Bernstein's theories of horizontal knowledge structures, he indicates that the horizontal and hierarchical division in fact privileges hierarchical knowledge, and that the concept for horizontal knowledge structures is one of deficit. A discipline with a horizontal knowledge structure with weak grammar, such as sociology or art, would not achieve the 'ideal' where knowledge building occurs through the integration of propositions to a greater level of abstraction (Maton, 2011, 2014b). A hierarchical structure, such as science, can achieve the ideal of high levels of abstraction. For horizontal knowledge structures, theories would always remain context specific and context dependent, whereas disciplines with hierarchical knowledge structures may generate propositions that can be applied outside of the original context (Bernstein, 1999). Thompson (2009) supports this position by proposing that knowledge from horizontal knowledge structures cannot be transferred and applied to different contexts or situations. Conversely, this perspective has been challenged by Shay and Steyn (2016), who illustrate how design knowledge can be transferred to different problems and contexts. This proposal for knowledge building and transference is discussed in relation to the LCT dimension of Semantics later in this Chapter (p.77).

Bernstein's (1999) knowledge theories have been used in the study of a wide range of disciplines at school, vocational and higher education levels, including art and design education. Carvalho (2010) uses classification and framing as a starting point to analyse the knowledge valued in four fields of design, but indicates that, although these theories are effective for disciplines with explicit knowledge, they are less successful in fields that require implicit or tacit knowledge. Using the concepts of classification and framing also proved to be problematic when considering the knowledge valued by assessors in this case study (4.1.6). Bolton's (2008) comparison of school-level art and science pedagogies uses classification and framing to analyse the forms of discourse, physical space, content and agents that make up high school art classes. She indicates that, in her study, regulative and instructional discourses are difficult to separate, and that this is an area that should be considered for further research.

An unexpected discovery was the existence of different types of regulative discourse, one directed towards the learner as social person, the other to the learner as art-student. Teachers made 'positional' comments from both positions of social authority in the institution of the school, and also from the position of art-specialist. (Bolton, 2008, p. 33)

A description can be provided for the knowledge structure of a particular discipline using the concepts of classification and framing. The knowledge structures of different disciplines can be compared and the relationship may be considered as they appear at the distributive, recontextualised and evaluative stages. For instance, in Wheelahan's (2007) investigation into the knowledge structures used in competency based training (CBT), she found that the structure changed between production and recontextualisation, from a vertical knowledge structure to a horizontal knowledge structure.

Although knowledge structuring theories provided the framework and language used to consider GD knowledges in this study, I found it necessary to use the finer-grained conceptual tool of LCT(Specialisation) to analyse the evaluative criteria found in GD assessment practice. In LCT the debate regarding how specialised knowledge

structures can be identified and defined is taken up by Maton (2014b). His concepts of knowledge-knower structures are discussed in more detail in the following section.

3.4 Knowledge-knower structures

In this section I introduce the analytic tool used in this case study, that of Maton's LCT(Specialisation), which draws and builds on concepts and theories established by both Bernstein and Bourdieu (Maton, 2011). As discussed in the previous section, the concepts of classification and framing and the structuring of knowledge provide a foundation that can be effectively used to describe the type of knowledge structures found in disciplines, such as the sciences, which have strong hierarchical knowledge structures. Conversely, less knowledge based or newer disciplines may not fit comfortably into Bernstein's categories. For instance, GD, which may be characterised as a horizontal structure with weak grammar, is characterised by tacit knowledge acquired through inculcation and exposure to knowers who already possess a disciplinary gaze (p.83). This type of structure can be seen to be deficient when compared to the more theoretical and abstract forms of knowledge, such as those found in science or mathematics. This equates "to a refusal to extend epistemic credit to all knowledge that cannot easily be made explicit, knowledge like experiential, tacit, and practical knowledge, forms of knowledge more native to both art and design" (McGuirk, 2011).

In LCT, Maton (2014b) not only considers knowledge, but also sees this knowledge in relation to the knower, or those who wish to participate in the field of practice and who construct and control the knowledges valued in the field. This social aspect of the theory aligns with the social realist scrutiny of knowledge that Maton and Moore (2009) advocate. The approach aims to avoid the positivist–interpretivist dichotomy, that I identified previously (p.57), with the first focusing on the 'what' and 'how' of knowledge and the second focusing exclusively on the 'who'. They propose that, as opposed to separating these two elements, both knowledge and the knower should be considered when analysing the production of knowledge and its use in education (Maton & Moore,

2009). In order to prepare the ground for the use of LCT(Specialisation) in this study, I will address the concept of the gaze later in this chapter (p.83).

3.4.1 Legitimation Code Theory

Maton (2014b, p. 3) offers LCT as an explanatory framework and an evolving ‘analytic methodology’ that can be used to explore not only educational knowledge, but also other knowledges found in social fields and practices. “Practices can thus be understood as *languages of legitimation*: claims made by actors for carving out and maintaining spaces within social fields of practice” (Maton, 2014b, p. 23). These languages indicate what is required for participation in a field by establishing how achievement might be defined and measured (Maton, 2000b, p. 81). A language is therefore offered to describe how achievement would be established and defined, as well as to provide a method for considering how this is communicated through the curriculum.

LCT consists of a number of conceptual tools, including “Autonomy, Density, Semantics, Specialization and Temporality” (Maton, 2014b, p. 45). The two tools that have, to date, been the most extensively developed are ‘Specialization’ (Lamont & Maton, 2008; Howard & Maton, 2011; Maton, 2014a) and ‘Semantics’ (Maton, 2010b, 2013, 2014b). Specialisation, the conceptual tool selected for use in this study, has been used to analyse the knowledge-knower structures valued in different fields of design (Carvalho et al., 2009; Carvalho, 2010; Dong, Maton, & Carvalho, 2014). Both Specialisation and Semantics have been used in design-related fields to consider a foundation GD course (Steyn, 2012; Shay & Steyn, 2016). Maton (2014b) encourages the development of the LCT tools through empirical research.

Although Semantics is not used in this study, I will provide a brief description of this LCT dimension. Semantics comprises both ‘semantic gravity’ and ‘semantic density’ (Maton, 2013, 2014a, 2014b). Where relevant, Semantics has been highlighted in this study, as semantic gravity and semantic density are characteristics of all practices (Maton, 2014b, p. 131). Semantic gravity relates to knowledge that is used to create new meaning; this knowledge can either be context dependant or context independent. Stronger semantic

gravity would occur when meaning is limited to a particular context; as semantic gravity weakens, meanings can be applied to different contexts. Shay (2012) proposes that semantic gravity links to the externally-orientated 'contextual coherence' of the discipline while semantic density to the internal 'conceptual coherence' (p.134 and p.158). Semantic density "refers to the degree of condensation of meaning within socio-cultural practices (symbols, terms, concepts, phrases, expressions, gestures, actions, clothing, etc)" (Maton, 2014b, p. 129). Semantics has relevance for describing how knowledge is taught and used in education and how knowledge is constructed over time. In design, Steyn indicates that for design:

The Semantic codes have the capacity to reveal the intended progression of these different kinds of design knowledge in the curriculum. It also has the capacity to reveal the potential effect of more specialized project contexts – which call for greater levels of abstraction and gaze – on knowledge building and transfer over time. (2012, pp. 43–44)

In my study only Specialisation was used, as the focus was on what was considered legitimate specialised knowledge and the legitimate specialised knower within the GD field, rather than a focus on knowledge building or knowledge change over time. My decision to use only Specialisation also stemmed from my objective to provide an in-depth, rich view of what was valued in assessment. Considering the limitations of this dissertation, I felt that offering depth and detail was more valuable for understanding the complex field of GD assessment, rather than using two different LCT dimensions. The latter approach might have resulted in two different, but more superficial, views. The essence for revealing what was valued in assessment was that "LCT(Specialisation) argues that the basis for legitimacy rests on the 'knowledge' or skills that are valuable to know and on 'who' is an ideal actor, within the given context" (Carvalho, 2010, p. 24). In this study, the language of legitimation (p.122) articulated the 'rules' for participation and achievement within the field. Since I see assessment as describing and evaluating what is considered legitimate knowledge and achievement, the dimension of Specialisation was selected for its explanatory power, which enabled me to identify the specialist GD language used in assessment. Subsequently this language could be applied in the analysis of the data generated in the study.

3.4.1.1 LCT(Specialisation)

LCT(Specialisation) is a powerful conceptual tool that was used in this study to identify and describe the knowledge claims made in the GD assessment practice. These claims may relate to “theories, methods, actor's social categories, dispositions, etc.” (Maton, 2014b, p. 31), as well as to the basis for the claims. The concepts of LCT(Specialisation) can be used to describe any discipline and its organising principles as they appear in the three fields (p.71) of production, recontextualisation and reproduction (Maton, 2014b, p. 51). The first refers to the production of new knowledge, the second to the reshaping of knowledge for use in pedagogy and the third to the knowledge that is selected and used in teaching and learning (3.3.2), thus the tool can be utilised to compare the codes found at different points in the educational process or in different disciplines. This does not mean that exactly the same codes will necessarily be found at each stage of the educational process, as knowledge “may be empirically realized differently in curriculum, pedagogy, textbooks, classrooms, subject areas, etc.” (Maton, 2014b, p. 33).

The proposition of Specialisation stands on two concepts: that all beliefs and practices are about or towards something, that is an object, and by someone, that is the subject (Maton, 2014b, p. 29). It therefore accommodates my chosen critical realist focus on knowledge as the object of assessment and the knower as the subject of assessment in a practice-based field such as GD. The specialised forms of knowledge valued and considered legitimate for the discipline can be considered as ‘privileged knowledge’, and the ‘privileged knower’ can be considered as an individual or group of people having the ideal disciplinary insight and attributes to therefore legitimately participate in the discipline (Maton, 2014b).

Maton (2014b) proposes that disciplines with horizontal knowledge structures (p.73) may demonstrate two types of structures that build knowledge in quite different ways. For instance, in a knower structure, the ideal knower, or group of knowers, has a model disposition formed “through the integration of new knowers at lower levels and across an expanding range of different dispositions” (Maton, 2010b, p. 162). This is

referred to as a ‘hierarchical knower structure’, which may be found in the humanities and arts. These structures are represented in Figure 4. All disciplines would consist of both structures. These ‘knowledge structures’ and ‘knower structures’ are illustrated in Figure 4.


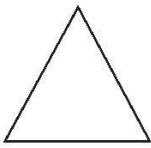
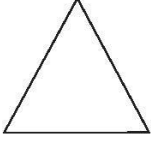

	Humanist culture	Scientific culture
Knowledge structures	 <p>(horizontal)</p>	 <p>(hierarchical)</p>
Knower structures	 <p>(hierarchical)</p>	 <p>(horizontal)</p>

Figure 4: The two cultures of knowledge structures and knower structures (Maton, 2007, p. 92)

From the basis of knowledge structures and knower structures, Maton (2014b) offers ‘epistemic relations’ (ER), which is used to describe the object, or knowledge, and ‘social relations’ (SR), which describes the subject, or knower in LCT(Specialisation). These two concepts are further refined, using the concepts of classification and framing (3.3.1), to indicate the relative strength or weakness of each. Examples of classification and framing in ER and the SR are illustrated in Table 4, although most disciplines would fall somewhere on a continuum between the two end points. Different disciplines would be positioned in relation to the extreme examples of ER+ and SR+ provided in the table below.

Table 4: Classification and framing of epistemic relations and social relations

	Examples of classification	Examples of framing
Stronger epistemic relations (ER+)	Clearly bounded knowledge	Little or no choice of content, pace and ordering
	Specific object of study	
	Limited procedures used to investigate	Little or no choice of evaluative criteria or assessment types
	Specific physical space	Acceptable behaviour is clearly defined
Stronger social relations (SR+)	Knowledge from many disciplines integrated by the knower along with their experience	Acquirer chooses content, pace, ordering
	Object is not clearly defined or always explicit	Acquirer chooses evaluative criteria and assessment types
	Different procedures used to investigate object	Knower needs a specific disposition to make knowledge claims
	Space may be multipurpose	

Using the concepts of classification and framing to identify the relative strength and weakness of ER and SR results in a description of the discipline as a number of codes (Maton, 2010a, 2010b, 2014b). A discipline where epistemic relations dominate (ER+) and social relations are weak (SR-), is referred to as a ‘knowledge code’, and would have certain characteristics, such as clearly defined specialised procedures that would be used to investigate specific objects of study. These procedures and objects of study would be unique to the field and could not be easily appropriated by other disciplines. In knowledge codes, the individual or acquirer has little choice in the object of study, procedures, acceptable behaviour and evaluative criteria (Maton, 2010a, p. 46). Individuals do not require any specific disposition to engage with the knowledge as long as they follow the procedures. In theory, all have equal access to this form of disciplinary knowledge.

In contrast to knowledge code disciplines, other fields may exhibit weaker epistemic relations, but stronger classification and framing of social relations. Here the knower claims specialised knowledge that “may be hypothetically boundless, difficult to define, or encompass a host of disparate and seemingly unconnected objects of study” (Maton, 2010a, p. 46). They may use tacit procedures and have the freedom to choose from a variety of objects to study. With stronger social classification and framing, the knower’s disposition and practice allows them to make knowledge claims. Yet, only certain privileged knowers may make these claims. If a discipline exhibits weaker classification and framing of epistemic relations (ER-) and stronger classification and framing of social relations (SR+) this combination is considered a ‘knower code’ or (ER-, SR+).

The relative strength and weakness of ER and SR can be plotted on the ‘epistemic plane’ and the ‘social plane’ respectively. As an example, Figure 5 depicts the results of Carvalho’s (2010) study of four design disciplines and how designers described them. Her findings indicated that architecture and digital media fell into an ‘elite code’ (ER+, SR+) where both knowledge and personal attributes are valued. Fashion design fell into a ‘knower code’ (ER-, SR+) in that the dispositions or attributes of the person were more highly valued than specialised knowledge. A ‘knowledge code’ (ER+, SR-) would require specialised knowledge, procedures, skills, and techniques without any specific disposition, as is the case in engineering (Carvalho, 2010). If neither knowledge nor knower are highly valued this results in a ‘relativist code’ which would be closest to everyday knowledge and attributes.

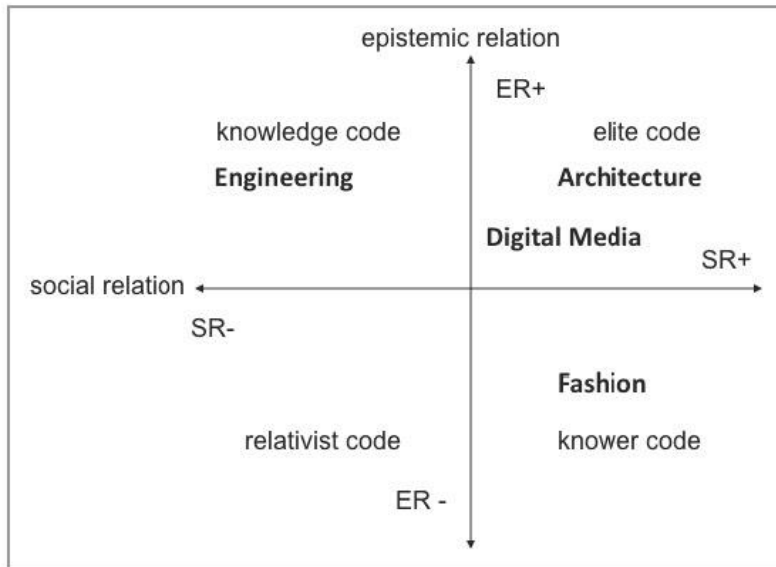


Figure 5: Legitimation Codes Theory and the Design Disciplines (Carvalho, 2010, p. 129)

The research by Carvalho (2010) does not extend to design education, but both she and Steyn (2012) indicate that the knowledge-knower methodology could be used to analyse design assessment. In my study, LCT(Specialisation) provided both the descriptive language (4.1.6.1) and the conceptual tool used to analyse the data (p.125). This allowed me to identify the knowledge-knower structures for the various GD practical modules, at the formative and summative stages of assessment and on the different campuses (p.208). In order to establish the relative strengths and weaknesses of ER and SR, the concepts of classification and framing were used. In practice, applying these concepts to the data from the panel assessment conversations was challenging. What was required was the creation of a language of description based on the data: this language was informed by the LCT(Specialisation) theory. How the language of description was created and used to analyse the data is discussed in more detail in section 4.1.6.

3.4.1.2 The Gaze

As mentioned previously, the gaze developed in a horizontal knowledge structure plays a central role in LCT(Specialisation): it will thus be discussed in more detail in this

section. In disciplines characterised by horizontal knowledge structures, the acquirer uses a gaze to “recognise, regard, realise and evaluate legitimately the phenomena of concern” (Bernstein, 1999, p. 170). In other words, the acquirer understands, can use and can evaluate disciplinary knowledge using the particular language that is dominant in the discipline at that time. In a field such as GD, a valued gaze would be essential both in education and in the industry to recognise, evaluate and produce GD pieces. Maton (2007, 2014b) refers to the gaze as disposition, character, aptitude, attitude and personal expression. He indicates that in art and literature the gaze may require “cultivated sensibilities or refined judgement” (Maton, 2007, p. 100). This latter statement relates strongly to Bourdieu’s (1995) concept of the gaze valued in art. He claims that, for an artist’s work to be acknowledged and for a connoisseur’s judgement to be considered legitimate, their gaze or disposition should align with the acknowledged gaze of the time (Bourdieu, 1995). The gaze is therefore specific to a particular social space and historical time. A constant struggle for legitimation takes place within a field. “These strategies to shape the ‘rules of the game’ are themselves shaped by relations between actors’ dispositions (which are in turn shaped by previous and ongoing experiences in fields) and the current structure of the field” (Maton, 2014b, p. 17). Bourdieu (1995) indicates that the rules of the game are established and perpetuated by those with status and power in the field, as they establish what is valued in art and what dispositions are valued in the artist. Conversely, status may also be achieved through a break or revolution in the gaze. This could be equated with the production of a new language.

The valued gaze is acquired through experience, immersion in the canon and great works of the discipline, and exposure to ideal knowers, and results in the acquiring of the disciplinary “procedures of enquiry and means of judgement” (Maton, 2011, p. 77). This means that, in GD, the gaze plays an important role throughout the design process (p.44), where students are required to make judgements at each stage of creating a design piece. It is also essential for the judgements that assessors make. Although GD has a stronger functional or practical role than ‘high art’, the concept of the gaze and the alignment between what is valued in the field of production (5.2) and what is considered

to be good design holds true. I propose that the role of the assessor aligns with Bernstein's (1999, p. 170) requirements for demonstrating a gaze. These include that the assessor must be able to

- read the design and consider it in relation to previous design experienced,
- understand it in relation to the function it should play and
- evaluate it against what is considered legitimate design at that point.

Assessing GD work requires in part, judging whether the student possesses the legitimate design knowledge, attributes and acknowledged gaze. In this case study establishing the nature and characteristics of the GD gaze relied on identifying how it was described and used in assessment (Chapter 6), although I did also consider this in relation to the gaze valued in the field of production (Chapter 5).

In an education context, Bernstein (1999) and Maton (2004, 2010b) propose that, for all horizontal knowledge structures, the ideal knower would develop a 'privileged gaze'. As the gaze relates to the knower, the form and characteristics of the gaze are often tacit and not easily defined and the definition would vary from one discipline to the next. For instance, Martin (2012) refers to an 'ear' for music in his research identifying knowledge-knower structures in jazz education. In jazz the gaze is acquired "through exposure to significant works by significant musicians, in addition to their experience playing their instrument and performing" (Martin, 2012, p. 8). The terms 'ear', 'voice', 'eye' may be used in different fields, but these are not very descriptive, or easily defined, and may not be universally agreed on. In Gamble's description of the knowledge-knower structures identified in craft apprenticeships, she proposes that the craft gaze requires the "tacit transmission of the capacity to simultaneously 'see' what is there and what is not there" (2001, p. 198). This capacity to 'see' has two components, knowing and doing, which Gamble (2001) links to Polanyi's (1958) definition of connoisseurship. In design education, Steyn (2012, p. 39) refers to the gaze as being able to 'read' and 'write' design. The gaze in the context of this case study indicates

what assessors use to judge students' work, as well as the valued gaze that students are expected to evidence. Both are closely tied to judgement and decision making.

In order to establish the relative strength or weakness of the gaze, Maton (2010b, 2014b) returns to a 'knower-grammar' by identifying four varying strengths of the gaze: the 'born', 'social', 'cultivated' and 'trained'. The varying strengths, illustrated in Figure 6, indicate the accessibility of the field to knowers, the potential for progress and the status they may achieve (Maton, 2014b). The born gaze, being the strongest form, is the most difficult to acquire, as certain individuals are born with the gaze, while others are not. This makes membership strongly restricted. An example might be the concept of natural talent or genius. A slightly weaker form of the gaze, the social gaze requires the knower to belong to a certain social category, for instance a specific race or gender. Two even weaker forms of social relations are the cultivated gaze and the trained gaze. The cultivated gaze can be learnt through education, and the trained gaze can be acquired through prolonged exposure to the procedures used, therefore anyone would be able to acquire a trained gaze.

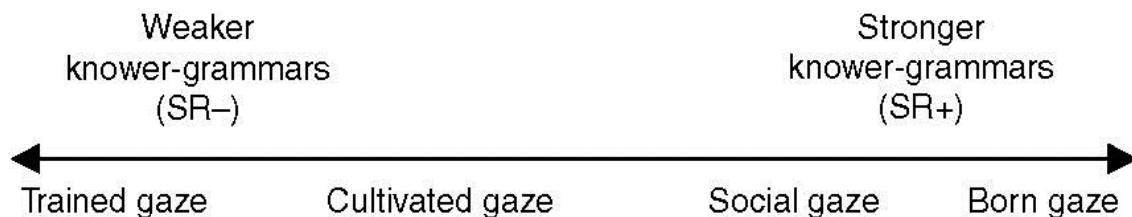


Figure 6: Knower-grammar and gazes (Maton, 2010b, p. 168)

A gaze, either cultivated, social or born, would be a requirement for success in a knower discipline. Given that design education is rooted in a master¹⁶–apprentice system (Feast, 2010; Souleles, 2013), the literature indicates that a design gaze can be cultivated. Although with increasing student numbers the use of the master–apprentice

¹⁶ Gamble indicates that, in craft traditions, terms such as master and mastery are common as “the social relations of patriarchy have traditionally regulated craft” (2001, p. 199).

system in HE is under pressure, GD education is still based on learning through doing (Manchado-Perez, Berges-Muro, & Lopez-Fornies, 2014). This approach includes being guided by those who are experts in the field. In addition, the concept of learning through immersion in practice has been identified in various fields of design education (Schön, 1987; Logan, 2006; Steyn, 2012). The GD programme at PISA therefore aligns with the approach of developing a cultivated gaze through experience, immersion and education.

A cultivated gaze requires integrating a range of 'habitus', or "the norms and rules, or the social and culturally acquired dispositions" (Danermark et al., 2002, p. 97), of the discipline. Bourdieu's concept of habitus can be described as "our ways of acting, feeling, thinking and being. It captures how we carry within us our history, how we bring this history into our present circumstances, and how we then make choices to act in certain ways" (Maton, 2008b, p. 52). Habitus is integrated through cultivating the necessary dispositions until an ideal gaze is achieved. Once acquired, the ideal gaze may be focused on other contexts, with the potential for cumulative knowledge building over time (Maton, 2010b, 2011). The person who possesses the ideal gaze would be able to move from the original context into other contexts and still be able to recognise and evaluate what they see and be able to debate the judgement with others from that epistemic community. Maton refers to Bourdieu's concept of 'rupture' (Bourdieu & Passeron, 1990), which occurs when there is a change of gaze, from accepting what is obvious or common sense, to a more sophisticated insight.

Thus, to 'master in a practical state everything that is contained in the fundamental concepts' takes time, prolonged practice and typically intimate pedagogic relations to enable a 'genuine conversion, a *metanoia*, a mental revolution', that is to reshape one's dispositions. (Maton, 2011, p. 77)

A further discussion regarding how the privileged GD gaze was defined in this study can be found in relation to the field of production (p.155) and the language of description (p.117).

3.5 Conclusion

In this chapter I have discussed critical realism and its role as the metatheory for this research study. The critical realist ontology of a stratified reality encourages the use of theory to conceptualise the underlying structures and mechanisms that cause the observable events of a phenomenon. In this study, knowledge structures and knowledge-knower theories provided the means for me to abstract the mechanisms and structures. With knowledge at the centre, I addressed knowledge structures and the core concepts of classification and framing, and vertical and horizontal knowledge structures that describe the organising principles of disciplinary knowledge. In addition, the introduction of the three rules of production, recontextualisation and evaluation, especially evaluative criteria, provided valuable concepts that assisted with defining how knowledge might be structured at the various stages of GD assessment.

The limitations of considering knowledge structures in purely epistemic terms were discussed, especially in relation to a field such as GD, which is primarily a horizontal knowledge structure that requires the acquirer to develop a disciplinary gaze. As a solution, I proposed LCT(Specialisation) as a fine-grained conceptual tool which allowed for the significance and power of both knowledge and knower to be acknowledged in a field such as GD. As a key attribute of the knower, the gaze was introduced as an alternative form of knowledge building in disciplines with hierarchical knower structures. It was established that LCT(Specialisation) enables the identification and analysis of knowledge-knower structures that are found in the less explicit elements of pedagogy and assessment. These often tacit elements primarily related to the knower. Although some of the difficulties of clearly defining the valued gaze are highlighted in this chapter, the importance of the disciplinary gaze in both the arena of design production and the assessment of GD practical work cannot be underestimated. The strategies for defining the GD gaze, knowledge and the knower in this study will be discussed in the following chapter, in which I describe the research methods.

Chapter 4 Research design

In this chapter of the dissertation, I describe the research design and methods used in my case study of GD assessment practice. In addition, I outline how the research approach, design, methods and techniques align with the research question, the underpinning critical realist metatheory and the theories used. The chapter offers me the opportunity to present both the research map and my actual research journey, and to discuss how potential and real hurdles were identified and dealt with along the way.

A critical realist metatheory accommodates the use of both quantitative and qualitative methods (Collier, 1994; Danermark et al., 2002). Although this study includes a small quantitative component, it is predominantly a qualitative case study. A quantitative survey was used to establish the PISA lecturers' perceptions of what they valued in professional GD practice. In the qualitative phase, I aimed at a more nuanced and richer description of the GD knowledge and knower as valued in the assessment practice within the PISA multi-campus context. Specific study guides and the recordings of observed formative and summative marking sessions on a number of the PISA campuses provided the qualitative data. The institutional documents and observed marking and moderation events therefore provide the data experienced in the domain of the actual. Assessors' experiences at the empirical level were gathered in the survey and in a feedback session conducted with a focus group. This data was coded using the knowledge-knower structuring theory in order to make the underlying structures, positioned in the domain of the real, more visible.

The fundamental aim of this study was to try to explain the phenomenon of GD assessment and to possibly reveal why inter-assessor reliability may be problematic in this field. My initial readings and my own experience indicated that there was more to the phenomenon than the observable context (2.2). As discussed in section 3.1, I identified that a critical realist metatheory offered the most valuable perspective for this study. The approach enabled me to establish a distinctive view of the phenomenon, through which the underlying objects and causal mechanisms (p. 63) that made the

assessment practice what it was were related to the influences of the context. Therefore, the ontology and epistemology of the metatheory influenced my research design as well as the generation of data, the data analysis and the interpretation. A critical realist approach aims to identify the causal mechanisms positioned in the domain of the real and how these interact with each other within a context. To achieve the move from the observed assessment practice in the domain of the actual to the mechanisms in the domain of the real, I made use of the conceptual tool of LCT(Specialisation) (3.4.1.1). LCT(Specialisation) was used to frame, analyse and interpret the data generated, thereby revealing the underlying knowledge-knower structures and making the mechanisms more visible. With this approach, I could focus on and identify the specialisation codes valued in GD assessment.

The following sections are guided by Easton's (2010) six characteristics of a critical realist case study, which resonated with the approach used in my research project. I use these characteristics not only to illustrate the robustness that I have attempted to maintain throughout the research process, but also to describe how this case study aligns with a critical realist approach. In addition, I outline a number of the challenges that I faced in doing 'insider research' in my specific context, and the difficulties of applying the conceptual tool of LCT(Specialisation) to assessment in a visual, practice-based discipline such as GD. In line with Easton's (2010) proposed characteristics, I address issues of validity and generalisability in the case study, as aspects of quality. I therefore describe how quality is conceptualised in relation to this specific study, its aims and the context.

4.1 The critical realist case study

4.1.1 The type of research question asked

In critical realism, the question "what caused the events associated with the phenomenon to occur" (Easton, 2010, p. 123) is key. My research question probes:

What underlying knowledge-knower structures are revealed by the assessment criteria used when judging graphic design practical work within a multi-campus private higher education context?

The question was further broken down to consider the knowledge-knower structures that emerged at the formative and summative stages of assessment (1.3). That GD assessment is a complex process and that inter-assessor reliability in this field is problematic are visible events, but my question asked what underlying objects, mechanisms and conditions cause the phenomenon. Seen in critical realist terms, this study was therefore not only about describing the events and their context, but I sought also to describe the underlying knowledge-knower structures that shape the assessment criteria and the value judgements made.

There are a number of definitions of the case study method, including that it is “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 2009, p. 18). Others emphasise that this form of in-depth inquiry makes use of ‘thick’ or ‘rich’ description achieved by considering the phenomenon from different perspectives and over a long period of time (Danermark et al., 2002). As a research method, the case study is suited to explaining complex social phenomena and answering questions regarding how and why these phenomena occur (Yin, 2009). It was therefore well suited to a critical realist approach aimed at uncovering the underlying mechanisms that activate events, such as the underlying knowledge-knower structures that contribute to making the phenomenon of GD assessment what it is. Taking into account the critical realist depth ontology, theories or abstractions are used to interpret and analyse the data generated in the empirical domain, in order to access the underlying mechanisms in the domain of the real (3.1). In my study, knowledge theories and LCT(Specialisation) provided the framework and conceptual tool that allowed for this excavation.

In the following sections I indicate how the philosophy of critical realism is practically applied in this case study and how ethical and quality issues were addressed.

4.1.2 Time and place

Stake (1994) points out that the researcher chooses a case *to* study, rather than deciding on *the* case study method. This case study concerned the assessment of GD

practical work at the institution that I worked at, where there was an institutional emphasis on assessment parity and reliability across multiple campuses. The background to the choice is described in more detail in the section on insider research (4.1.3). Within a case study, boundaries, for instance space and time, are set (Yin, 2009, p. 32). The contextual boundaries (2.1), such as PISA as part of Private Higher Education in South Africa and the multi-campus structure of the institution, were contextual elements of this study, as the phenomenon being studied was positioned within and influenced by the context. The micro context was equally important, and this included the processes, characteristics and culture that make art and design assessment unusual (2.2). The macro and micro contexts, the visual practice-based aspects of the modules, the different forms and tacit nature of the knowledge used (2.2.2) and the diversity of assessor perspectives all contribute to the complexity of GD assessment as a social phenomenon.

In terms of time-frames and physical locations, the data generation took place on four of the PISA campuses offering the GD degree during 2013, 2014 and 2015 (4.1.5). I made use of the 2013 study guides. I acknowledge that these guides and the experiences and perceptions of the assessors may change over time. Although the case study was bounded to a specific context, physical locations and time frame, it does not mean that the study and my findings are not of value outside of these parameters. The potential value of this type of research to other contexts is discussed in more detail in section 4.3 and in 7.3.

4.1.3 Insider research

Within the institutional context, the position of myself as Dean of faculty and line manager at PISA were aspects that I felt could not be ignored or eliminated from this study. Cousin (2013) proposes that such positioning be recognised, and addressed by using a reflexive approach which incorporates the researcher's experience as a component of the data. As an insider researcher, I brought particular perspectives, experiences and preconceptions to the research process, which could impact on the study in a number of ways, as illustrated in the following sections.

Before embarking on this project, I felt that as Dean I should find a solution for the lack of reliability that sometimes occurred when GD practical work was marked and moderated. As discussed previously (p.3), one of my reasons for embarking on this research project was that assessment and maintaining standards for the GD course on all campuses had been one of my most challenging responsibilities as Dean. I had started with a rather narrow positivist view of assessment, believing that if two assessors disagreed on the value of student work, one was right, and one was wrong. As this investigation progressed I came to see that this was a simplistic and superficial view of the assessment phenomenon, and that the reasons for such differences in the marks awarded were more complex and more deeply hidden than I initially thought.

Given the history and context of disputes regarding marks and inter-assessor reliability on various campuses, my role in these incidents could not be ignored. For instance, lecturers on the coordinating campus monitored the standards on the remote campuses and, if they identified a significant problem, I was called in to engage with the campus staff. Therefore, my role could be seen as one of monitoring, control and discipline. I most often visited remote campuses and met with lecturers, students and parents when there were problems to be resolved. The type of problems varied, but over the past seven years they had most often been related to disputes regarding standards, marks and assessment.

Although I was the line manager of the GD lecturers on the coordinating campus, I had, in my opinion, a collegial relationship with these staff members. We interacted daily and I was often involved in and consulted on the planning and implementation of assessments, teaching and curricula. We had many formal and informal discussions regarding design education, students, curricula, assessment, teaching and the broader issues facing Higher Education. On the other hand, as the line manager I evaluated each GD lecturer's performance on the coordinating campus. This introduced an element of power between myself and the participants. Maxwell (2012) suggests that this should not be ignored, especially if one party has more power than the other. As much as I saw myself as part of the GD academic community, with no hidden agenda of

judging lecturers and their performance during the data-generating process, this may not have been the perception of all participants. I tried to be aware that my position of power could play a greater role on certain campuses, if my role was perceived in the light of past experiences. The researcher should therefore consider “What perspective am I bringing to the inquiry? What insights does it afford? What alternative lens might be useful? What were the limits and scope of my inquiry? How was I positioned?” (Cousin, 2013, p. 127). I therefore tried to consider how my view of the phenomenon, as well as my experience, might provide insights or cloud my vision. This was largely achieved through recording my thoughts and feelings in a research journal in an attempt to reflect, identify and raise my awareness of such conceptions. I have not included examples of these reflections in this document, as they were largely aimed at interrogating my own assumptions and how I might interpret what I had experienced. Consulting with my supervisors and colleagues also assisted me with utilising my experience, identifying my blind spots and acknowledging preconceived perceptions.

There may be a number of disadvantages to insider research, depending on the past experiences and relationships of the researcher and participants. Participants may fear that they could be judged by the researcher, who knows them. My own personal characteristics and experiences, as well as my relationships with the research participants, were important factors in this case study. Maxwell points out that it is vital for researchers to consider their “prior experiences, beliefs, purposes, values, and subjective qualities” (2012, p. 96) and their relationships, in a realist study. The two factors – personal characteristics and relationships with participants – also impact on the theories and frameworks chosen and the methods used. Therefore my perceptions, my prior experiences, my relationships with participants and their perceptions of me were all “real phenomena, things that have an influence on the research, the data collected, and the conclusions” (Maxwell, 2012, p. 97).

Insider research in education may, however, offer certain benefits, such as access, familiarity with the context, understanding of the social setting and rapport with the participants (Mercer, 2007). The role that I played at PISA as Dean of the faculty

situated me as both insider and outsider in this research. I was an insider as a long-term art and design educator, but also an outsider as my background was in photography rather than in GD. I was an insider as a member of the coordinating campus staff, but an outsider to the remote campus staff. I was an insider who was often involved in GD curricula development and workshops, but an outsider as I did not teach or assess GD. For the remote campuses, I was an insider as part of the Faculty and the larger art and design community, but an outsider as I was not a colleague on that campus. The importance of being an insider, or not, was primarily in how it affected my relationship with the research itself and with the participants. There were many times during the process that I had to check the assumptions that I made to ensure that these were not influenced by previous events or coloured by my position at the institution, but were valid responses to the events that were unfolding.

As observation was the primary data-generating method in this case study, I found it crucial for me to consider my position and any asymmetric power relation that may have resulted from this. Potentially this might have had unintended consequences and could have influenced participation, how assessors marked, interacted and communicated, as well as what was said. In my informal discussions with lecturers who participated in the observed marking sessions, some indicated that they had been nervous, while others indicated that they had talked more than they usually would have. On one campus, where marking sessions were recorded without my being present, there was no noticeable difference in the process and the behaviour of the assessors when compared to the sessions that I observed personally. A number of campuses did not respond to my request to observe or record marking sessions, which might indicate that they were hesitant to open up their assessment practice to me. I had known some of the external moderators who moderated the summative portfolios (p.21) for many years and in various contexts. Others I met for the first time at the moderation sessions. These individuals were invited to be external moderators based on their experience and standing in academia and/or industry, thereby meeting QA requirements. I present my insider / outsider roles here, not as opposites, but as points on a continuum that indicate my relationships with the assessors.

Given my position as both insider and outsider, the two roles of researcher and Dean were on occasion challenged. For instance, during the research I observed that assessment procedures described in departmental guidelines were not always followed. In a number of instances, lecturers marked formative briefs alone, instead of following the departmental procedure of panel marking. As researcher, I left this unchallenged and adapted my data-recording method to the situation (p.112), and yet, as Dean, and being aware of the benefits of panel marking, it was challenging for me not to raise this with the lecturer. Before and after the recorded marking sessions I was always careful to establish if the assessors felt that my presence or the recording of the sessions influenced their marking in any way (4.2). This was to ensure that students were not disadvantaged by an assessor marking too strictly or too leniently because I was present.

As indicated above, there are both advantages and disadvantages to insider research. An advantage was knowing many of the participants, as well as the assessment documents, processes and procedures. Being able to observe the marking sessions was rewarding, for myself as a researcher, but also in terms of building relationships with lecturers and moderators on different campuses. I got the impression that the assessors welcomed my questions and interest in their practice, and my being there provided an opportunity for lecturers to point out other issues not related to assessment, that as Dean I should be made aware of. Trowler (2011) indicates that aspects of power should be considered by an insider researcher, and these may include how the institution and participants are treated, whether feedback is provided to participants, how anonymity is ensured and whether participants have access to the outputs of the research. Ultimately how my findings would be received by the institution was, at the stage of writing, relatively untested.

4.1.4 Identifying the objects

Events (3.1), in the domain of the actual, such as observable behaviour, occurrences, systems and processes may be social, or natural (Sayer, 2010). In this case study, the phenomenon of GD assessment and its weakness in the area of reliability could be

experienced, observed and described by myself and by the assessor participants. My aim in generating and analysing data from these and other sources was focused on revealing the objects or entities that make the phenomenon of GD assessment what it is. The objects in this case study are social objects, which may be “people, economics, nations, institutions, activities and so on” (Sayer, 2010, p. 59). When considering a social phenomenon such as GD assessment, the questions that are asked are therefore:

What are the fundamental social relations without which this phenomenon would cease to exist? And further: What can this object achieve? The answers will point out causal mechanisms and thereby also tendencies behind the social courses of events we can observe. (Danermark et al., 2002, p. 187)

The critical realist aim is therefore to identify the objects that are integral and crucial to the studied phenomenon and use appropriate research methods to study these objects, as these objects have possible causal powers with possible consequences. In addition, the characteristics of the objects, their powers and their relationships should be considered, as these reveal “what it is about the object that enables it to do this” (Sayer, 2010, p. 72). In the case of GD assessment, the textual documents, the assessors’ and moderators’ practice, and their attitudes and relationships to each other and other objects, such as disciplinary knowledge provided access to these objects. Easton (2010) emphasises that it is not enough to merely identify the objects, but one must also establish their structures, relationships, powers, liabilities and absences, as all are critical to an explanation of why a phenomenon exists.

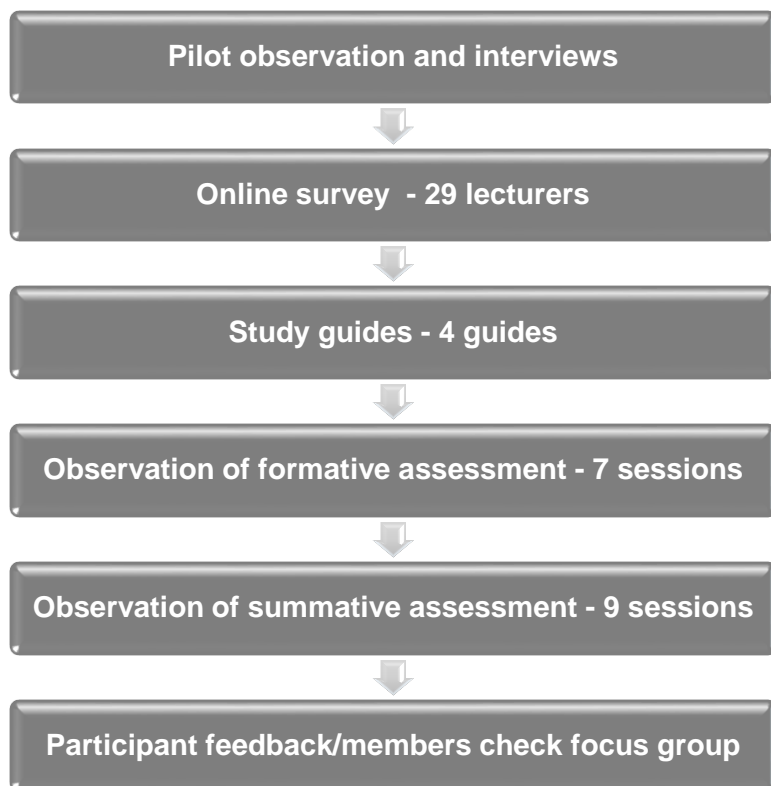
Theory as a form of abstraction (3.1) can be used to identify objects and their characteristics. Theories may also be used to “redescribe this object so as to bring out its complexity, the way in which it is determined by its internal and external environment as an outcome of a multiplicity of interacting tendencies” (Outhwaite, 1999, p. 291). To this end, the knowledge theories (3.1) and conceptual tool of Legitimation Code Theory (Specialisation) (3.4.1.1) were used to focus on knowledge and knower as objects that generate the complex social phenomenon of

GD assessment. The use of theory enabled me, as a researcher, to uncover objects at a deeper level of reality. Theory can be seen to provide a shift in focus from context (Chapter 2), the GD disciplinary content (Chapter 5) and the assessors' experiences to reveal the underlying structures (Chapter 6). These stages are positioned respectively in the domain of the actual, empirical and real (Chapter 3). Examples of the use of these theories in design education contexts are provided by Carvalho (2010), Dong et al., (2014), Steyn (2012), Clarence-Fincham and Naidoo (2013) and Shay and Steyn (2016). These examples illustrate that LCT(Specialisation) can be and has been used to consider practice-based disciplines. Despite the examples of others using this analytical tool to analyse, relating the "concepts and categories" (Maxwell, 2012, p. 139) of the theory to actual observed events, was not without its challenges. How these challenges were addressed is discussed in section 4.1.6. Ultimately the use of knowledge theories, especially LCT(Specialisation) which accommodates the knower, proved to be a difficult, but valid choice.

4.1.5 The data

In a case study, various types of data may be generated from a number of sources, using several methods. In this study, quantitative and qualitative methods were used as both are well suited to a critical realist study (Danermark et al., 2002), although they served different purposes. The quantitative survey provided me the opportunity to gauge the opinions of a relatively large group of GD lecturers on all of the PISA campuses regarding what aspects of professional GD practice they considered the most or least important. The subsequent data generation phases required a qualitative approach, as statistics do not explain why something occurs (Sayer, 2010). The various components of the data generation are indicated in Figure 7 (p.99), which illustrates each stage, although not necessarily in chronological order, as some ran concurrently.

Figure 7: Data generating stages



The study guides, panel and individual marking sessions and focus group interview provided various types of data, gathered from varied perspectives. This diversity of data was essential to capture the nuanced differences between the knowledge-knower structures described in the espoused assessment criteria, and the criteria used during the formative and summative assessment stages, on different campuses, and for the different modules. I found that the rich data of the text-based study guides and the conversations of the assessors added depth and detail, covering the explicit and tacit knowledge-knower structures found in the GD assessment practice. This varied and multi-dimensional approach aligned with both a critical realist and a case study approach as defined by Danermark et al. (2002), Maxwell (2012) and Sayer (2010). The decisions regarding sampling, purpose and the practical challenges at the different stages of data generating are discussed in more detail in the following sections.

4.1.5.1 Data generating

As mentioned in the previous section, decisions relating to generating data should consider the methods used as well as the types and sources of data. The data-generating process for this study ran concurrently with my reading of the literature, engaging with various theoretical perspectives and writing drafts of the chapters.

4.1.5.2 Selection

In a case study, site, process and participation levels should ideally be included in a sampling strategy (Creswell, 2013). Maxwell (2012) uses the term selection rather than sampling for qualitative research. In this study, the term selection was more appropriate as it referred to my selection of the specific study guides, the assessment stages, the campuses and the participants. Four module study guides, out of a possible twenty practical modules that were included in the GD degree, were selected for analysis. This decision is discussed in more detail in section 4.1.5.5. The choice of participants for the observation and interviews was guided by their appropriateness to the study and the practicalities of access and availability, which can be considered purposive and convenience sampling (Creswell, 2013). All GD lecturers at PISA acted as assessors, as they were required to mark the individual formative briefs for the modules that they taught, and lecturers were often asked to mark briefs with other lecturers. In the study, lecturers were therefore the individuals who carried out the day-to-day formative assessment practice, as well as contributing to the summative assessment. The external moderators moderated portfolio marks on each campus twice a year. At mid-year, external moderation was a quality assurance and feedback exercise. At the year-end it was a summative assessment exercise.

Lecturers and external moderators in this case study were seen to be individuals, who could provide in-depth, rich knowledge (Cohen, Manion, & Morrison, 2007). The observation of group or panel marking sessions afforded me access to the conversations, discussions, negotiations and debates that characterise art and design marking sessions (2.2.4). Others (Webster, 2006, 2007, 2010; Morgan, 2011;

Belluigi, 2015) have observed panel, crit or jury sessions in art and design and used these as data-generating sources. In these cases, the focus of the research was primarily on the interaction between assessors and students. In my study, the marking sessions did not include students primarily because students were not involved in formative or summative marking sessions at PISA. Students were provided with formative feedback either in person or in writing, but they were not actively engaged in the assessment practice. This was possibly a further reflection of the difficulty of engaging different stakeholders when curricula and assessments are centrally designed.

The guiding principle in selecting settings and participants for a qualitative study is not usually to ensure representativeness or comparability, but, first, to identify groups, settings, or individuals that best exhibit the characteristics of the phenomena of interest, and second, to select those that are most accessible and conducive to gaining the understanding you seek. (Maxwell, 2012, p. 94)

Although the PISA GD degree was offered on ten campuses, four campuses were initially selected based on geographic proximity to the researcher. The early plan was to observe formative and summative panel marking on these four campuses, and both lecturers and external moderators were invited to participate. The lecturers and moderators for the identified modules were contacted either via e-mail, telephonically or in person, and during this communication I made requests to observe and record marking sessions. If a lecturer or moderator agreed, they informed me of the date and time. The timing of the observation sessions was dictated by the year schedule, in which deadlines for the submission of briefs and portfolios were set. I had no control over which lecturers would be marking, or which external moderators would be available. It became largely a matter of convenience and synchronicity as to which assessors were willing to participate and which sessions I could observe and record.

Initially I had responses from only two local campuses, which included the campus that I worked at. This was a concern as generating a large portion of the data on one campus, especially the coordinating campus where I worked, would not have

achieved the objectives set. This made me very aware that the methods used in qualitative research “may address validity threats or create threats” (Maxwell, 2012, p. 146). At the suggestion of a colleague and my supervisors, I asked lecturers at four additional campuses not in my immediate vicinity if they would be prepared to record their marking sessions and provide me access to these. They would thus make video and audio recording without my being present. This approach could potentially enhance the study in three ways: firstly, to create an environment where the assessors would feel more comfortable, as I would not be present; it might therefore downplay if not eliminate the power dynamic. Secondly, I would not have to be physically present to make the recordings, therefore multiple recordings could be made at the same time. Thirdly, I might identify a difference between recordings captured when I was present and those where I was not, thereby providing possible insights into the influence of the power disparity between myself and the assessors. The drawbacks were that I had no control over the recording quality and no first-hand experience of the session during which I could make notes, and I would not be able to ask follow-up questions immediately after the session. Ultimately three campuses agreed to my observing and recording their marking sessions and two campuses recorded marking sessions for me. Unfortunately, I could only use the recordings from one of these campuses, as the other campus recorded a feedback session with students. As this was not a marking or moderation session, the recording could not be used. In total sixteen assessment sessions were recorded on four campuses. A breakdown of the data-recording sessions is included as Appendix C.

4.1.5.3 Pilot observation and interviews

A pilot project designed to generate data was completed in the early stages of the research. Here I recorded the external summative moderation of specific first-, second- and third-year modules on one campus. I also interviewed two of the external moderators who were from different academic institutions. On a practical level and in order to maintain ‘descriptive validity’ (Maxwell, 2012, p. 134), which aims to establish that the reporting and recording of physical actions are factually

accurate, both audio and video recordings were made of the marking sessions. If one device did not work, the other recording provided backup. The dual approach allowed me to document the verbal exchanges and discussions between assessors, as well as the non-verbal interaction and the assessors' interaction with the documents and student work¹⁷.

When comparing the interview data to the observation data, as well as completing an initial coding and analysis of the two, I made the decision to focus on observation rather than interviews. The advantages of observation, as opposed to interviews, as a data-generating method for this case study is addressed in section 4.1.5.6. After careful consideration of the pilot observation data, I concluded that it remained relevant and valuable to the overall study, and this data was included, re-coded and analysed as part of the final coding and analysis phase.

4.1.5.4 Online survey

In order to gain a broad picture of what professional GD knowledge-knower characteristics were valued by lecturers, an online quantitative survey was designed in SurveyMonkey®¹⁸ and e-mailed to all lecturers teaching practical modules on all campuses. This took place in the beginning stages of data generation. Based on the literature from the field of production (Chapter 5), and my understanding of the substantive theories, the questions were grouped into those that I understood to characterise either GD knowledge, or GD knower. The survey was tested with a small group of design educators at different institutions and with my supervisors. Ultimately forty-one questions were used in the final survey (Appendix A). In the following section I will discuss the analysis of this quantitative data.

¹⁷ No examples of student work have been included in this document although they are visible in the videos. In addition to my commitment to maintaining the anonymity of the participating assessors and students (p. 127), the panel discussions were the primary medium of communicating what each assessor valued when marking or moderating. The focus on the data gathering was therefore on these conversations as the prime means of communication used in this form of assessment. Providing examples of student work in this document may have clouded the interpretation of the reader, as the reader might have applied a different set of value judgements.

¹⁸SurveyMonkey® is an online tool for designing surveys and generating data.

The survey provided the opportunity to canvass a group of PISA design educators from diverse backgrounds and with a range of experience in both industry and education. It was aimed at establishing their perceptions of what they valued in a professional GD practitioner. The survey therefore provided data, positioned in the domain of the empirical, based on the lecturers' experiences as design educators and design practitioners. In addition, the survey allowed me to experiment with the LCT(Specialisation) theory by classifying GD knowledge and knower characteristics in terms of ER+, ER-, SR+ and SR-. The theory was used to design and categorise the questions and was used to analyse the data. This approach provided me with a device to move from the empirical to the real, thereby enabling me to make the underlying knowledge-knower structure valued by lecturers more visible.

A total of forty-eight e-mails, containing an explanation and a link to the survey, were sent out to GD lecturers on all campuses. The survey was accessible for a three-week period. Thirty-one lecturers responded, but two surveys were incomplete and were therefore eliminated. Lecturers had the option of completing biographical information if they chose to; if they did not complete this section there was no way of identifying the participants. Twenty-three, or 74%, of the respondents chose to include their names and biographical information.

Cohen et al. (2007) indicates that a sample size of 30 is a minimum for statistical analysis. Considering that this was a case study situated within the limited PISA context, twenty-nine completed surveys indicated a response rate of 60%, which was sufficient. However, a larger sample size would possibly have enhanced the reliability of the findings.

The survey was aimed at identifying the level of importance awarded for a number of GD characteristics. For each question, participants could rank the characteristic as either very important, important, somewhat important or not important. Once the time frame for completing the survey had elapsed, the results were downloaded in the form of an Excel spreadsheet. The rankings were then converted into numbers from 0, for not important, to 3, for very important (Appendix F). The characteristics that

were identified as the most or least important in each category are listed below in Table 5. Where relevant these characteristics are highlighted in Chapter 6 in relation to the qualitative findings.

Table 5: Significant characteristics of a professional graphic designer

	ER-	ER+	SR-	SR+
Least important	Possess business skills	Ability to conduct academic research	Have hand-eye skills for crafting design products	Be gifted with natural born talent
Most important	Ability to justify their own design process and decisions	Design, layout and typography skills	Time management skills	Ability to integrate research, concept and process seamlessly into a final design product, <i>and</i> ability to distinguish between good or bad design

As illustrated in Figure 8 below, a descriptive statistical analysis indicated that the dominant knowledge-knower structure valued was ER-, SR-, in other words a relativist code. This result was surprising, as based on the existing literature I had anticipated a knower code. The relativist code indicates that the participants neither valued specialist knowledge nor a specialist knower in GD.

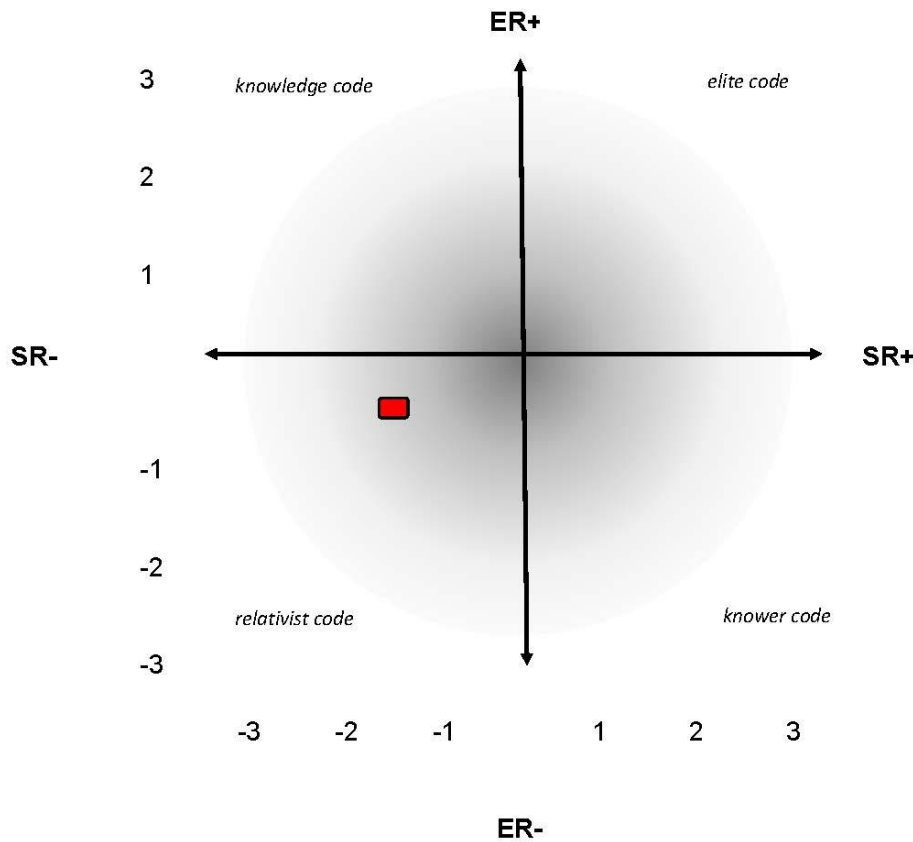


Figure 8: Knowledge-knower structure valued in professional Graphic Design practice

In contrast, when considering the data using the mode¹⁹, the rankings for ER- and SR- questions ranged between very important (3) and important (2). The mode indicated that for the ER+ and SR+ questions, there was a broader spread of opinions between somewhat important (1), important (2) and very important (3). This could be taken to indicate a greater range of conflicting opinions amongst the participants regarding the rankings awarded to questions for the ER+ and SR+. The mean, medium, mode and standard deviation values are represented in Appendix F.

Although the design of the survey was a useful exercise for myself in considering how characteristics might be arranged according to ER and SR, the value of the survey for

¹⁹ The mode indicates the most occurring ranking per question.

this study was limited as it was not directed at GD assessment and therefore could not describe the mechanisms and objects that influenced the assessment phenomenon. In addition, once I had completed the final analysis of the qualitative data, I reconsidered the questions and on reflection would have made a number of changes in the wording and the categorisation. For instance, Question 32 'Ability to make ethical and moral choices when creating design products' was positioned in SR+. I had however, subsequently identified in the qualitative analysis that ethical and moral choices made by the designer might be positioned in both SR+ and ER+ depending on which aspect, personal or professional, was considered (p.124). Based on these factors, I present no further discussion of the survey findings other than to highlight where characteristics valued in the survey aligned with the characteristics that were valued in the qualitative assessment data. The qualitative data was provided by the study guides and the observation and recording of the assessors' discussions during marking and moderation.

4.1.5.5 The documents used in assessment

My analysis of the data from four PISA study guides provided insight into the knowledge-knower structures that were espoused in the institutional documents. The guides were for the modules Graphic Design Studio 1 (ACGD100), Graphic Design Studio 2 (ACGD200), Graphic Design Studio 3 (ACGD300) and Web Design 3 (ACWD300). The guides were therefore from the first-, second- and third-year levels of the degree. These modules were selected as they were all year-long modules, and were the most discipline-specific in that they dealt directly with the practice of GD. In using these criteria, I excluded the theory modules, the semester modules and modules that played a supportive or technical role, such as drawing, digital design or typography. My approach was therefore a form of purposive sampling (Creswell, 2013).

The lecturers on the coordinating campus created the study guides, assessment structures and procedures, as well as the marking rubrics (Appendix B) for each brief.

These documents, including the four study guides, form part of an audit trail²⁰ created for this study. The selected study guides ranged in length from 56 to 64 pages and had been through a number of revisions since first being written between 2008 and 2010. At that stage, lecturers on the coordinating campus who taught each module were required to write the guides with little or no support or guidance regarding the requirements or construction of such a guide. Many translated what they did in the teaching studio into a guide, with little consideration for the multi-campus use of the guides. The guides made use of a standardised institutional template designed to align with an OBE approach and compliance with the NQF, as this was the type of document that would be submitted as evidence for accreditation or re-accreditation purposes. The guide template was adapted for practical modules and each guide had undergone minor or major changes since it was first written. These changes were sometimes driven by changes to policy, or input from new lecturers, external moderators and remote campus lecturers.

The study guides consisted primarily of the formative briefs and contained between five to eight briefs per module. Certain guides had more extensive content sections and included descriptions of various techniques and exercises. As the guides were used by both students and lecturers on all campuses, they were further broken down into broad outcomes, specific outcomes, content, briefs, assessment methods and recommended reading. This approach can be seen as part of the attempt at constructive alignment as discussed previously (p.28). The assessment methods section contained a standard description of the GD assessment processes, procedures and rules, for instance that the formative assessment mark included marks from all briefs, and that the summative assessment consisted of a portfolio (p.3). Each brief might include technical specifications and information regarding the target market, a workflow schedule and learning outcomes. In addition to the study guide, a marking rubric was issued for each brief and these contained fixed categories including: research and resources; thinking;

²⁰The audit trail consists of all of the documents related to this research process. This includes study guides, video and audio recordings, transcripts, files exported from SurveyMonkey®, NVivo® 10 files and the statistical analysis of the survey. These have been digitally stored along with the physical consent documents and my research journals.

design solutions; technical and professional/personal (Appendix B). The weightings of these categories varied for each brief. The text-based study guides therefore provided the data describing the espoused assessment criteria. In addition to the text-based study guides, the assessors' assessment practice was observed and recorded as both video and audio recordings, which were later transcribed.

4.1.5.6 Observation

The use of observation in research originates largely from anthropological studies where researchers immerse themselves in a culture, and may participate in the culture, as well as observe and interview participants (Kawulich, 2014). Observation provides certain benefits in that the researcher may use all of their senses to experience the processes, procedures and actions of participants in the field. This is quite different to hearing participants interpret their experiences in interviews (Cohen et al., 2007). In observation, the interpretation of the participants' actions shifts into the researcher's domain, as they must decide what underlying constructs are evidenced by the events that take place (Cohen et al., 2007). A number of advantages are provided by observation in that the subtleties of communication such as body language, interactions and expressions are observable; participants may share more than they would in an interview; and they may be more willing to participate, as it does not require any additional time or effort on their part (Kawulich, 2014). In this study, as participants were marking as part of their normal assessment practice, I made little or no additional demands on their time, other than asking a few questions for clarification once the marking had been completed. This use of observation for data gathering considers that "the meanings that actors use and understand are embedded in practices and social relations" (Sayer, 2010, p. 148). The assessment practices positioned within the domain of the actual were thus open to observation. The observation of group or panel marking sessions provided me with access to the practice through the interactions, conversations, discussions, negotiations and debates that characterise design panel marking (2.2.4). I was presented with what I hoped was an authentic view of the practice and the assessor's social world, rather than the individual's interpretation of their assessment practice that might have been presented in an interview (p.113).

Within the observation dynamic, the participants' and my own understandings or experiences were interpreted and communicated through language, referred to previously as the double hermeneutic (p.62). I had to consider inclusions and omissions in order to identify the tacit knowledge (2.2.2) that assessors used to make value judgements. For instance, Morgan (2011) has indicated that design theory is not formally addressed in the GD studio, therefore assessors might not explicitly discuss theory when judging student work. I therefore inferred that assessors used this form of knowledge when making certain judgements which seemed to be guided by tacit rules. This included the use of design theory and their knowledge of the history of GD when evaluating the use of design principles, composition and aesthetic style.

There were advantages, disadvantages and practical challenges (p.100) to observation as a method to generate data for this case study. When using observation, the researcher may choose varying degrees of involvement. These range from the 'complete participant' to the 'participant as observer', the 'nonparticipant/observer-as-participant' and finally to the 'complete observer' (Creswell, 2013, p. 167). In an effort to not influence the assessment practice, especially the awarding of marks, I chose to be a 'nonparticipant observer'. In addition, I selected to do unstructured observations in that I did not go into the marking sessions with a pre-defined list of actions or facts to look out for. Nevertheless, as I had read a great deal of the literature on LCT(Specialisation) when I observed some of the sessions, I was often keenly aware when elements relating to the theory were described, for instance, when elements of the gaze were mentioned by the assessors. Primarily, my approach was guided by R. T.-H. Chen and Maton's (2016) suggestion that data should be allowed to emerge, rather than the researcher imposing pre-described categories on the data. This means that the researcher has "to go into a situation and observe what is taking place before deciding on its significance" (Cohen et al., 2007, p. 397). I made occasional notes, especially if I had the opportunity to ask follow-up questions of the participants directly after observing a marking session.

By observing the assessors while they marked, I was able to see their assessment practice as well as the student work being marked and discussed. This does not imply a move to a positivist approach, where only what can be observed is deemed to be real. The observation data still had to be interpreted and considered in terms of the specialist knowledge-knower structuring theory, in order to access the underlying mechanisms that were at play at deeper levels of reality. In the process of observing and recording, I realised that some participants were more aware of the basis they used for making value judgements and were more capable of explicitly stating them. The panel discussions recorded varied in detail and descriptive quality and I had to accept that certain participants might not be aware, or might intentionally misrepresent, what they valued. Misrepresentation could have occurred when assessors felt that they had to meet my, or other assessors', expectations (4.1.3). Considering these factors meant that what was said could not always be taken at face value and that as researcher I had to consider what was both included and omitted from the assessment conversations. However, as most sessions were panel marking sessions, the second assessor acted as a check to ensure that the marking was fair and that what was stated was valid. In addition, a number of observation sessions were conducted for each module and these took place on different campuses and with different assessors; I was able to consider what was included in one session, but possibly omitted from another. The feedback session with the focus group was a further opportunity to investigate whether the unsaid was in fact used in assessment.

Thus, by observing rather than interviewing, I had access to the embodied assessment practice, rather than its theory or interpretation. Observation provided a far richer view of practice, in contrast to the pilot interviews, which offered an interpreted view of individual assessors' practice. The analysis of the observation data contrasted with the analysis of the study guides, which to me represented the espoused institutional assessment practice, or what should be done, rather than the enacted assessment practice, or what was done. As the observation sessions were also video recorded, I could go back and view these while considering and verifying the transcribed data,

although the transcripts of the audio recordings were the primary source of data for analysis. All material recorded formed part of the audit trail.

In spite of attempting to observe the marking sessions as a non-participant, I was on occasion asked questions or even canvassed for my opinion of student work. I did not give an opinion in these cases, but I acknowledge that my presence did change the situation and possibly the assessor's behaviour. As assessment, whether it be formative or summative, is a significant and a high-stakes event in education, I felt it important that I should not influence the awarding of marks in any way. My concern was that my presence might cause the assessors to change the level of the marks being awarded. This was something I wished to avoid if at all possible. Participants were thus asked at the end of the observation sessions whether they felt that their marking had been influenced by my presence. A second moderation session was offered if they felt this had happened. No participants indicated that this was the case. Informally, some assessors suggested that they had been more thorough in their process, or had discussed the work in greater detail than they would normally have done. I interpreted these comments as an indication that they may have felt that their assessment practice was on display, or that they should provide me with enough data. Others indicated that they had discussed less than they would normally have, as they felt that they had to complete the task quickly. As marking sessions can last for extended periods (Appendix C), the participants possibly felt that I did not have time to record a session that lasted all day. In some cases industry based external moderators had to return to work, and this prompted them to mark as quickly as possible.

When setting up appointments to observe the formative marking sessions, I found that lecturers sometimes marked formative briefs alone. As the departmental assessment policy required at least two lecturers to mark each brief, this challenged my perspective as Dean and 'neutral researcher'. In addition, individual marking required an adaptation of my data-generating technique. I asked lecturers who marked alone to talk me through their process using a 'concurrent think-aloud protocol', while I recorded the session. The participants therefore went about their normal marking practice while verbalising their

thinking. Think-aloud protocols have been used extensively in psychology and education to study problem-solving processes (Branch, 2000). They have also been used in the study of design processes, design thinking and design protocol analysis (Galle, 1996; Goldschmidt & Weil, 1998; Christensen & Yasar, 2007); the study of assessment practices in the marking of essays (Wolfe, 2006); and the marking of art and design (Orr, 2010a). The think-aloud protocol may have the disadvantage of requiring the assessor to use language rather than the more “tactile, liminal, sub-conscious and tacit” (Orr, 2010a, p. 4) process they would normally use when marking alone. Although it cannot perfectly replicate thinking patterns, it does provide a good technique to access cognition on tasks that are completed in a relatively short time frame (Goldschmidt & Weil, 1998, p. 88). The think-aloud protocol resulted in a rich description, a greater focus on explaining the basis for value judgements and more data, as assessors made their decision-making process explicit. I also found their comments and interaction with the assessment documents and actual student work informative. This method allowed me to play a more participatory role, as, although I did not give an opinion, the assessors felt that they were talking to me when explaining the marks awarded and criteria used and I could prompt them when they fell silent. At the end of the think-aloud sessions I also had the opportunity to ask questions or ask the assessor to elaborate on certain comments that they had made.

4.1.5.7 Interviews and member checks

As descriptions of actors’ experiences contribute to a critical realist study (Scott, 2010), a series of interviews with assessors was initially planned. As discussed previously, two semi-structured interviews were conducted with two external moderators at the pilot stage of data generation (p.102). These were analysed using my initial understanding of ER and SR. The objective of the interviews had been to probe the knowledge-knower structure that the moderators valued. Nonetheless, the interviews were unsatisfactory, as the moderators did not discuss their practice or explain what they valued in GD student work. Their discussions were quite general and therefore not linked to the selected modules. I was dissatisfied with the questions asked and the answers given, in that the moderators discussed broad criteria and these criteria were not linked to

specific pieces of student work. The participants discussed assessment as an abstract concept, rather than discussing their practice. For instance, one moderator indicated that she looked at how colour was used by a student throughout a portfolio, but without reference to specific student work there was no way to know if or how this criterion was applied in her actual practice. The participants also tended to discuss their own institution's assessment processes and procedures in comparison to those in place at PISA.

A second interview session was conducted approximately six months later on a different campus. I interviewed two external moderators at the same time. The data proved to be more valuable, as they were both practising graphic designers based in the industry and they provided a useful perspective on industry expectations of GD graduates. This perspective was in keeping with the consideration of GD as a 'region' (5.1), influenced by industry, technology and practice. The interview was held during a break from the moderation process where I had observed the moderators marking. I was able to make notes and ask questions in the interview relating to what the moderators had already marked and comments that they had made. These were generally linked to specific student work. None of the interviews were used in the data analysis, rather they provided background and clarification on aspects that arose from the marking session. These recordings and transcriptions are, however, included in the audit trail.

As the observation sessions outlined in the previous section progressed, I became increasingly aware of the benefit of this approach for data generation, as opposed to the interviews. Nevertheless, I continued to use the time after observing a marking or moderation session to ask participants a few questions if I needed to clarify something, but no further formal interviews with individual assessors were conducted.

There was nonetheless a significant place for the interview in this case study. This was at the *end* of the data generating, analysis and initial writing up of the findings. The interview took the form of a 'member check', which can be useful in providing feedback to participants and to identify "validity threats, your own biases and assumptions" (Maxwell, 2004, p. 259). I made use of a focus group of five lecturers from one campus,

encouraging them to critique, confirm, contest and illuminate my initial analysis and preliminary findings. After the circulation of an early version of my analysis and findings (Chapter 6), the focus group discussed the accuracy of my understanding of GD assessment in relation to the theory used, as well as my analysis and the conclusions that I had arrived at. As experienced GD assessors, their responses to critical and more focused questions assisted me with establishing the validity of my explanation of the knowledge-knower structures as used in GD assessment. I have included key comments from the focus group in the findings chapter (p.168; p.184).

The involvement of the participants in a feedback session had been planned from the early stages of the research design, and the member check doubled as an initial feedback session. It enabled me to inform some participants of the outcomes of the research, with the aim to disseminate the information and to increase an awareness of knowledge-knower structures and which codes were used in GD assessment. In addition, a feedback session at the bi-annual GD lecturers' workshop, attended by lecturers from all campuses, was planned. I hoped that ultimately both the lens and language of LCT(Specialisation), plus the findings, could inform the existing assessment practice. This could possibly contribute to a transformation and improvement of the institutional assessment practice and would be in line with one of the critical realist objectives of transformation. The LCT approach and findings might even extend to improving the curriculum, teaching and learning. This objective was made in the light of the assumption that "it is well documented that assessment has a critical influence on the quality of teaching and learning (the 'wash back' effect) and so can be used as a powerful point of leverage for change and improvement in education" (CHE, 2004b, p. 122).

4.1.6 Interpretation of data

As indicated earlier, in order to identify the mechanisms that may cause events, abduction and retroduction are modes of inference commonly used in critical realist studies (p.64). New and creative insights regarding a phenomenon can be generated through applying abduction. Abduction requires the application of a new and credible

way of interpreting a phenomenon, for instance by using LCT(Specialisation) I have redescribed or recontextualised the phenomenon of GD assessment. In using knowledge-structuring theories in this study of GD assessment I therefore moved away from the surface domain of actual assessment events, such as the content of criteria or the negotiation that takes place in panel marking sessions, to reveal the underlying knowledge-knower structures that inform the value judgements made. Theories provided the tools used to bridge the gap between the empirically-observed events and how these were experienced, and the underlying objects and mechanisms in the domain of the real, which created these events.

Retroduction as a mode of inference aims to identify what must be true in order for an observed event to take place as it does (p.65). Through an iterative process of generating data regarding the event and proposing possible mechanisms, the essential and non-essential elements, relationships and conditions needed for an event to occur are identified. Although many elements made up the GD assessment practice, by identifying a significant feature, such as the knowledge-knower structures which operate at a deeper level of reality, a possible explanation of the phenomenon of GD assessment could be offered. Guided by the concept of a stratified reality, the empirical data generated were therefore considered through the lens of LCT(Specialisation) in order to reveal the underlying knowledge-knower structures and thereby illuminate these as possible mechanisms.

4.1.6.1 Establishing an external language of description

LCT(Specialisation) (p.79) provided the theory used to frame and analyse the data in this case study. The theory enabled a focus on discipline-specific knowledge as an object and the specialist knower as someone who may make knowledge claims. Maton (2014b, p. 14) refers to Legitimation Code Theory as a 'conceptual toolkit' as there are a number of tools or dimensions that can be used to conceptualise knowledge, of which specialisation is one. He proposes that LCT "enables knowledge practices to be seen, their organizing principles to be conceptualized, and their effects to be explored" (Maton, 2014b, pp. 2–3). As the knowledge-knower structures are not openly

observable to us at the empirical level, the data must be considered in terms of the ‘internal language of description’ and an ‘external language of description’ (R. T.-H. Chen & Maton, 2016). The latter is specific to the study. “The internal language of description refers to the syntax whereby a conceptual language is created. The external language of description refers to the syntax whereby the internal language can describe something other than itself” (Bernstein, 1996, p. 132). In this way, theory can be linked to data. This means that, in order to consider GD assessment and what disciplinary knowledge was valued by assessors through the lens of LCT(Specialisation), I had to create an external language of description for the study. This language allowed for movement between the theory and the data, as well as for the analysis of the data. Applying LCT(Specialisation) as a conceptual tool to the visual, practice-based discipline of GD proved to be challenging.

My initial strategy was to consider the field of production (Chapter 5), where disciplinary knowledge is produced and circulated, in order to establish the knowledge and knower and how they might be recontextualised in GD education. Although this approach was adjusted for the final analysis of the data, throughout the analysis process I moved reflectively between the literature, the theory and the data. By using the literature on what could be considered GD knowledge and knower as defined in the field of production (5.2), I aligned an initial set of GD knowledge and knower characteristics with ER and SR as illustrated in Table 6 below. This was used to do a preliminary analysis of some of the study guide and observation data.

Table 6: Potential graphic design LCT(Specialisation) codes

Epistemic relations	Social relations
Theory and practice	Theory and practice
Judgements that relate to: <ul style="list-style-type: none"> • design and art history • theory, principles and procedures, • materials and processes 	Judgements that relate to: <ul style="list-style-type: none"> • aesthetics • ethical and moral choices • integration of knowledge and practice • professional identity

In spite of this initial structure, I wrestled with relating the predefined categories to the data and to identify the relative strengths and weakness of ER and SR. When I compared the categories that I had identified with those established by Steyn (2012) in Table 7, there was some alignment. Table 7 includes the LCT dimensions of semantic density (SD) and semantic gravity (SG) which, as discussed in section 3.4.1 (p.77), were not used in this case study.

Table 7: Definitions of Maton’s semantic and specialization codes as applicable to recontextualised design knowledge (Steyn, 2012, p. 44)

Recontextualised Design Knowledge Content (ER/SR)				Creative Cognition (SR)
Conceptual (ER)	Procedural(ER)	Abstraction (SD)	Contextual(SG)	Gaze (SR)
History of Art & Design. Terminology, theory and principles of formal visual language.	Techniques, skills and methods of fabrication, Material properties, constraints and affordances.	Degree of abstraction of terminology, concepts and principles.	Degree of disciplinary specialization, constraints and affordances.	Capacity for making self directed design choices based on aesthetic and moral judgments. Capacity for creative integration of knowledges towards a productive purpose.

Having taken this initial route to analysing the pilot data, certain study guides and observation recordings, I reflected on the approach and reevaluated my method, taking into account a number of factors. Firstly, I considered Bernstein’s (1999) belief that the knowledge structures found in the field of production do not necessarily occur in the fields of recontextualisation or reproduction (3.3.2). Secondly, as a region, GD may draw knowledge from a number of areas of production as well as from the professional practice of GD (5.2). Assessment falls within the field of reproduction and could therefore contain some, but not necessarily all, of the knowledge and knower characteristics valued in the fields of production and recontextualisation. Thirdly, I considered the methods described in more recent studies that made use of LCT(Specialisation) as a conceptual and analytic tool, including research by Lockett, Hunma and Pancham (2012), Steyn (2012) and R. T.-H. Chen and Maton (2016). These suggest that, at the beginning stages of an analysis, categories should be

allowed to emerge “from the data itself and not from the internal language of the theory” (R. T.-H. Chen & Maton, 2016, Chapter 2, Section 4, para. 6). Therefore, the data generated in a particular discipline, context and phenomenon should be allowed to ‘speak for itself’, and only then should the data be considered in relation to the theory.

My subsequent strategy was thus to allow the specialist knower and knowledge to emerge from the data, rather than impose the categories on the data. Using this approach, a study-specific external language of description could be created. As indicated above, R. T.-H. Chen and Maton (2016) discuss establishing an external language of description to bridge the gap between the LCT(Specialisation) theory and the actual practice being investigated. They state that epistemic relations and social relations will appear in different empirical forms in each context and study (R. T.-H. Chen & Maton, 2016). In addition to providing a language that can be used to move between the theory and empirical data, the language of description assists with making explicit what is often implicitly known to those who work within the practice (Carvalho et al., 2009). This was particularly necessary in a field where assessors evaluated visual pieces and where many tacit elements of connoisseurship contributed to the assessment practice (2.2.2). It was therefore essential to establish an external language of description specific to *this* case study of GD assessment practice.

In order to address the challenges of relating the theory to the empirical data, I followed R. T.-H. Chen and Maton’s suggested process of “thematic analysis of data, arrangement of that coded data into a descriptive account using the organizing frameworks, and analysis of this descriptive data using LCT” (2016, Chapter 2, Section 4, para. 6). The theory was therefore ultimately used to organise the data and to negotiate meaning (Sayer, 2010, p. 25), which required an iterative movement between the empirical data and LCT(Specialisation). LCT as a conceptual tool is evolving as it is used in research and applied to different disciplines and in different contexts (Maton, 2014b, p. 15). The language of description defined in one project therefore cannot be applied in a prescriptive manner to different phenomena. Firstly, the data from the study guides and the observed marking sessions were coded and labels applied. These labels might

indicate elements such as 'student chooses', 'technical' or 'look and feel' (Appendix E). Secondly, I integrated a number of labels into themes (Appendix D). The next step was to classify themes into ER and SR and then in terms of the concepts of classification and framing (p.66) in order to define the continuum of stronger to weaker ER or stronger to weaker SR.

4.1.6.2 Defining the relative strength and weakness of ER and SR

In LCT(Specialisation), the concepts of classification and framing (p.81) are used to distinguish the relative strength or weakness of ER and SR. In these concepts, knowledge and how clearly bounded the knowledge is from other forms of knowledge indicate a stronger or weaker ER. In addition, if there are specific objects of study and very clear "theoretical or methodological approaches for accessing that object" (Maton, 2014b, p. 32), this equates to stronger epistemic relations (ER+). For instance, in this study design theory would fall into this category. Stronger epistemic relations would have stronger framing which equates to little or no choice in the object of study and the procedures used. In the field of reproduction, framing refers to who has the power over the sequencing, hierarchy or acceptable behaviour and evaluative criteria (3.3.1). If the student could choose these aspects, I considered framing to be weaker; if the brief in the study guide had to be strictly followed, the framing was stronger.

Seen in these terms and with the categories indicated above in mind, it was difficult to clearly differentiate the data from the practical studio-based modules in relation to ER and SR. As an example, the Web Design study guide (6.3.3) provided little or no reference to design history or theory. Nonetheless, there were references to a contextual history of certain software programmes and technology such as the World Wide Web. It was a complex technical module that required a high level of skill with specialised software. Students learnt to use complicated software programmes and were expected to be able to code²¹. The module also required students to use specific materials, principles and procedures.

²¹ Coding requires the use of computer languages in order to programme elements and actions within the web page design.

As part of SR, a GD knower would have to possess a legitimate gaze in order to be able to recognise what was valued within the discipline. A specialist gaze (p.83) requires the student to possess a 'unique insight' and certain 'ideal attributes' "which serve as the basis for professional identity within the field" (Maton, 2014b, p. 32). Once again, identifying SR in the study guides was possibly even more challenging than identifying epistemic relations. It was difficult to separate aesthetic outcomes from design theories, procedural and technical outcomes. Framing was more straightforward as it was indicated by who controlled the choices, for example, whether the students could define their own design solutions within a brief, choose their own techniques and set their own assessment criteria.

Using classification and framing as analytical concepts worked reasonably effectively for the study guide data, which could be seen as the espoused curriculum and evaluative criteria for the modules. Yet, as indicated in the previous section, these concepts were not easily applied to the analysis of the data generated by the assessor conversations recorded during the observed marking sessions (p.109). What was required was a more nuanced language that could describe the stronger or weaker ER and SR. The conceptual tool and external language of description needed to be sensitive enough to provide an in-depth analysis of the assessment conversations, which would ultimately reveal the underlying structures valued in assessment. I therefore turned to a typology used in a language of description previously established by Steyn (2012) for the broader field of design at a foundation level²².

Steyn (2012) describes the various levels of design expertise based on the work of Dorst (2008), Cross (2004), B. Lawson (2004) and N. Lee (2009). Dorst (2008, pp. 8–9) includes seven levels of design expertise ranging from: naïve, novice, advanced beginner, competent, expert, master to the highest level of visionary. For the BA Degree which is the focus of this case study, only the levels of novice, advanced beginner and competent were applicable and these are described in Table 8 below. These categories

²² Foundation programmes are offered at many HE institutions in South Africa as bridging programmes that assist students in preparing for entry into HE programmes such as degrees and diplomas.

align to some extent with the understanding and skills used in tacit expertise as described by Eraut (2006) in Table 1 (p.37). The typology of levels of expertise was used by Steyn (2012) to refine the language of description when using the LCT dimensions of Specialisation and Semantics in order to analyse the studio-based modules of a design foundation programme curriculum.

Table 8: Levels of design expertise based on Steyn (2012, pp. 51–58)

Levels of expertise	Code	To be acquired	Problem types	Learner
Novice	Knowledge code (ER+, SR-)	Rules, technique, methods, process (the parts)	General context	Obedient learner
Advanced beginner	Knowledge code (ER+, SR-) to elite (ER+, SR+) or knower code (ER-, SR+)	How the parts relate to the whole. Develop habits based on accumulated examples and experience. Sensitivity to rules and how, when and in what situation to apply them.	Authentic context	Supervised learner
Competent	Knower (ER-, SR+) or elite code (ER+, SR+)	Select, organise, order information, plan and strategise based on experience. Independent, emotional involvement.	Authentic contexts and problems. Ill-defined or wicked problems.	Self-reflective learner

The themes that I had identified in the data could thus be classified, firstly, according to ER or SR. Subsequently, by using the concepts of classification and framing *and* the typology of design expertise, I could establish if, within a category, they were stronger or weaker. For instance, technique was valued at all levels of the degree and I considered it a form of specialised procedural knowledge (ER). Novice students, at a first-year level, were given a technique to use and were required to complete a number of exercises to develop the related technical skills. They had to follow set procedures to do this and had little or no choice over the design process. At a first-year or novice level, the decisions students were required to make regarding

technique were often based on common sense (Popovic, 2004, p. 531), and the knowledge used was not necessarily unique to GD. Although there was stronger framing, technique was coded as ER-. In the third year, students were required to select a technique from a wide range of options, as long as the technique was appropriate to the design problem, the solution, the process, the final product and the user. Each student was expected to arrive at a unique solution that he/she, as an individual, had identified, indicating weaker framing. Third-year students therefore made greater use of both GD specialist knowledge *and* multi-disciplinary knowledge, and these choices could not be dictated by the study guide or by the lecturer, resulting in a further weakening on the ER- continuum.

The themes that I identified from the data are organised in Table 9 below as ER and SR. The relative strength or weakness for each theme in the two categories was established by using the concepts of classification and framing and by considering the levels of expertise, which were linked to judgement-making. Fremantle and Kearney (2015) consider judgement-making as the key purpose of art and design education. In this study, the student as novice was not expected to make independent judgements. This occurred either when the study guide was extremely prescriptive, and therefore no judgement was required, or when the judgements were made by the lecturer. At the higher levels of study, the student was expected to be an independent decision maker and problem solver, who could evaluate his/her own and others' performance. These students would also be able to judge GD work within the context of GD history and iconic design. Each of these themes is discussed in greater detail in Chapter 6.

Table 9: Graphic design epistemic relations and social relations as identified in assessment

Epistemic Relations	Social Relations
Design theory and rules	Look and feel or aesthetics (gaze)
Technique including design and production methods	Concept based on critical, creative thinking
Industry or real world relevant, including sustainable design	Design process from research to production
Interdisciplinary knowledge	Professionalism or acceptable behaviour
	Work shows integration of concept, look and feel, technique and function in order to communicate effectively

The theme of socially-responsible or sustainable design (5.4) could be positioned in both ER and SR. The ER aspects would be reflected in the technical knowledge and procedures required to create sustainable design. An example might be the knowledge of environmentally-friendly inks and papers to be used when printing, thereby minimising the negative impact of the production process on the environment. The more personal and altruistic aspects of creating designs that benefit others and potentially transform others' lives and the life of the designer him/herself can be categorised as SR. In *this* study sustainable design was categorised as ER, as only the technical aspects emerged, although minimally, in the analysis of the data. Steyn (2012) positions moral judgements in SR, but this aspect was not identified in the data generated in this study. In a critical realist study, such as this one, identifying things that match and relate is important in an analysis, but it is equally important to identify what does not match or relate (Sayer, 2010). The absence of sustainable design is therefore considered significant and is discussed in the following chapter (p.157) and in the findings (6.4).

4.1.6.3 Coding and analysis using LCT(Specialisation)

All of the documents and transcripts were imported into the NVivo® 10²³ programme, which was used both to organise and to code the data. Having moved away from what Creswell (2013) refers to as pre-existent categories, to emergent categories, I coded the data in its various forms, per module, and applied labels that seemed appropriate for the selected data. The labelling was done one module at a time, which gave me the opportunity to thoroughly familiarise myself with the module and the language used in the study guide and by the assessors during formative and summative assessment. The overall coding categories are illustrated in Appendix D.

Once these parameters described above had been established, the labels identified in the data were organised into broader themes, what R. T.-H. Chen and Maton (2016 Chapter 2, Section 4, para. 7) refer to as 'thematic analysis'. Here, meaning was inferred from the data. For instance, where I had labels indicating 'student chooses', 'lecturer chooses' or 'follow study guide', these related to who had the power to make decisions, and were descriptive of stronger or weaker framing. Thus the power could reside predominantly with either the study guide, the lecturer or the student.

The following stage was to establish 'organisational codes' (R. T.-H. Chen & Maton, 2016, Chapter 2, Section 4, para. 8) by describing what was found in the data and selecting descriptive statements from the data. These empirical descriptions were established for each study guide and each formative and summative assessment session. Next, the knowledge-knower structures or organising principles were identified as they emerged from these themes and descriptions. This 'analytic coding' considered the categories in relation to the LCT(Specialisation) codes (R. T.-H. Chen & Maton, 2016, Chapter 2, Section 4, para. 12) and, from this analysis, the codes of elite, knowledge, knower or relativist (p.82) were identified. Finally, a comparison between the established codes for each module according to study guide, formative and summative assessment and campus was completed (p.177). In all of these stages, identifying what was not stated or what did not emerge, in relation to the original

²³ NVivo is a software programme in which data can be collected, organised and analysed.

categories established in Table 6 (p.117), was also of significance. The final comparison allowed for the identification of code clashes, matches and shifts of knowledge-knower structures in each module, at the formative and summative stages of assessment, and on each campus.

As the observation sessions were not standardised, the NVivo coverage, which quantifies in percentages how much text is dedicated to a particular theme, could not be used to establish the significance of the categories in the data from each session. In some cases, one assessor marked four pieces and the session lasted for over an hour. In other cases, a panel of two assessors marked two pieces and the session lasted for ten minutes. My analysis therefore used the NVivo coverage as an overall indication of what attributes dominated the module. However, my own interpretation of the data was used to determine which knowledge-knower structures were valued. Maxwell (2012) proposes that theoretical validity extends to labelling actual events in terms of the theory and proposing a valid explanation. These aspects influence the interpretation of the data. Therefore, including or excluding aesthetics in the category of the GD knower is one example of where a valid judgement had to be made. Another interpretation was made when considering the autonomy that students had to choose techniques and target markets and processes, and how this related to framing as it was indicated in who had the power over pacing, sequencing and the evaluative criteria.

4.2 Ethics

Ethical issues that were encountered in this research study were varied and occurred at all stages of the research process. I have addressed a number of these in the section on insider research, which included the ethical dilemmas created by the power disparity between myself and the assessors (4.1.3). In this section I will focus on the more formal requirements, as well as the sensitivity of assessment as a topic.

Before proceeding with this case study, the necessary ethical clearance and permissions were granted by the Faculty of Education Higher Degrees' Committee at Rhodes University, where I was reading towards the degree, and by the Research Committee at PISA, the institutional context of the study. In addition, all of the

participants were informed of the aims of the research and were asked to read and sign a consent form (see Appendix G). Part of informed consent aims to ensure that participants understand that they are free *not* to participate (Cohen et al., 2007), or to opt out of the research at any point. This was clearly stated in the documents and in the introduction to the online survey, the interview and observation sessions. In an effort to protect the assessors' identities, each participant was given a pseudonym and the campus names were substituted with random letters. My decision to allocate pseudonyms rather than numbers or letters to assessors was based on my intention to value the voice of the individual and the diversity of the staff in the PISA context. I allocated names randomly, irrespective of gender, ethnicity or race. When I asked the focus group about this decision they responded positively to the approach. Student names, student numbers and any identifiable descriptions of student work were changed when they were referred to. Part of the ethical clearance granted by PISA was a requirement to ensure appropriate anonymity for the institution, as well as to submit the findings to the PISA Research Committee and Management Committee. I have complied in all ways possible with these requirements.

A separate aspect to the ethical challenges faced was what should be done when I observed that assessors were, for instance, not following PISA procedures. This presented a conflict between my responsibilities as Dean, to ensure quality, and as researcher, to ensure anonymity for the participants and campuses. In most of these cases these were small shifts or omissions in how the assessment was conducted, such as marking alone rather than using the panel marking system. I have indicated in Chapter 6 (p.164) and Chapter 7 (p.222) the possible effect that these changes might have for the institutional and broader contexts and in relation to the identified Specialisation codes. I also observed that lecturers had differing interpretations of requirements and had made additions to the curriculum. In some cases, what lecturers were adding was a potential improvement on the curriculum and assessment process. My decision was to inform the GD Head of Programme of these at a later stage, without referring to the individual assessor or to the specific campus. She could then follow up on these aspects.

4.3 Quality

Whereas a quantitative approach assumes the use of explicit criteria to ensure validity, reliability and generalisability, a realist approach to qualitative research, although not rejecting criteria by which validity and reliability should be established, emphasises that these criteria cannot be generic. I accept that research taking place in an open education system differs from positivist scientific research, and that what is traditionally termed validity and generalisability may need to be considered in different terms and by different criteria (Seale, 1999, 2002; Maxwell, 2012).

Although case study is accepted as a rigorous and valuable research method, especially in education, how or if generalisations can, or should be, made is still debated (Cohen et al., 2007; Yin, 2009). Generalisability can be described as “the extent to which one can extend the account given of a particular situation or population to other persons, times, or settings than those directly studied” (Maxwell, 2012, p. 141). In a qualitative case study where an explanation of the underlying causal mechanisms can be established, this explanation is context specific and therefore must be compared to “the particular claim that the evidence is asserted to support, the way the evidence was generated and the epistemic situation in which these claims are made” (Maxwell, 2012, p. 147). The causal explanations arrived at in this research study of GD assessment must therefore be seen in relation to the context and the phenomenon, with their particular combination of objects and mechanisms. This is not to say that this research and explanation have no further value outside of the case study; these contributions are addressed in section 7.3. Although explanations arrived at through case studies are not *universally generalisable*, they “are generalizable to theoretical propositions” (Yin, 2009, p. 15). In other words, the theory or explanation arrived at can be generalised to different cases. Therefore, the identification of causal mechanisms in one case may provide the basis for the further refinement of a theory, or the development of a new theory (Easton, 2010), that has application outside of the original case. If the GD assessment practice at PISA valued particular knowledge-knower structures, the question would be whether the explanation can be applied to different institutions or to different practice-based fields. The various tools of LCT have been

used in numerous studies in the field of education to reveal the underlying structures. Thus, the way that LCT(Specialisation) was used in this case study as a conceptual tool to consider assessment within a practice-based field might be of use to others wishing to apply the theory to other areas of assessment, other fields of design, or different practice-based fields (7.1). The identification of causal mechanisms may have broader relevance when the mechanism is considered in similar contexts, or different contexts which potentially produce the same, or different outcomes (L. Price, 2007; Wynn & Williams, 2012). This implies, that although this case study is situated within the context of GD assessment, it may be possible to apply what was established to other contexts and to fields that have similar characteristics. For instance, the macro context (2.1) and the characteristics of GD assessment (2.2) occur at many HE institutions in South Africa. The processes and procedures of GD assessment are based on an art and design assessment tradition that can be found in design education around the world. This extends the potential benefits from an understanding of the identified underlying knowledge-knower structures used in GD assessment as well as the theoretical approach and language used to describe these. Additionally, the assessment of complex or wicked outcomes is not unique to GD; understanding the challenges of this type of assessment might be informed by the findings of this case study. The individual reader would need to judge the usefulness of the findings discussed in Chapter 6 and Chapter 7 in terms of their own context.

In a critical realist study, the quality of the explanation is based on 'judgemental rationality' (3.1) which "holds that there are rational, intersubjective bases for determining the relative merits of competing knowledge claims" (Maton & Moore, 2009, p. 4). Therefore, providing the best possible argument that stands up to scrutiny against other explanations is considered a valid and acceptable explanation (Easton, 2010). This accommodates a provisional explanation, accepting that knowledge is fallible and the research process including interactions such as the feedback session and my observation of the assessment practice could change the object of study. In other words the assessment practice of the institution and individual assessors might be changed as a result.

4.4 Conclusion

In this research design chapter, I have outlined the methodology and process including how the case study aligned with the critical realist metatheory and the concept of a stratified reality. I outlined how the data gathered, at the actual and empirical levels were coded using the LCT(Specialisation) theory to excavate the mechanisms at the level of the real. By describing the selection, types and sources of data generated and the approaches taken for the data analysis, I established the logic of why each element was selected and used in order to answer the research question.

As part of this strategy I highlighted areas of contention, such as the ethical implications of insider research and the topic of assessment that could potentially have implications for the institution, myself, assessors and for students. As assessment is a critical element of student success and certification, I reflected on the broad ethical issues of influence and power, and the more specific ethical challenges that I faced as an insider researcher. The two roles that I played, those of Dean and researcher, were considered. I indicated the mechanisms put into place to consider these elements and my strategies to minimise any negative impact.

A significant aspect of the research design was the application of Bernstein's knowledge theories and LCT(Specialisation), which provided me with a language and the tools to describe and analyse the data. My adaption of how the knowledge-knower structures could be described, especially when applied to the analysis of the assessors' panel discussions, was highlighted. This adaption was primarily achieved through the creation of a context-specific external language of description informed by Steyn's (2012) study. The language of description and subsequent analytical tool included the typology of design expertise used in conjunction with classification and framing, which enabled the identification of the relative strengths of ER and SR.

Finally, I outlined how I addressed the issues of validity and generalisability. This chapter therefore explained how I made the link between the metatheory, the working theories and the empirical data. Ultimately the research design chapter establishes how the findings and conclusions discussed in Chapter 6 and Chapter 7 were arrived at.

Chapter 5 Graphic Design disciplinary knowledge

In the previous chapter, I indicated that the field of production had informed my initial categorisation and understanding of GD knowledge and knower as illustrated in Table 6 (p.117). In this chapter, I consider the fields of production and recontextualisation for GD, as new knowledge is established, evaluated and circulated in the field of production, and this knowledge may be selected and then recontextualised for use in the studio and in assessment. I begin the chapter with Bernstein's (1996) description of 'regions', in which he establishes a theoretical structure that describes how knowledge may be recontextualised within professional or vocational courses. By using the concept of regions to interpret the empirical domain where the GD field is described in industry practices, research and practice-based research, I continue with a critical realist approach of linking theory to data in order to uncover and describe objects and mechanisms at deeper levels. By considering design as a practice, a vocation and, in some cases, a profession, I identify the potential sources of new knowledge that may be selected for use in design education. In addition, I describe different types of new knowledge that may be established in design where various research approaches are used, including some that are focused on design practice.

Although the knowledge-knower structure for GD might differ from, for instance, architectural design, this has yet to be extensively researched (Carvalho et al., 2009). Considering that the various forms of design may value different knowledge-knower structures, I have decided to focus on the practice of design, which is constructed around the design process, in order to consider the field of production. In this chapter, I have therefore drawn on literature from the broader field of design, as most forms of design have the design process at the heart of the practice. It is the making of artefacts in order to solve complex problems that makes design practices similar (Wang & Ilhan, 2009).

Wheelahan points out that "knowledge cannot be reduced to the conditions of its production, even though it bears the marks of its production process, in particular the

marks of power and exclusion” (2005). In the same way, the sources of the knowledge-knower structures valued in assessment leave their mark, which is significant considering the role that assessment plays in access, achievement and progression. In addition, assessment has a powerful wash back effect on curriculum and teaching (p.115). Bernstein (1996) indicates that the knowledge valued in the field of production may or may not be selected and recontextualised for use in the curriculum, as there are often outside factors that influence what is selected and used. Although the aim of this research study was not to arrive at a comparison between what was valued in the field of GD production and what was valued in the field of reproduction (assessment), as discussed in the previous chapter, the two fields informed my understanding of design knowledge and knower and how these might be categorised in terms of epistemic relations and social relations. This chapter therefore assisted me to establish the first set of ER, SR characteristics described in Table 6 (p.117) that I used in my initial analysis of the assessment data. In the final analysis, I took a different approach (4.1.6), by allowing the themes to emerge from the data before considering them in relation to the LCT(Specialisation) theory (Table 9, p.124). Once the analysis and findings were completed (Chapter 6), these were considered in relation to the discussion in this chapter. Through this process I identified that there was one key discrepancy between the two fields, that of sustainable design, which appeared to be valued in the field of production, but not in the assessment data. This is discussed at the end of this chapter (5.4) and in section 6.4.

5.1 The regional mode of pedagogic discourse

In the field of production, knowledge may be selected and recontextualised for use in education and then further adapted and reproduced in the classroom and in assessment. Bernstein (1996, 1999) indicates that, in the field of production, specialised disciplinary texts and discourses are established, controlled and distributed. New knowledge, such as that published in academic journals, may be recontextualised in text books and taught in the classroom or studio and assessed. This is a process of selection by individuals and groups, or what Coleman refers to as the “mediated choices of key curriculum players” (Coleman, 2015, p. 259), and not all new knowledge will find

its way from the field of production into the studio or into the assessment criteria used. As my research considered GD practical studio-based modules, which have more vocational or occupational goals, I found that text-based knowledge was not the only source of new knowledge that could be recontextualised and used in the teaching studio and in assessment. The other sources of new knowledge include industry (p.140) and practice (5.2.2.2) which are discussed later in this chapter.

5.1.1 Performance modes

For occupational, vocational or professional qualifications, recontextualisation may occur in the form of three 'performance modes'; these are 'singulars', 'regions' and 'generic' (Bernstein, 1996). "Performance modes are based on different principles of text construction, on different knowledge bases and on different social organisations" (Bernstein, 1996, p. 51). For example, the generic mode may exist as trainable competencies, such as the competencies required in the workplace (Bernstein, 1996, pp. 53–54). These competencies appear in the curriculum no matter what the discipline and are often related to market place demands, or the dictates of outside organisations such as government education departments. Singulars, as knowledge structures, are disciplines with a clear and visible identity and their own language and rules (Wheelahan, 2008). They are clearly separate from other singulars. Each has its own specialised discourse, rules of entry and ways of being (Muller & Young, 2013), and they may have either hierarchical or horizontal (3.3.3) knowledge structures (Shay & Steyn, 2016). Singulars are considered to be inward looking and the practitioners have a strong disciplinary identity and control over many aspects including the specialised knowledge and codes of conduct (Muller & Young, 2013).

5.1.1.1 Regions

On the other hand "regions are the interface between disciplines (singulars) and the technologies they make possible" (Bernstein, 1996, p. 52). Regions are common structures for professional qualifications such as architecture and medicine. They may draw on singulars from a number of disciplines, or on other regions, and these are linked to practice (Bernstein, 1996). In other words, regions sit between two influences

and sources of knowledge, on one side disciplinary knowledges and on the other side outside influences such as industry, professional bodies, professional practices, regulations and technologies²⁴. Where disciplinary knowledge dominates, the region demonstrates 'conceptual coherence', however, where the real world dominates there may be 'contextual coherence' (Muller, 2008a, p. 21). In design, drawing on knowledge from a variety of disciplines in order to solve real world problems is a common objective. Problem solving would therefore provide the contextual coherence or outward orientation of the design practice. The contextual coherence for GD will be discussed in more detail later in section 5.4. In the newer regions, singulars may be replaced by other regions, therefore no clearly-bounded disciplinary knowledge exists as the boundaries between subjects become blurred. Design practice plays an integrative role, as the designer accesses knowledge from a number of disciplines and input from various stakeholders (Buchanan, 1992).

The PISA GD degree, as an example of a region, at one point included the disciplines of English, Psychology and Cultural Studies, as well as History of Graphic Design. At the time of this case study, Psychology was no longer part of the degree, English had been replaced by Business English and Cultural Studies had been replaced by Communication Science. When professional and vocational curricula are based on the type of structure indicated in Figure 9, Bernstein (1996) suggests that the region may be pushed and pulled by cultural, economic and technological changes, and therefore the singulars may change with the demands of the practice. The ethos of the institution may also cause shifts in the singulars and regions selected. For instance, PISA as an institution emphasised that students should be 'real world ready', which was tied to employability (SA Study, 2015). Therefore, there might be pressure on curriculum designers to select certain singulars and regions that align with industry needs and employability trends.

²⁴ Although this is not explicit Bernstein's (1996) reference to technologies may be broader than my use of the concept in this document.

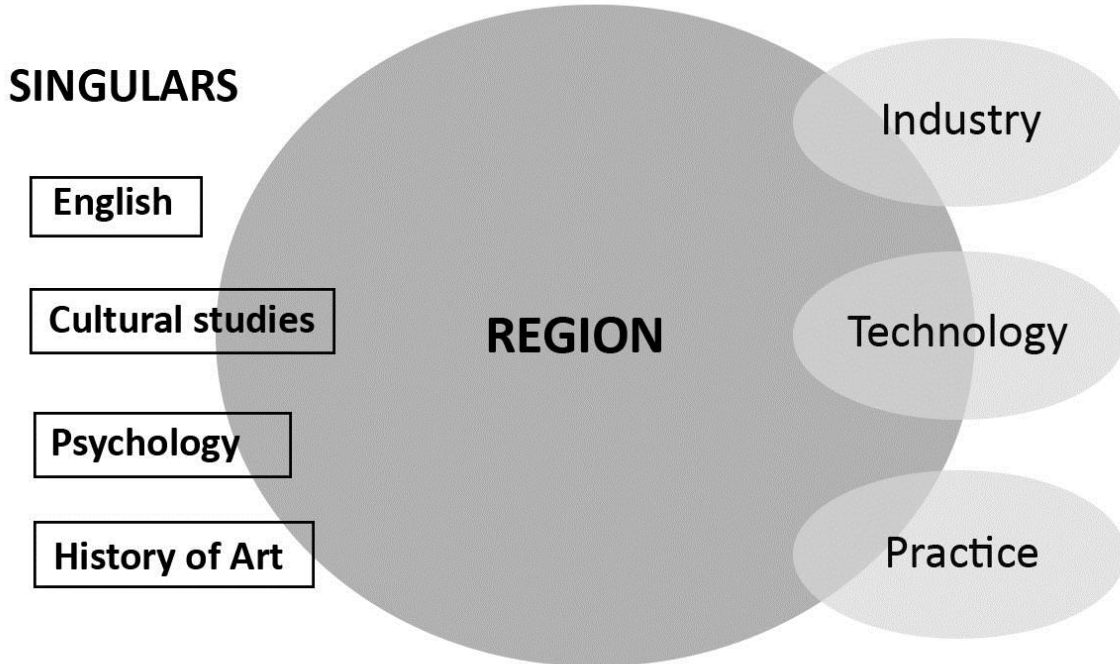


Figure 9: Graphic design as a region

Some forms of design, such as those found in engineering and architecture, fall within professions and have professional bodies that define standards, and in some cases they may dictate the singulars that are selected for use in education. Other forms of design, such as GD, are what Bernstein (1996) refers to as ‘new regions’, where the needs of the field of practice impact more strongly on the selection of the knowledge to be recontextualised. Work or industry-based practices may thus be recontextualised for use in the curriculum (Shay, 2012). In this case study, I clearly identified the influence of industry in the assessment practice (p.168 and p.198).

In addition to the influence of outside organisations, the technological environment that graphic designers function in has changed substantially from its early craft beginnings. In the 1970s, the production of a silkscreened advertising poster may have been designed and printed by hand and distributed to a limited local audience. Since the introduction of the World Wide Web and related technologies, a graphic designer can design a web site as an element of a large digital advertising campaign incorporating a

variety of media and using various software programmes. Through internet-based web sites it is possible to interact with global audiences. Thus, with changes in technology and practice, the singulars and regions currently used in a GD degree differ from those used thirty years ago, for instance, web designers must now learn computer coding (p.201). The influence of rapidly-changing technology, increasingly complex design problems (2.2.1) and growing markets have resulted in a region strongly influenced by forces outside of the field. These rapid changes provide challenges to those designing curricula, as well as those responsible for teaching and assessing. Wolff and Hoffman (2014) indicate that in the field of Mechatronics engineering assessors may not be able to keep up with all the latest innovations. This could result in individual assessors valuing different knowledge and knower attributes and therefore valuing different knowledge-knower structures. In GD the panel marking system may alleviate this to some extent, as assessors can share and update knowledge while they mark (p.165).

As indicated above, GD as a new region has a strong outward orientation towards practice, and the practice may be based in the industry and in a technological context. New regions such as GD, as well as journalism and business studies, suffer from what Muller and Young (2013, p. 132) refer to as 'internal instability' and 'fractiousness', in that they respond to changing external needs and trends. In GD the push and pull can also be seen in the valuing of more theoretical or propositional knowledge, and the valuing commercial industry expectations and standards (Logan, 2007; Clarence-Fincham & Naidoo, 2013). The diverse influences on GD curricula are illustrated in the following quote:

Graphic design curricula must be flexible and responsive. As designers and educators we must strengthen the relationships between design and the sciences, between design and business organisations, and between design and relevant communities. There is little doubt that the design paradigm will continue to shift, as will the current economic, social, cultural, environmental, technological and political contexts in which it operates. (Triggs, 2011, p. 125)

Muller and Young also claim that "regions construct specialised identities by projection of the knowledge as a practice in some context" (2013, p. 132). When this is the case

the practitioner may be valued for what they can do, or for their skills and know-how, and not for what they know (Muller & Young, 2013). This warning is particularly relevant in a field such as GD, where theory and knowledge are not always made explicit in the studio (Sims & Shreeve, 2006; Logan, 2007; Morgan, 2011) or between assessors. When knowledge is not made explicit it becomes difficult for students to recognise that it is valued in the discipline. In addition, technology and software have eliminated certain knowledge and a number of skills previously required of graphic designers. The resulting public perception may be that anyone who can use design software programmes is a graphic designer, even if all they have is technical know-how (6.3.3).

The overall structure of the region which faces in two directions may impact on curricula and what is valued and used in assessment. Changes in what dominates, for instance particular singulars or industry needs, may cause the knowledge-knower structures to change over time.

5.1 The recontextualisation of knowledge and knower

One of the challenges in this study was that the knowledge that appears in books, journals and conference proceedings regarding design theories, models and principles may or may not be carried through in an explicit way to the pedagogy and assessment of practical studio-based modules. In my experience, textbooks are seldom used for practical modules and the more theoretical modules, such as history and design theory, are addressed in separate modules. Modules such as design history and theory are often included in GD curricula as standalone modules, thus History of Graphic Design 1, 2 and 3 and Advertising Theory were modules that were presented separately from the practical modules of this study. Collina (2007) indicates that this type of structure, which is common in current design education, attempts to accommodate both a scientific and an artistic approach to design knowledge, whereas traditionally in craft education the two would be seamlessly combined. This can be seen as trying to accommodate two conceptual orientations. Theory modules, which are more text-based and propositional in both content and assessment, are in my experience also often physically separated

on the time table, offered in different venues and, in some cases, presented by specialist lecturers who may or may not be GD practitioners.

There has been some debate regarding the sidelining of theoretical knowledge when practice dominates the conceptualising of a curriculum²⁵. Sauthoff highlights the importance of theory in design, indicating that design education in South Africa should “establish a systematic basis and accumulate a body of knowledge that will aid the integration of relevant aspects of the discourse into the practicing arena” (2004, p. 49). As knowledge in OBE is seen to underpin practice, it may or may not be easily accessed by students through the curriculum (Wheelahan, 2008) and may or may not be explicitly assessed. This downplaying of theory can be seen as a knowledge structure problem, where new fields with no history of explicit knowledge tend to emphasise practice with “no attempt to explicitly identify the theoretical underpinnings of practice” (Wheelahan, 2008, p. 15). In design education, the dominance of practice can also be linked to a number of factors such as an inability or unwillingness to describe disciplinary knowledge and theories on the part of curriculum designers, lecturers and students (Percy, 2004), or the lack of agreement or consensus of what knowledges are required and valued in design.

In my experience as Dean, many students failed to see the relevance of modules such as English and History of Graphic Design, or how these can contribute to their practical work and their future careers. This separation and undervaluing of propositional knowledge may be emphasised by lecturers who do not value this form of knowledge either, as they see themselves primarily as design practitioners preparing students for the demands of the industry (Shreeve, 2009; Clarence-Fincham & Naidoo, 2013; Wolff & Hoffman, 2014). The lack of recognition of knowledge in the curricula may be aggravated when the more theoretical forms of knowledge are not articulated in the design studio pedagogy (Sims & Shreeve, 2006; Logan, 2007; Morgan, 2011). Wheelahan (2005) sees this as highly problematic in vocational courses, as it results in students not having access to the logic of the powerful theoretical knowledge that forms

²⁵For examples of this debate see Gamble (2006) and Wheelahan (2007, 2008).

the basis of practice. That is not to say that the principles described in certain theories may not be applied within the design process, but this may be done tacitly. In the statement below Polanyi (1958) points out how theories need to be integrated into art practice, but his comment could equally be applied to GD practice.

Rules of art can be useful, but they do not determine the practice of an art; they are maxims, which can serve as a guide to an art only if they can be integrated into the practical knowledge of the art. They cannot replace this knowledge. (Polanyi, 1958, p. 52)

In this study identifying the theoretical knowledge that assessors valued was challenging, as it was seldom explicitly stated, and yet I found that various design theories and principles were used as the basis for value judgements, often in reference to other existing design pieces (p.124). By under-valuing theoretical knowledge, and with a greater emphasis on practice, ER in design may be under-emphasised, leaving students unaware of their relevance and unable to communicate and master powerful knowledge. In addition, mastering practice-based knowledge (p.147) requires a specialist gaze and, as this is largely experiential and tacit, the knower relation may not be clearly communicated either. The knowledge-knower structures, such as those that I have identified in the assessment of GD practical work (Chapter 6), may be hidden from students through the various stages of production, recontextualisation and reproduction.

In the following section I propose that there are a number of accepted approaches to creating new knowledge in design. Design discourse, which includes GD, illustrates the variety, fragmentation and contestation of the arena of knowledge production and this has the potential to feed through into design education.

5.2 New knowledge in Graphic Design

With the many influences on a region such as GD, knowledge from a number of sources may be recontextualised for use in education. This can include knowledge from other disciplines, the specialist design knowledge described in journal articles and conference proceedings, and the experiential knowledge of design practitioners, as well as industry-based knowledge. These forms of knowledge affect “the way individuals in the field

perform research, legitimate knowledge, and practice design” (Dong et al., 2014, p. 11). This knowledge, when considered in realist terms, is seen as an object that influences research and educational practices. In order to identify the arena of production for GD, it was necessary for me to establish how new knowledge might be constructed and positioned in the field of production, which is controlled by distributive rules.

These rules specialise access to *fields* where the production of new knowledge may legitimately take place, whether this knowledge be intellectual (academic) or expressive (arts) or crafts. This does not mean that individuals not in specialised fields of production (usually higher agencies of education) cannot or do not create new knowledge. Only that the history, career and positioning of that knowledge will be different. However, after individuals *outside the field of production* create new knowledge, the field's principles will operate as to whether such knowledge is incorporated into the field. (Bernstein, 1996, pp. 114–115)

This implies that new knowledge in a region such as GD may be established by different actors, using traditional research²⁶ approaches and other approaches. In the following sections I will outline how industry-based knowledge, traditional research and practice-based research might establish new knowledge in the field of design.

5.2.1 Industry-based knowledge

The first source of industry-based knowledge that I discuss is workplace knowledge, which is often brought to the curriculum by lecturers with industry experience. The second source is the industry competition, where iconic design and designers are acknowledged, and the third source identifies how designers establish a valued professional identity. These are not in any order of importance, but with an emphasis in design education on employability, and because many design educators are also practising designers (p.168), the first is probably the most visible.

Industry knowledge may be shared between suppliers, graphic designers and clients and is often tacit and project specific (Sunley, Pinch, & Reimer, 2011). This industry

²⁶ I use the term traditional research to refer to the more dominant approaches and methodologies found in academic research, which art and design might ‘borrow’ from. That some art and design research differs from the dominant research practices used in for instance HE, is highlighted by Trowler (2013).

knowledge may not be easily circulated as, in order to maintain a competitive edge and to promote the mystique and exclusivity of the creative design process, it may be guarded and kept secret by the designer and design agency (Breslin & Buchanan, 2008). As the design problem and its context dictate the knowledge needed, many claim that there is no fixed body of design knowledge (Buchanan, 1992; Christiaans & Venselaar, 2005; Popovic, 2007; Wang & Ilhan, 2009; Feast, 2013). The knowledge required is diverse and may be gained in part through experience and exposure to iconic design and high profile designers.

We suggest that while there are clear trajectories of knowledge in design – ranging from long-standing design archetypes to short-term cultural fashions – the diverse scope of the products and services considered by a typical agency require an enormous range of types of knowledge, from the utilitarian and functional to the aesthetic and symbolic, all tailored for the specific needs of clients. (Sunley et al., 2011, p. 388)

As Breslin and Buchanan (2008) point out, industry-based knowledge is seldom documented or used to explicitly build theories that can speak back to design practice. This results in knowledge that remains situated in individuals and organisations, with limited impact. In spite of this, the design practitioner’s knowledge can be recontextualised and found in HE in curricula and in the GD teaching studio, which mimics the workplace environment in many ways (Logan, 2006). Students work on briefs based on industry practices and may even participate in live briefs for clients. In my experience, and this was verified by the online survey conducted in this study many design educators are or have been practising designers (6.2) and their workplace experiences may be brought into the studio and to assessment (2.2.4).

Given the strong influence of higher education policies, and the changing world of technology and industry on the GD region, there may be an emphasis in the curriculum on developing broad graduate attributes rather than emphasising disciplinary knowledge. Graduate attributes “encompass values, attitudes, critical thinking, ethical and professional behaviour, and the capacity of a graduate to take what has been learnt beyond the site of learning” (CHE, 2013, p. 19). Shay (2008a, p. 256) challenges the logic of using such generic attributes, as they are not linked to

what is valued in the discipline, or its knowledge-knower structure, and she queries whether these generic attributes can be successfully assessed. For GD there are a multitude of possible graduate attributes such as: “(1) creativity, (2) originality, (3) passion, (4) attitudes, (5) culture, (6) communication skills, and (7) technical and practical skills” (Cheung, 2012, p. 493). A number of these attributes can be seen to align with either person, process or product (2.2.3), and some attributes emerged as categories in the data generated in this study. With the GD region influenced by professional design practice, it would be expected that these attributes be incorporated into the curriculum and be assessed. However, attributes such as creativity and passion are difficult to describe and quantify and are therefore difficult to assess and establish standards for.

In the GD industry, iconic design and the practice of iconic designers may be identified, acknowledged and circulated through industry-run competitions, thereby establishing new knowledge (Lamere, 2008). The winning designs are subsequently published in magazines, in books, in text books, or on web sites, or displayed in exhibitions (Lamere, 2008). In this way iconic designs and the work of iconic designers may find their way into GD teaching studios as exemplars of valued design practice. Lamere (2008) found that design practitioners, although valuing the recognition gained by winning competitions, sometimes challenged the knowledge valued in the competition criteria used to judge the work. GD practitioners criticised the emphasis in competition criteria on the product, without consideration of the design process or the user (Lamere, 2008). The basis for establishing what is considered valued knowledge was therefore challenged by different actors. The industry knowers who establish competitions and judge entries value the design artefact, while the designers indicated that the value of the design product is context specific and therefore linked to the design problem and the design user. Designers also value the design process (Lamere, 2008), which is more closely linked to the individual designer. The significance of person, process and product in design assessment was addressed in section 2.2.3 and was also identified in the findings (p.168 and p.172). In most forms of GD assessment the artefact provides the main evidence of learning, yet the

challenges to the industry competition criteria mentioned above are equally relevant to GD assessment. In section 3.4.1.2 I discussed the significance of the specialist gaze in hierarchical knower structures, and later in this chapter (p.150) I argue that person and process incorporate different forms of design knowledge and that this knowledge can be built, learnt and evidenced. That only the artefact should be considered in competitions and for GD assessment excludes the significance of person and process, thereby eliminating elements of the valued GD knowledge and knower.

Wang and Ilhan (2009) propose an alternate interpretation to how the design industry establishes valued knowledge, by asserting that there is no fixed body of knowledge in design, but there is a valued professional design identity. They claim that the design discipline has a particular ontology linked to a professional identity. The outward face or identity of design professionals and how they project knowledge and value to the community is through the 'creative act' (Wang & Ilhan, 2009, p. 6). What the designer does with knowledge from other disciplines in order to produce the design artefact requires the creative act. They consider four categories²⁷ through which a professional identity may be established. The first category takes the form of style, or use of style, where the designer creates a product that symbolises or carries a greater cultural significance than its utility. For instance, the Macintosh computer has become a valued design object which incorporates certain cultural significance; it is more than just a computing device. The second category is the creative act, in which designers integrate knowledge from a number of disciplines in order to meet a need from the public. The third category is "the external orientation towards social values in design communities" (Wang & Ilhan, 2009, p. 16). Here the designer or design community leads the public in taking on and supporting certain social values such as 'green design' (5.4). The fourth category is the actual design object or the design practice of iconic designers. These iconic design products are acknowledged by industry and academia, and eventually by the public (Wang & Ilhan, 2009). From Wang and Ilhan's

²⁷ The four categories are based on Kuhn's Disciplinary Matrix, consisting of symbolic generalisations, shared commitments to theoretical models, values, and exemplars to illustrate design knowledge (Kuhn (1962), as cited in Wang & Ilhan, 2009, p. 14).

(2009) study, it seems that the professional identity established in this manner may carry greater credibility, and social and economic status, than academic knowledge. The design identity centres on the designer as specialist knower, who is valued for what he/she does with knowledge in order to create design products that are both fit for purpose and culturally significant.

The industry and a professional identity therefore provide sources of, and approaches to, building new knowledge and a knower in design. The forms include the experiential knowledge acquired by practising designers working in industry environments, exemplars of good design circulated in competitions, and a professional design identity. The designer's practice, as a means of knowledge building, is central to each of these forms of knowledge. The knower, with a specialist GD gaze, draws on propositional and procedural knowledge linked to the industry and to various disciplines throughout the design process, where they select and use the knowledge as required for the specific problem and project. As it is integrated into practice, the knowledge becomes transferable to new contexts and problems.

5.2.2 Establishing new knowledge through research

The design industry offers areas for investigation and topics for research, such as production methods, markets and user experience. In addition, more traditional research outputs may address history, critique and theory, which are considered standard topics for journals and conferences. In these texts, design would be the subject of research, be this the design object or the design process (Scrivener, 2009, p. 75). Various paradigms and research methods can be used and these are often borrowed from a number of disciplines. For instance psychology, ergonomics and communication might be used to interrogate design, design artefacts or aspects of the design process (Bayazit, 2004). This type of research can be seen to build on or establish new theories that are communicated as propositional knowledge. One approach that aligns with the objective of building design theory is 'design science'.

5.2.2.1 Design science

Design science was initially proposed by Herbert Simon (Friedman, 1997) as an objectivist approach to design research. From this objective perspective new knowledge can be created through empirical research procedures, and the design process is seen as a logical problem-solving process, requiring rational, systematic steps which are used to arrive at predictable outcomes (L. Kimbell, 2009). From an analysis of data, theories and models can be built, and these may then be applied to different contexts or applied to different design problems. Through this process knowledge could be made explicit, communicable and open to critique and review, with the aim to establish “explanatory principles, models and paradigms” (Friedman, 1997, p. 59).

The establishment of typographic hierarchies, as illustrated in Figure 10 (p.146), could be seen as an example of the design science approach. Through studies on perception and readability it has been established that certain fonts, font sizes and font layouts are easier for users to read than others. Carroll (2010) mentions a number of studies conducted on font legibility and readability. If the principles described in font hierarchies are used to organise text on a page, it helps “readers to scan a text, knowing where to enter and exit and how to pick and choose among its offerings” (Lupton, 2010, p. 132). Certain words or sentences may be emphasised within the page layout and ultimately readability would be improved. This would be an example of a scientific approach to analysing a design problem and solution and using the findings to propose a theory that could be used in many contexts. Theories regarding typography may be recontextualised in a text book or study guide and presented as a lecture to students. Students could be tested on their understanding in a formal written class test, and asked to apply the principles learnt in their practical work. For instance, the application of font hierarchies could also be assessed via a practical GD brief.

I	Division of angels A. Angel B. Archangel C. Cherubim D. Seraphim	Division of angels Angel Archangel Cherubim Seraphim	DIVISION OF ANGELS <i>Angel</i> <i>Archangel</i> <i>Cherubim</i> <i>Seraphim</i>	DIVISION OF ANGELS	<i>angel</i> <i>archangel</i> <i>cherubim</i> <i>seraphim</i>
II	Ruling body of clergy A. Pope B. Cardinal C. Archbishop D. Bishop	Ruling body of clergy Pope Cardinal Archbishop Bishop	RULING BODY OF CLERGY <i>Pope</i> <i>Cardinal</i> <i>Archbishop</i> <i>Bishop</i>	RULING BODY OF CLERGY	<i>pope</i> <i>cardinal</i> <i>archbishop</i> <i>bishop</i>
III	Parts of a text A. Work B. Chapter C. Section D. Subsection	Parts of a text Work Chapter Section Subsection	PARTS OF A TEXT <i>Work</i> <i>Chapter</i> <i>Section</i> <i>Subsection</i>	PARTS OF A TEXT	<i>work</i> <i>chapter</i> <i>section</i> <i>subsection</i>
	SYMBOLS, INDENTS, AND LINE BREAKS	INDENTS, AND LINE BREAKS ONLY	FONT CHANGE, INDENTS, AND LINE BREAKS		ALIGNMENT, FONT CHANGE, AND LINE BREAKS

Figure 10: Expressing hierarchy (Lupton, 2010, p. 132)

Explicit objects of study and procedures are seen as essential for building new knowledge in the discipline of design (Friedman, 1997). If I consider design science in terms of Bernstein’s knowledge structures (3.3.3), it exhibits a horizontal knowledge structure with strong grammar. It is a horizontal structure (Figure 3, p.73), as design science is only one possible segment or language in the overall design discourse. However, the design science discourse demonstrates strong grammar, with explicit objects of study and procedures to be followed which result in abstract knowledge in the form of models or theories. These theories can be evaluated, circulated and subsequently applied to various contexts.

The design science approach sidelines the more tacit and experiential components of the design process. This is acknowledged by one of the main proponents of design science, Friedman. He indicates that there are important tacit elements in the design process, which include aesthetics such as “look and feel and tone and feeling and flavour” (Friedman, 1997, p. 57). These are not necessarily open to explicit description (2.2.2), as they relate to people, their perceptions and experiences (Love, 2005). I will establish in the following section that these tacit elements play a significant role in the

design practice, as illustrated in practice-based research where a unique approach to design research is proposed.

There is a tendency in the literature on design and design research to refer to ‘knowing’ or ‘know how’ rather than to knowledge. References to ‘designerly ways of knowing’ (Cross, 1999, 2001) and ‘design thinking’ (Oxman, 1999; L. Kimbell, 2009) seem to equate to design knowledge. I experienced great difficulty in identifying what might be considered new design knowledge in the field of production, when the emphasis in the discourse was on unique ways of design knowing. I interpreted this to mean that, although certain propositional design knowledge was valued, what a designer does with knowledge, using their technical and conceptualising skills, was also highly valued. What was emphasised in the discourse was therefore the practice of design, and that “designers claim the field by reference to how they practice design” (Carvalho et al., 2009, pp. 484–485). This led me to focus on practice-based research in order to gain insight into how this discourse has been used to define a unique form of design knowledge and alternate ways to research and establish new knowledge. Although practice may be the focus of research in many fields, for instance in this case study I investigate a practice found in education, in creative fields practice-based research may consider the design practice as the subject of research, a methodology, the goal of research and a method of communicating new knowledge (Scrivener, 2009, pp. 75–78).

5.2.2.2 Practice-based research

In a disciplinary context of change and contestation, a description of practice-based research continues to evolve (Buchanan, 2001; Friedman, 2014), as does the definition of what counts as new design knowledge and what form it should take (Frascara & Winkler, 2008). I will use the term practice-based research although a number of similar terms such as ‘design-based research’, ‘evidence-based research’, ‘practice-led research’ and ‘studio-based research’ (Niedderer & Roworth-Stokes, 2007) feature in the literature and may be used to reveal subtle differences in approach. The majority of the discourse on practice-based research that I have referenced in the following section is positioned in the broader field of art, craft and design, as practice-based research in

the three areas is often addressed together. Where warranted, I have included references to all three fields.

The emergence of practice-based research as a means of producing new knowledge in creative fields such as art, craft and design has focused attention on how new knowledge can be established, described, communicated and validated (Newbury, 1996a; Scrivener, 2009; Savic & Huang, 2014). This awareness has been spurred by a greater interest in, and demand for, art and design postgraduate studies (Newbury, 1996a; Prentice, 2000; L. Chen, 2007); competition for academic status and research funding (Newbury, 1996b; Niedderer & Reilly, 2007); and a search for an academic identity and recognition (Box, 2007; L. Chen, 2007). As Sevaldson rightly points out, “design research is in the midst of a historical process of defining itself as an established field of knowledge production” (2010, p. 18).

Those who wish to challenge the dominant research status quo claim that design *is* research and that a new and innovative design artefact *is* new knowledge (Newbury, 1996a). These proposals, which I will address in the following section, encourage a move away from research approaches and methodologies borrowed from other disciplines, in order to establish unique designerly approaches (Cross, 1999, 2001; Sevaldson, 2010). Multiple solutions, different interpretations and novel perspectives are valued in art and design and there is even resistance to using terms such as research, new knowledge, method, validity and reliability (Elkins, 2009; McGuirk, 2011). These terms are considered by some to be appropriate for science and administration, but offer little to creative practice-based disciplines such as art and design, as they may merely reinforce a bias towards propositional knowledge (McGuirk, 2009).

Practice-based research therefore differs from certain dominant research approaches in a number of ways. It does not necessarily aim to answer questions but, through the production of an artefact, or artefacts, aspects of design are explored and new knowledge may be produced (Power, 2011). In design there may also be an aim for practice-based research to address real world problems (Melles, 2008a; Trowler, 2013). Niedderer (2013) proposes that design research firstly aims to create something new

and secondly the design process relies heavily on procedural or experiential knowledge. Making an artefact as part of the research process is a key element in practice-based research in art and design. This places the designer, their practice and the creative production of design artefacts at the centre of establishing new knowledge. Power (2011) proposes a number of differences between traditional research and practice-based research as illustrated in Table 10. This separation may be considered simplistic as an increasing exchange of research approaches and research practices between disciplines occurs. Trowler (2013) contends that the more personal focus, the range of accepted approaches and the variety of products and purposes found in art and design research might for instance enrich education research practices.

Table 10: Traditional and practice-based research differences (based on Power, 2011)

	Traditional research	Practice-based research
Problems and issues	Problem to be solved, question to be answered	Problem generation, exploratory, personal interest
Shape, structure, dynamic	Strategy, constrained, predictable, linear	Dynamic, non-linear, broad, organic, unpredictable, changing
Materiality; process and outcome	Things are made for specific purposes, at specific points. Subordinate to text and results	Making and process is central throughout research. Artefact is as important if not more important than text.

The approaches used in practice-based research may range from one extreme, which aligns with the expectations of the more dominant text-based research, to the other extreme, where the art or design artefact is seen as a form of research that embodies new knowledge (Combrink & Marley, 2009). In the latter case, the artefact resulting from the practice is presented as research without any supporting text, as “the research outputs and claims to knowing must be made through the symbolic language and forms of their practice” (Haseman, 2006, p. 4).

In the following section I present three facets of practice-based research in the categories of person, process and product, which Cross (2001) considers as potential areas for design research and the production of new knowledge. This categorisation is to some extent artificial, as practice-based research seldom only addresses one area. However, it provides a mechanism for me to link the concepts I discussed in section 2.2.3 relating to the GD assessment discourse, and what I discuss in the findings (6.2) to those found in the field of production.

Knowledge such as the “experiential/emotional values and judgments in [the] form of expertise and connoisseurship, and the intuitive/emotional judgments made based on (personal) experience” (Niedderer & Townsend, 2014) relate to the person as designer. The designer may use a combination of experiential, propositional and procedural knowledge when creating a design artefact. As an example Niedderer (2013) describes the crafting of objects out of silver, where codified techniques and scientific knowledge relating to melting points and the elasticity of materials are available to the designer as propositional knowledge. Yet the feel of the material plays an equally important role when physically creating a particular shape. This knowledge may be difficult to communicate as it can include “implicit relations, tacit conventions, subtle cues, untold rules of thumb, recognisable intuitions, embodied understandings and shared world views” (Amin & Roberts, 2008, p. 359). The practical forms of design knowledge therefore access and include various propositional and procedural, as well as tacit and explicit forms of knowledge. These all contribute to the expert judgments that are made during the process of designing and making artefacts.

Cross (2001) claims that what makes design knowledge unique, and what is common to all forms of design, is the specialised awareness and ability of the designer, in other words the knower’s specialist gaze. As new knowledge is traditionally propositional and explicit, in order to produce new knowledge, the specialist gaze would need to be communicated and made open to scrutiny and justification. In addressing these demands Niedderer (2013) proposes that the rules of traditional propositional research should be complied with, while the nature of design is accommodated. As tacit knowledge is by its very nature difficult to communicate, context specific and personal,

herein lies one of the challenges for practice-based research, which is to make tacit knowledge explicit and to codify the valued procedural knowledge. By making tacit knowledge explicit and communicable, theories regarding design practice can be built (Niedderer, 2013). Although the theories generated using this approach might not be generalisable, the knowledge established can be circulated, evaluated and applied to different contexts outside of the designers original practice.

Taking a practice-based approach, the design process can be seen as research. As the designer learns through doing, the knowledge generated through the design process is once again in part tacit and personal (Niedderer, 2008). As Freitas (2007) indicates, professional designers are seldom aware of the tacit knowledge that informs their practice, but she proposes that by documenting and using reflection during the design process, this knowledge can be identified and communicated. The creative design process can thus be seen as a research methodology through which knowledge can be acquired (Scrivener, 2009) and data can be generated (Niedderer, 2008). An aim might be to identify and become more aware of the various steps in the design process and how decisions are made.

That the design product or artefact alone can be considered new knowledge has been challenged extensively in the art and design research discourse (M. Biggs, 2002; Scrivener, 2002; Niedderer & Reilly, 2007; Niedderer, 2008). If seen in relation to more dominant research practices the artefact alone cannot be seen as new knowledge. Scrivener (2002) points out that there can be many different interpretations of an artefact, but the artefact itself cannot communicate new knowledge neither can it justify or substantiate knowledge. It can be seen as an input, for instance as the source of data, or a focus for data generation and as a form of knowledge communication (Nimkulrat, 2012). The later indicates that the look and feel of a design artefact might communicate more than can be communicated via text alone (Nimkulrat, 2012). The artefact in a practice-based approach cannot be separated from the designer and the design process as it is the product of both of these elements. The designer's

experience, the design process and the artefact can therefore form the basis for research and for generating data and all three are central to practice-based research.

Creative practice in a research context can contribute to generating or enhancing knowledge, which is embedded in the practice and embodied in and by the practitioner. This knowledge can be obtained in the artist creating the artefact, the artefact created, the process of making it, and the culture in which it is produced and viewed or used, all taking place at a different stage of a research process. (Nimkulrat, 2012, p. 1)

With the designer's own practice and the making of artefacts integral to producing design knowledge, when taking a practice-based approach it would be difficult for individuals or groups who are not designers to participate effectively in this type of research and the related production of new knowledge. To provide an example, Bolt (2006) describes how the artist David Hockney used his own drawing expertise to investigate the drawing techniques of old masters. "It is the special kind of 'sight' that Hockney gained through being a practitioner that enabled him to be able to offer both original and ordinary approaches and insights into the drawings of Ingres" (Bolt, 2006). This statement infers that the specialist 'sight' or gaze enabled Hockney to arrive at innovative interpretations of the drawings as well as providing him with the ability to see the very source of the drawings. This would not be possible if he could not both draw and judge drawing.

When considered in terms of a born, social, cultivated or trained gaze (p.86), the ideal gaze required in practice-based research would be that of the master, where "designers are producing design ideas that are innovative responses to situations that may have been previously well understood. Such work is published and becomes the new precedent for other designers to study" (Dorst, 2008, p. 9). Publication or circulation of knowledge of this kind might take many forms and the design product would be an essential element of communication. I interpret the valued gaze at this level to be highly sophisticated and specialised, it might even be considered a 'social gaze', as those who are not practising designers would be excluded from this form of research and knowledge production. Even connoisseurs who could recognise and evaluate design might not be able to use the design process to create the required artefacts, and

therefore would be excluded. However, as the valued gaze of the master practitioner develops through education; the making of design products; the use of both propositional and experiential knowledge; and exposure to new problems, contexts, techniques, materials and to other designs and designers, it remains a cultivated gaze (p.86). As practice-based research values experience and what the designer does, how they think and what they feel, the knower and their experience become essential elements of the value system of knowledge production for the discipline. In order to communicate this unique knower's gaze and therefore open it up to others for critique, evaluation and distribution, some form of articulation would be required. Here reflection is commonly proposed as the means to translate the design practitioner's emotion and experience into text (Friedman, 2000a; Cross, 2001; M. Biggs, 2002; Niedderer & Townsend, 2014).

Practice-based research illustrates that in design there may be different forms of knowledge that are valued, that this knowledge may be arrived at using different procedures and that the knower who makes claim to this knowledge may require a highly specialised gaze. The ongoing debates discussed above regarding research in the field of design can be seen as attempts to carve out a more discipline-specific approach to design research and to identify design-specific objects of study. The varying perspectives and claims regarding new knowledge in design are seen as a jostling for power over what knowledge should be valued, how it should be established and evaluated, and who may make claim to it.

5.3 Building Graphic Design knowledge

In design, there are conflicting opinions between those who do not see the potential for practice to generate theories (M. Biggs, 2007), and those who do (Schön, 1987; Niedderer, 2007, 2008; Breslin & Buchanan, 2008; Niedderer & Townsend, 2014). The debate regarding theory generation through practice is not unique to design; it can equally be applied to education and many vocational fields. It is an extensive ongoing debate which is unlikely to be resolved in the near future. Establishing principles, theories and models about design practice and the design processes are useful as

knowledge becomes transferable and less context-dependant. Theories can provide the tools to relate the concrete practice of design to the “inner structures and properties, powers and tendencies” (Maton, 2014b, p. 2) of disciplinary knowledge, thereby making them open to scrutiny. Breslin and Buchanan (2008) consider the development of theories in design to be under-documented and under-articulated, and see the lack of consensus regarding this aspect of design research as highly problematic. I concur with their statement; as long as many elements of art and design knowledge and knower remain tacit and un-investigated they remain difficult to articulate in the curriculum and to use in teaching and assessment. Fortunately, practice-based research has contributed to establishing acceptable procedures for investigating and describing new knowledge in creative fields. Unlike other forms of design, such as engineering, where practical knowledge has been extensively codified and acknowledged (L. Kimbell, 2009), GD with its relatively short history has possibly not reached such a point. The process has, however, begun and practice-based research continues to contribute by making certain tacit and procedural forms, such as the valued design gaze, communicable and therefore open to scrutiny and critique. In this form, the valued knowledge and knower may be more easily recontextualised for use in the curriculum and outcomes and assessment criteria, and understood by students. This explicitness is essential in order for students to become “critics of knowledge and critical producers of knowledge” (Wheelahan, 2014, p. 134), which would include understanding and even challenging what is valued in assessment. Explicitness would need to be balanced with the more tacit elements as well as allowing for unexpected and creative outcomes that might emerge.

In Bernstein’s (1999) view, the power of knowledge can be seen in its potential for knowledge-building through achieving higher levels of abstraction and context independent meaning that may only be achieved in vertical knowledge structures (3.3.3). By rejecting traditional forms of research that can be seen to build propositional knowledge, design can easily fall into a deficit model, as there is no clear and consensual approach to building knowledge, especially when compared to hierarchical

knowledge structures. When considering the potential for horizontal knowledge structures to build knowledge:

It is easy to valorize the kinds of knowledge most easily seen: explicit, abstract, condensed, hierarchical forms that visibly announce themselves. This tendency can drift towards offering a deficit model of the arts, crafts, humanities and many social sciences, as well as everyday understandings, where knowledge may be less explicit and more concrete, context-dependent, embodied, and axiological. (Maton, 2014b, p. 14)

I raised the limitations of the concepts of horizontal and hierarchical knowledge structures for knowledge building in a practice-based field earlier in this dissertation (3.3.3). As others have indicated, Bernstein's framework does appear to favour the more hierarchical forms of knowledge (Young, 2006b; Muller, 2008b; Shay & Steyn, 2016). In GD studio work, it is not always possible to separate theory from practice, but by using LCT(Specialisation) I avoid this dichotomy by identifying the underlying knowledge-knower structures rather than different forms of knowledge. This fine-grained approach was one of the reasons for my use of LCT(Specialisation) in this case study (1.2), especially in light of a number of recent studies using both Specialisation and Semantics to consider similar practice-based fields (Steyn, 2012; Shay & Steyn, 2016; Wolmarans, 2013). These studies indicate that knowledge can be built in fields such as design, and that design knowledge has the potential to be transferred to different contexts in order to solve complex or wicked problems (2.2.1). As mentioned previously, I have not made use of the dimension of Semantics (p.77) in this study, but it has relevance to the level of projects students are expected to complete and possibly to the conceptual and contextual coherence of the discipline. I therefore refer to it where significant.

Maton (2014b, p. 94) indicates that in horizontal knowledge structures an ideal knower with a discipline-specific gaze is valued. Instead of 'knowledge-building' he claims there will be 'knower-building' within a hierarchical knower structure. Based on the field of production, my understanding of the valued gaze in GD relates to the discernment needed to make judgements in design, which might include the judgement needed to identify good and bad design, to compose image and text on a page and to make

ethical design choices. The ability to judge requires a specialist gaze which is considered legitimate to the practice of GD. I identified the highest level of gaze as so refined that it borders on a social gaze (p.152), as designers make decisions during the design process, showing the aesthetic sensitivity of a connoisseur and the skill of a craftsman. Nevertheless, design decisions or judgements cannot only be based on the look and crafting of a product. In GD, an aesthetically-pleasing product that is not fit-for-purpose has little or no value, where fit-for-purpose can be seen as marrying the look with the functional aspects such as clarity of communication, appropriateness, efficiency of production techniques and methods, sustainability and the needs of the user. The combination of connoisseurship and craft enables the designer not only to evaluate their own work as it progresses, but also to evaluate other design work. "The fact is that, when deciding what is new and original, we always rely on comparative judgements, on the knowledge we and others have about the world of existing artefacts that makes up a cultural domain" (Glăveanu, 2011, p. 105). Graphic designers therefore need to possess both an aesthetic and craft gaze; this gaze is positioned within a broader social and historical context. In the same way the assessor needs to possess a connoisseur's gaze and an understanding of crafting in order to make a value judgement of the worth of a student's work.

When making judgements during the design process, there are additional considerations and potential sources of conflict for the designer. The designer brings a set of attitudes, beliefs, morals and values to the design process, and these are carried through into the final product. Elements of the person, such as personal attitudes, values, beliefs and ethics, may be in conflict with production, economic and other considerations (Oak, 2000). In other words, there may be conflict between the individual designer and the contextual coherence of the practice. As discussed in the following section, how to address ethical choices which consider other stakeholders and communities relating to "social ethics, sustainability and environmental issues" (Joubert & Economou, 2009, p. 99) is becoming more prominent in GD in the field of production, and to some extent in the profession of GD.

Within this section, I have established that a wide range of approaches, procedures and objects of study are accommodated in producing new knowledge and the gaze of a valued knower in GD. New knowledge and a valued gaze may emerge from different sources such as industry, traditional research and practice-based research. The various debates regarding practice-based research and theory generation indicate that the knowledges to be recontextualised in GD education may come from different sources and take different forms (Niedderer, 2013). This would indicate that design as a discipline demonstrates a horizontal knowledge structure with weak grammar, as there is currently no single legitimate object of study and no discipline-specific research process and procedure. Yet, the fact that the designer and his/her practice play pivotal roles in the production of knowledge signifies that a specialised knower with a sophisticated gaze is valued in the field of design production.

5.4 Sustainable design

I indicated in the introduction to this chapter and in the previous chapter that my initial analysis of the assessment data relied on pre-defined categories, and that I had indicated that this had proven problematic (p.117). In the final analysis of the data, I adopted a different approach in which the categories were allowed to emerge from the assessment data (p.124) and these were then considered in terms of LCT(Specialisation). This process allowed me to identify the explicit, tacit and implicit knowledge and knower valued in assessment and their relative strengths, therefore revealing the underlying knowledge-knower structures valued. Although a comparison between the field of production and the assessment criteria was not a goal of this case study, on reflection it was clear to me that certain themes from the field of production aligned with the assessment categories identified, while others did not, hence my reason for addressing sustainable design in this section, which stems from this comparison. In the data generated from the assessment practices, there was minimal reference to sustainable design and it therefore did not appear to be a criterion that assessors valued; yet sustainable design appeared in the field of production as a characteristic that was valued in both the industry and the research discourse. In the following sections I identify how sustainable design is described in the design

discourse. In section 6.4 I address the significance of the identified gap for this study and design education.

5.4.1 Sustainable design in the field of production

With propositional knowledge, practice, technology and industry providing the push and pull in design curricula, the conceptual and contextual coherence for design, including GD, may change over time, as it is historically and socially situated. The contextual coherence of design in the 1980s was oriented towards 'style' and 'profit' (Cahalan, 2007). A more contemporary interpretation of design's contextual coherence promotes design as a method for positively influencing the environment and people's lives. Design is seen to provide "a unique way of looking at the human condition with the purpose to create change" (Nelson & Stolterman, 2012, p. 22). When identifying how design might change the human condition, either positively or negatively, the topic of sustainable design emerges as a significant theme in the design discourse. Sustainable design considers the impact of the design process, from conceptualisation to production and beyond, on the environment, the economy and society (Gerber, 2008b; Y. S. Lee, 2014). The concept of sustainability emerged in the late 1980s and it was incorporated into professional GD practice between 2006 and 2011 (Schwarte, 2011). Addressing issues of sustainability can be seen as one of the "social obligations of the profession" (Y. S. Lee, 2014, p. 158) which may influence the design industry and the context that designers work in, for instance, 'green design' might be a requirement dictated by the client. Conversely, as discussed in section 5.2.1 (p. 143), designers can also lead or establish this type of social responsibility agenda as part of building a valued professional identity (Wang & Ilhan, 2009). Sustainable design plays a role in the South African GD industry, as illustrated by the sustainable marketing category included in the Loeries, which is a prominent local advertising industry competition (Loeries Awards Company, 2015, pp. 6–7). This focus can therefore be seen as significant in describing the orientation of design practice at both a professional and research level.

The momentous changes in design practice that are taking place at this time don't seem to influence design research at all. But they should: design activities of professional designers are changing under the influence of

globalisation, the coming of the digital age, the imperative to create a sustainable world, and the fragmentation of value systems in western societies. (Dorst, 2008, p. 7)

Contrary to Dorst's (2008) claim, research addressing the significant role that design can play in guiding and influencing sustainability is identified in a number of journal articles and conference proceedings (Joubert & Economou, 2009). There has also been noteworthy growth in the number of articles published on sustainable design and related topics since 2006 (Schwarte, 2011, p. 17). It therefore appears as a focus in the discourse found in the field of production and to some extent in the industry.

The focus of the sustainable design discourse can be twofold. It can firstly be described in the production methods and how the negative impact of these could be minimised, especially the negative impact on the environment (Gerber, 2008a). Printing on recyclable or bio-degradable packaging material is an example of this approach in GD. Secondly, and more recently, designers have been challenged to be more active in addressing the problems facing the world, rather than merely complying with industry ethics and norms, and the legislation relating to sustainability (Akama, 2012). Boehnert (2013) proposes that the sustainable design discourse has evolved to consider wider moral implications, such as the influence and positioning of power. Seen from this perspective, an emphasis or consideration of sustainable design challenges the dominant commercial profit-focused role that design primarily plays in society (Boehnert, 2013). The conflict between moral and ethical responsibilities and commercial demands continues to be a day-to-day challenge for practising designers (Akama, 2012; Hernández, 2013). In addition to compliance with professional practice, the moral actions of the individual designer acting within a community are scrutinised. The designer as a contributor to the greater good of society and the environment emerges as a theme in the discourse, with proposals that "design becomes a powerful tool for the work of addressing contemporary social and environmental and economic problems" (Boehnert, 2013, p. 545).

Sustainable design can therefore be seen to have two emphases. The first addresses the practical impact of design production methods and related professional, legal and

ethical considerations. The second is a more personal, ethical and moral challenge to designers to take responsibility for improving the social, environmental and economic circumstances of others. This latter emphasis was highlighted as an element of the assessment of person, where the ideal GD student is expected to be an ethical design practitioner (p.42). In the context of the field of production, complying with the ethical requirements of the profession and making moral and ethical choices that benefit others become measures of good design and of the valued gaze required of an ideal designer.

5.5 Conclusion

In this chapter I identify GD as a region, indicating that the structure of a region influences the selection of knowledges for use in educational programmes, which may in turn influence what is taught and what is assessed. As a region, GD is influenced by a number of socially-constructed internal and external structures. In the design literature it was clear that, as opposed to drawing on specific singulars, design draws on a wide range of knowledge from any number of singulars and regions. The knowledge used may encompass knowledge specific to design, knowledge from other disciplines, practice-based knowledge and industry-based knowledge. As a region, GD faces in one direction towards the disciplinary knowledge selected, and this may change over time as it is influenced by the orientation of the programme towards academia, industry or to more generic competencies. Facing in the other direction, the selection of knowledges for use in the programme is influenced by external sources such as educational policy, professional bodies, industry trends, technology, the ethos of the institution and the contextual coherence of the practice. The contextual coherence of GD has changed over time, as illustrated in the literature, where there are calls for a move away from a commercial profit orientation towards a more ethical and moral role in which design and the designer actively participate in making the world a better place²⁸.

As GD is a practice oriented towards creative problem solving, knowledge is selected as needed, but in this chapter I considered what the designer does with this knowledge

²⁸ The shifting nature of design makes creating a taxonomy of design knowledge a moving target, however, plotting these changes over time might be a worthwhile exercise which however, lies outside of the scope of this document.

and how a specialist gaze is used to make design products and services. The designer's practice and gaze, which are largely tacit and experiential, give the field its unique character. I used the example of practice-based research to illustrate how the person, process and product have emerged as areas considered in design research and in assessment even at postgraduate level. They are therefore components of the design practice, where new knowledge can be established and where learning can be evidenced. Although all three are considered in assessment, the emphasis in most forms of undergraduate summative assessment is on the product, whereas the product as the embodiment of new knowledge is still disputed within the field. Although the production and assessment of new knowledge was not a component of the three year GD degree at PISA, new knowledge from the field of production may inform the field of reproduction where assessment is positioned.

The characteristics and knowledge-knower structures found in the field of production do not necessarily carry through to the field of reproduction. However, in identifying the forms of knowledge valued in the field of production, including the various challenges and debates, it enabled me to identify where knowledge and the knower's attributes might be drawn on for use in the curriculum. Although the characteristics and structures identified in the field of production were not used for the final analysis of the assessment data, they provided useful information to identify alignment and gaps in the findings, as described in the following chapter.

Chapter 6 Analysis and findings of Graphic Design assessment data

6.1 Introduction

In this chapter I describe the underlying specialist knowledge and knower codes that I identified when analysing the assessment data. As discussed in Chapter 4, the data were generated from a number of sources, including an online survey, four study guides, and seven formative and nine summative assessment sessions on four campuses (Appendix C). The primarily qualitative data was interpreted using the analytic tool of LCT(Specialisation). I therefore considered knowledge as an object, and what kind of knower might make claim to specialist GD knowledge. The language of description created (Table 9, p.124) was used to link the theory with the data. This process echoes the movement between theory and data, or abstract and concrete, defined in the critical realist approach to abstraction discussed in section 3.2.1.

I start this chapter with a consideration of how the contextual factors identified in the data can be seen in relation to the theoretical framework. This was informed by the central role that context plays in this case study (4.1) and how context influences the realisation of a mechanism's power at a deeper level of reality. Seen from a critical realist perspective, context includes the structures and mechanisms that operate outside of, and yet impact on, the GD assessment practice. In section 6.3, I present a comparison between the knowledge-knower structures identified in the four study guides and at the formative and summative stages of assessment. This analysis focused on what occurred during the panel and individual marking sessions and whether the identified underlying knowledge-knower structures aligned with those demonstrated in the study guides. The codes arrived at through this analysis form the basis for my identification of code clashes, matches or shifts, and I have outlined the potential impact that these might have²⁹.

²⁹ A preliminary interpretation of the analysis was presented at the 'Design with the other 90%': Cumulus Johannesburg conference as *Design assessment: A socially responsible practice or subjective judgement?* (Giloï, 2014).

6.2 The contextual factors

In Chapter 2, the significance of the macro context of the case study was described. These contextual elements included, firstly, the broader social structures consisting of the multi-campus structure of PISA as a PHE for-profit institution operating within an OBE framework (2.1.2). Secondly, the culture and characteristics of GD assessment (2.2) were described, including the assessment of wicked competencies (2.2.1), the use of tacit knowledge (2.2.2), the assessment of person, process and product (2.2.3) and panel marking (2.2.4). Each element, and the combination of elements, was seen to have the potential to influence the assessment practice and the assessors³⁰. As Sousa (2010) indicates, context may influence whether a mechanism's power in the domain of the real remains dormant or is activated. In the analysis of the data that follows, I found that most of the contextual elements contributed to the nature and culture of GD assessment in this study, and influenced the GD assessment at PISA. However, these elements did not define the practice; by this I mean that, if any element were to be removed, the practice would remain relatively unchanged. They can thus be seen as 'contingent' to assessment: "contingent relations represent what 'can go together' but does not have to" (Sousa, 2010, p. 474).

Certain assessment policies, processes and procedures had been put into place at PISA to enhance parity across all campuses and to comply with the various HE regulations and QA requirements. For instance, in keeping with an OBE approach, I found that the study guides at PISA included explicit outcomes for the module, plus broad and specific outcomes for each brief. All guides, except the ACWD300 study guide, included assessment criteria for the module. As discussed previously, this OBE approach (2.1.3), assumes that clearly-defined outcomes and assessment criteria will enhance reliability and an equivalence of standards. Each campus received the study

³⁰Throughout this chapter the term assessors will be used to refer to lecturers, internal assessors who marked formative briefs and external moderators who moderated portfolios, except for where it is necessary for the distinction to be made explicit. Five of the six external moderators were industry professionals. Five of the nine lecturers were also practicing designers.

guides and assessment documentation with the understanding that these would be provided to students, lecturers and the external moderators. The implicit purpose of the documents was thus to communicate the espoused 'rules of the game' or the knowledge-knower structures valued in GD assessment within the institution. The broader regulatory structures (2.1) therefore had the potential to influence the enacted assessment practice, as the documents were designed to be used at the various stages of assessment by students, assessors and moderators.

In the data analysis I found that at the formative assessment stage assessors, when marking the briefs, referred to the parameters for the briefs as contained in the guides and to the generic marking rubrics (Appendix B). Although some lecturers were very familiar with the modules, at no stage did I observe the lecturers, assessors or the moderators explicitly referring to the learning outcomes, or the assessment criteria. I concluded that assessors used their own set of criteria to judge the student work. As discussed earlier (2.2.4 and 5.2.1) assessors bring different identities as educators and design practitioners to the assessment process. This was confirmed in the data, as I identified that assessors often referred to industry requirements, practices and norms when discussing and evaluating student work. Their experience as GD practitioners therefore informed what they looked for, and valued, in student work. This implied that, although a certain specialist knowledge-knower structure was being communicated in the study guides, assessors could use a different code as the basis for their value judgements. The instances of these code clashes, as identified in the analysis of both the data in the study guides and the observed panel and individual marking sessions, are discussed in detail in sections 6.3.1 and 6.3.3.

Panel or group marking is the norm for GD assessment practice (2.2.4). This norm, as documented in the PISA institutional guidelines, was not always followed on all campuses. In a few instances, lecturers marked briefs on their own and sometimes external moderators moderated without a lecturer present. When lecturers or moderators marked on their own, I argue that this resulted in a lost opportunity to reach consensus and to share criteria and standards through discussion and debate (2.2.4).

This was one of the key characteristics and benefits of panel marking as defined by Orr (2007) and Morgan (2011). In addition, the opportunity to share new and diverse knowledge between panel members, especially regarding the application of emerging technology (5.1.1), was unlikely to take place. New and inexperienced lecturers sometimes marked formative assessments on their own, reducing the opportunity for them to learn from more experienced staff. As a result they had little opportunity to interact with other assessors in a panel marking environment and, as newcomers, would have little impact and influence on the assessment criteria and standards, nor the existing assessment practice. Feedback from lecturers and external moderators was a source for keeping study guides and curricula updated (p.108). Lecturers who were not involved in the summative moderation did not have the opportunity to present their input or to learn about the criteria used by the external moderators, who from my observations provided valuable additional feedback on teaching practices, industry trends and the relevance of specific briefs. The assessment practice, although designed to comply with the HEQSF and the logic of the field (p.47), had been altered by the assessors, based on their circumstances, external pressure and their own experience. The result was that the stated outcomes and criteria were replaced in some cases with a different set of criteria, and therefore potentially a different specialist code was valued and used.

When I asked lecturers about this phenomenon of individual marking, they indicated that complex timetables led to difficulties in finding other lecturers with whom to mark. Some lecturers indicated that, when the external moderators were on campus, they were required to attend to other responsibilities, such as the marking of theory papers and invigilation of examinations, and they therefore could not be present when the moderators marked. I interpreted this as symptomatic of the for-profit PHE institution's focus on efficiency (2.1.1). In addition there is often a push and pull between assessment effectiveness, time and expense (p.49), which comes into play when complex and authentic achievements are to be assessed in any environment.

The wicked or complex achievements required of graphic designers (2.2.1) were very much positioned within a technological context. As technology develops and design problems become more complex, the range of knowledge, skills and attributes that graphic designers must master shifts and evolves. In a technologically-rich field such as GD, the latest techniques and trends featured in many of the conversations between assessors, where they shared information. For example, in the excerpt below John, a lecturer, discussed technology that influenced Web Design with two external moderators, Mbali and Jade, both industry professionals.

- John: *Ya they play around, the major, major browser that gives issues is your...*
- Mbali: *Safari.*
- John: *Ok there's Safari. It's Internet Explorer is the one that usually throws everything off.*
- Mbali: *Oh is it?*
- John: *It doesn't really correspond well with you know the norms, the codes. So you usually need to do like a bit of extra coding just to make sure that it, you know.*
- Jade: *That you can view it well there as well.*
- John: *Yes.*
- Mbali: *But also you know I sometimes find on Mac, you know it also throws it out, like your....*
- John: *Mmmm. Also like the screen size is quite big. (Audio ACWD300, KL summative, 2014)*

Their discussion covered the industry logic of what students were required to do, as well as how different technologies were considered when the students design web sites. As discussed previously, GD can be considered a region strongly influenced by industry, technology and practice (5.1.1.1). I observed how the sharing of the latest techniques, trends and practices proved valuable to both lecturers and moderators in keeping in touch with the rapidly changing world of GD.

When lecturers marked on their own, it opened up the assessment process to the possibility of bias, or perceptions and accusations of bias. Assessment in this field is already perceived to be subjective and prone to bias (p.35). In my experience as Dean and as a creative arts educator, the advantage of panel marking in reducing bias and reassuring stakeholders of the legitimacy of the assessment practice is significant. This

is particularly the case in a field where tacit knowledge informs assessment judgements and these judgements are not easily verbalised, especially to non-designers.

Tacit knowledge played a significant role in two areas of the assessment practices that I observed. For instance, assessors expected students to draw on this type of knowledge, when 'doing' design. The tacit knowledge of the assessors was also an element that emerged from the analysis, although it was not something that I could directly observe. Assessors' own experience, as well as past exposure to both good and bad design, appeared to be used as the basis for making certain value judgements. As I highlight in the example below, assessors were not always specific in their discussions of student work and yet seemed to know intuitively what the other assessors were talking about. In the following excerpt, Ezekiel and Nigel, both industry practitioners, were moderating together for the first time. Although Ezekiel was using the mouse to navigate the web site, neither moderator was pointing to specific design elements on the screen at the time.

Ezekiel: *This looks for real though. Cept for...*

Nigel: *Padding though yes, the standard Microsoft, but...*

Ezekiel: *Ya the way they use type, so here they use....*

Nigel: *Is that an image though?*

Ezekiel: *No its type. OK cool. I also like that the logo is clickable, so it actually back to home.*

Nigel: *Instead of having a home page. (Audio ACWD300, SR summative, 2014)*

In this example, it appeared to me that, although the assessors were not explicit regarding what they were discussing and they did not always finish their statements, they each seemed to know what the other assessor was referring to. In the data, assessors quite often completed each other's sentences. Elkins (2001, p. 178) indicates that this pattern of unfinished sentences occurs in critiques as well, as assessors are talking while their thoughts are still forming. Although this type of conversation proved challenging for me to code and analyse, my interpretation of this was that assessors appeared to share certain implicit or tacit knowledge. This understanding was reinforced

by the comments of Peter, one the focus group participants, who indicated that design assessors assume that they share common educational and industry experiences.

Peter: *I mean it's a strange thing and it's as if you know that the external [moderator] who comes in also went through that and we all know what it is that our lecturers said to us and what the industry has done to us and what it is expected. It's a body of knowledge that we just seem to know cause we [are] inside it. (Audio, MS focus group, 2015)*

Peter's comment revealed the assumption that a tacit understanding of valued GD knowledge, built on common experiences, was shared by the assessors. This assumption is challenged by both M. Price (2005) and Logan (2007), as discussed previously (2.2.2), and even in this case study, as lecturers and assessors had quite different levels of experiences in both education and the industry. For instance, the online survey conducted across ten PISA campuses (p.103), indicated that lecturer experience in HE ranged from 1.5 to 26 years, and that 76% of the participants had industry experience which varied between 2 and 12 years. Considering the variety of careers in GD, the influence of changing technology and how GD education has adapted over time, this tacit sharing of criteria and standards based on a common experience may have been an inaccurate assumption to make.

In the data generated from the assessment documents and the recorded marking sessions, the discussion of person, process and product proved to be an integral part of the PISA assessment practice. These three themes have been identified in the literature on design assessment (2.2.3) and in practice-based research (5.2.2.2).

In the person theme, I identified in the data that assessors valued certain acceptable student behaviour and attributes. Acceptable behaviour in a discipline, referred to as 'hierarchy', is one of the components of framing (p.68). The relative strength of hierarchy is influenced by who, lecturer or student, defines what is considered acceptable and therefore valued. I found that this aspect of framing was quite clearly stated in the study guides and by the assessors, and that what emerged from the data aligned with the levels of design expertise described previously in Table 8 (p.122) of the

obedient, supervised and self-reflective learner. Acceptable student behaviour was roughly grouped into three categories, namely, the ideal student and GD practitioner, the ethical design practitioner, and the progress that individual students had made. These categories aligned with the characteristics linked to person in design assessment (p.40) and, to some extent, with what I recognised in practice-based research and sustainable design (5.2.2.2 and 5.4). At the formative assessment stage, student behaviour and conduct was very much a consideration. Assessors valued good attendance, a willingness to re-do work, participation, asking questions, following the lecturer's instructions and handing in enough, neat and complete work on time. The lecturer for Graphic Design Studio 1, Peter, explains to the assessor the problem he has with a student's behaviour:

Peter: *... it's as I've said, it's difficult to get him to work and I think if he did actually work and use his time properly we could get great stuff from him.* (Audio ACGD100, MS formative, 2014)

At both the formative and summative assessment stages the lecturer, if present, sometimes relayed information about the student to the assessors. These comments might include where the student came from, that they worked hard, that they would not follow the advice given, or personal factors that impacted on their production, such as having taken ill. It was difficult for me to identify if these statements influenced the external moderators. In my experience and in discussions with moderators, some appreciated this information, while others did not want to know these details. The latter felt that this could be a form of manipulation on the part of the lecturer and an attempt to sway the moderator's judgement. The moderator may have felt that the lecturer was attempting to defend not only the student, but also their own teaching practice (p.31). Moderators who were open to this form of input appeared to be willing to consider a student's particular circumstances when awarding marks. After being informed of the problems a student had encountered, the external moderator, Karabo who was from another academic institution, asked the lecturer:

Karabo: *Does he only have issues because of the injury and his family for the last few briefs?* (Audio ACGD100, MS summative, 2013)

The discussion indicated that the moderator would consider these circumstances when marking the work that was not quite finished. The lecturer was therefore acting as an interpreter of the student's intentionality and using his knowledge of the student and their circumstances to inform the moderator³¹.

At the summative stage, poor presentation, unfinished work or inappropriate use of materials was seen to be an indication of unprofessional behaviour. In both the formative and summative assessment data, students who did not meet the professional expectations were sometimes described as lazy. For instance, the external moderators Ezekiel and Tebogo both industry professionals, on viewing work that appeared to be unfinished, stated the following:

Ezekiel: *But he is obviously not finished.*

Tebogo: *Mm I think he is lazy personally.*

Ezekiel: *Ya I also think so. This could have been such an awesome one.*

(Audio ACGD100, SR summative, 2014)

At the higher levels of competence, behaviour as a professional GD practitioner was also valued. The expectation of students to behave as professional practitioners correlates with Logan's (2007) findings that students were judged as industry practitioners closer to the end of their studies (2.2.3). Their portfolios were evaluated according to their potential to participate in professional practice and how they might be received by other industry practitioners. This aligns with Logan's (2007) contention that design educators act as gatekeepers to the industry. The behaviour of the student as a professional did not, however, seem to be linked to ethical or moral behaviour of the individual (p.40 and p.159). There was little reference in the data to assessors valuing the transformation of the student as an ethical and moral individual or GD practitioner, although service-

³¹See Belluigi (2015) for a discussion of the inclusion and exclusion of authorial knowledge in art assessment and feedback.

learning³² briefs were contained in two of the modules including Graphic Design Studio 3.

The objective of this brief is primarily to make a difference in your community and to have a lasting social influence. You will be contributing your talents, as a designer, to the charitable activities that you feel passionate about. (Study guide ACGD300, Linde, 2012, p. 25)

These briefs were aimed at more than just mimicking an industry experience, as they had personal and social transformation as an outcome. Nonetheless, as with the example provided by Joubert and Economou (2009), students were not assessed on achieving these outcomes. There was rather a valuing of the student's professional practice seen in terms of industry norms and legal considerations (5.4.1). For instance, two lecturers discuss the authorship of visual elements used in a student's work.

Marietjie: *Did he draw the heads now?*
Joanne: *No he didn't. He used a lot of stock, I am not even sure if it is free stock, or if it's just images he just Googled and used without concerning the copyright or anything.*
Marietjie: *Not at second year level, at the end of, at this stage they should be able to do their own thing, that's not going to cost the client additional money. Rather draw on your own expertise, that's why there is drawing, that's why there is all the other modules that teaches them. (Audio ACGD200, CF formative, 2014)*

In the excerpt above, the assessors indicate that they value ethical behaviour, but interpret ethics in relation to certain laws and norms of professional design practice, rather than valuing the individual student's developing his/her own ethical framework. This links to claims that designers have a greater social obligation than compliance with legal and industry rules (p.159). This absence in the data of the assessment of the student as an ethical or moral practitioner will be elaborated on later in this chapter when I address the absence of sustainable design in the assessment data (6.4).

³² The service-learning briefs involved work done by the students for and within a community. They provided students with the opportunity to learn about professional practice, themselves, the community and to do design work that benefited others.

The individual progress that the student had made was also a consideration of student behaviour. Assessors valued an improvement in student performance or a change in attitude. The student's performance was not compared to other students' performance; in other words it was not norm-referenced. Neither did the assessor compare the performance against the pre-defined assessment criteria, thus criterion-referencing was not used either. However, performance was compared to the student's past performance or the past work that they had done. Therefore ipsative assessment (p.43) was part of the PISA assessment practice. The lecturer in the following excerpt indicated that he valued the progress a student had made, as the student had seldom handed in a completed project before and had not been participating in class.

Yassin: *I'm proud of him so I won't fail him because I'm seeing progress and I'm seeing a change in attitude. He's not sitting in the back of the class with his head down anymore. He's in front, looking up and wanting to take part. So definitely I won't fail this student.* (Audio ACGD200, MS formative, 2014)

For the summative assessment, where external moderators had no contact with the students, they compared the progress made in early briefs to the more recent ones. They too valued progress made over time. This progress was identified from the design product, rather than from the student's behaviour.

The design product and process featured strongly in the assessment data. The stages of the design process may include research, problem identification, conceptualising potential solutions, verification, planning, making and reflection (p.44). In the data, process was primarily evidenced in the visual diaries that students submitted with their design products. The significance of the process work was highlighted in almost all of the data, therefore in all modules, in the study guides and at both the formative and summative stages. Process work was not necessarily seen as evidence of student learning, as reflection was not emphasised or assessed, but rather as a map of the students' thinking and their ability to make relevant judgments. Assessors used the visual diaries to follow and interrogate students' research, conceptualising and planning processes and their thinking and decision making. This aligns with the claims regarding

the significance of the design process as a teaching, learning and assessment tool made in sections 2.2.1 and 2.2.3.2. The evidence in the visual diaries often proved to be critical to the value judgements that many of the external moderators made, especially when the lecturer was not present. In the following example, two external moderators look through a student's visual diary in order to clarify the concept that they could not quite 'read' in the final product. They scrutinise the student's decision making by considering what he selected for use, which concepts were developed and which were discarded.

Tebogo: *Then the resources and research and thinking is just their planning process. Do they take the information they've found? Do they manage to turn it into a conceptual, a good conceptual design in the thinking process?*

Ezekiel: *This one. So this one was for his texture, pattern idea. And then he took a leaf, but that's [unintelligible] figure [they look at the process work].*

Tebogo: *I am not too convinced about the figure, but firstly I think [unintelligible], and what's nice he actually tried different compositions before just going with one. He has quite a lot, before he decided on this one. And he scanned his own stuff in and kind of played around with that. Oh this would have, oh this is what he's done. (Audio ACGD100, SR summative, 2014)*

Although the documented process played an important role in informing the assessors' decisions, my analysis of the data indicated that most formative and summative assessment conversations focused on the final product. This aligns with other research findings that product is the dominant form of evidence used in summative assessment (2.2.3). Assessors' conversations around product encompassed all of the themes in the data. They used the product to interpret student competence, use of technique, understanding and application of theory, knowledge, thinking, creativity, judgement and decision making, and student attributes and professionalism. I found the assessors' interpretation based on the design artefact interesting, as in practice-based research at postgraduate level there is still debate regarding whether the artefact embodies new knowledge, and the knower (p.147). There is however, a difference between new knowledge and what students at an undergraduate degree

should evidence. I observed that, in the majority of the assessments, assessors consulted both the product and the process material, therefore they had access to the students' research, planning, thinking, making and judgements and they could position the product within the students' practice and a broader context.

In considering the contextual factors of design assessment (2.2) in relation to the data and the theoretical framework, I identified ways in which these contextual structures and cultures potentially impacted, constrained, reproduced and changed GD assessment and the assessors at PISA. Although there was an institutional aim to adhere to the OBE approach of alignment when creating the study guides and other documents, this approach was not always followed in the enacted assessment practice. Panel marking brought with it benefits, such as the sharing and co-creation of knowledge and standards, although this was localised at campus level. Conversely, it appeared that on some campuses the institutional perception of group or panel marking was that it was a time-consuming and expensive exercise that did not fit with the profit orientation of the institution. Person, process and product were very much part of the PISA assessment practice, yet not all of the elements identified in the literature regarding the assessment of person appeared in the data, especially those relating to the transformation of the student as ethical and moral design practitioner. This will be discussed at the end of this chapter.

At the core of the practice were the value judgements based on the largely tacit 'rules of the game'. Beneath the empirically-observable context lay the valued knowledge-knower structures, which I identified in the data using the lens of LCT(Specialisation). In the following section I provide a comparison of the knowledge-knower structures identified in the data from the various modules.

6.3 A comparison of the specialisation codes used in GD assessment

In section 4.1.6.1, I outlined the language of description that was used to identify and categorise the themes that emerged from the data. Themes were then arranged as either ER or SR. The dominant ER themes that I identified were technique, design theory, industry and inter-disciplinary knowledge, and sustainable design. The main

SR themes identified were look and feel, concept, process, personal and professional, integrate and communicate (p.124). There were minor themes such as 'lecturer and student collaborate' and 'monitor own learning' (Appendix D), but these appeared so seldom in the data, and did not relate to the field of production, that I did not consider them to be significant. The SR themes encompassed the specialist GD gaze (3.4.1.2) and the knower attributes that were valued in an ideal GD student. In the data, the strengthening and weakening of ER and SR were indicated by classification and framing (3.3.1) and the levels of design expertise (Table 8, p.122). If the object of knowledge and procedures clearly belonged to GD were explicitly stated and had to be followed by the student, this signified ER+. At the opposite end of the continuum, knowledge and procedures drawn from other disciplines which could not be explicitly stated and which were selected by the student and used as needed signified ER-. If the student was challenged by a complex design problem, had freedom of choice, used the design rules innovatively and was able to substantiate their design decisions, this indicated SR+. Trowler refers to this as the visual language used by artists and designers in that it "expresses ideas and emotions as well as alluding to influences and contexts beyond the immediate piece" (2013, p. 60). My understanding of the characteristics and categories was informed by the knowledge theories and how knowledge and knower were described in the design field of production (5.2). The approach aligns with that of abduction (3.2.1.1 and 4.1.6.1) in that, instead of focusing on content, abduction allowed me to 'see' the data in terms of the LCT(Specialisation) theory and its rules.

It must be noted that the themes that I identified in the data could not always be clearly separated from each other. Very often they overlapped and merged, and I have attempted to illustrate this where possible. An example of the coding is included (Appendix E). An analysis of each of the study guides and each recorded formative and summative marking session was completed and is available as part of the audit trail.

What I present below are the key findings in the form of the identified code clashes, matches and shifts. These codes, and their alignment or variation, indicate how the 'rules of the game' may change in assessment. Potentially, these changes may occur between what was valued at the formative or the summative assessment stage, between different modules, on different campuses and between the espoused and enacted assessment practice. The study guides containing stated learning outcomes and the assessors valued criteria were positioned within the field of reproduction, in other words they describe the knowledge and knower that had been selected from the recontextualised knowledge, which was in turn selected from the field of production (5.1).

I have considered a code clash to be significant as it indicated, for instance, a complete change between the explicitly-valued code, as stated in the study guide, and the code that assessors valued and used during marking. Where the codes matched, I considered the logic of the codes and why such alignment might occur. A shift such as the strengthening of the valued GD gaze from the first year to the third year would be a logical assumption, as strengthening was linked to increased expertise and freedom of choice. This is represented as $SR\uparrow$ for a strengthening and $SR\downarrow$ for a weakening of social relations. This was illustrated in the progressive strengthening of the valued gaze in the three Graphic Design Studio modules, yet this strengthening of gaze was not found in the third-year module Web Design. I also identified that, in this module, the knowledge-knower structure valued on one campus at the summative assessment stage differed from the code valued in the formative and summative assessment on other campuses. For the other modules there was no significant difference between the codes identified in the study guide and what was valued at the formative and summative assessment stages. In other words, there was alignment or a match. Table 11 below summarises the identified code clashes, matches and shifts.

Table 11: Specialisation codes for graphic design assessment

Module	Specialisation code study guide	Specialisation code formative and summative assessment on all campuses	Significant exceptions
Graphic Design Studio 1 (ACGD100)	<i>relativist code</i> ER-, SR-	<i>knower code</i> ER-, SR+	Clash
Graphic Design Studio 2 (ACGD200)	<i>knower code</i> ER-, SR+↑	<i>knower code</i> ER-, SR+↑	Shift - <i>knower code</i> strengthens from 1 st year
Graphic Design Studio 3 (ACGD300)	<i>knower code</i> ER-, SR+↑	<i>knower code</i> ER-, SR+↑	Shift - <i>knower code</i> strengthens from 2 nd year
Web Design 3 (ACWD300)	<i>relativist code</i> ER-, SR-	<i>relativist code</i> ER-, SR-	Clash – <i>knower code</i> campus MS summative

In the following sections, I discuss the code clash that I identified in the module Graphic Design Studio 1, the progressive strengthening or shift of the knower code in Graphic Design Studio 2 and Graphic Design Studio 3, and the code clash identified in Web Design. In addition, I address one of the absences in the data, that of sustainable design.

6.3.1 Graphic Design Studio 1: a code clash

In the analysis of the data, I identified a code clash between the code communicated through the Graphic Design Studio 1 study guide, a relativist code, and what the assessors valued at both the formative and summative stages, a knower code. What follows is a description of the ER and SR themes, where I have pointed out the alignment, or lack of alignment, between the data from the Graphic Design Studio 1 study guide and the data describing what assessors valued. Many themes found in the data aligned between the guide and what assessors valued, such as the ER categories of technique and design theory and the SR themes of look and feel, process and professional and personal. The ER categories, including industry, interdisciplinary knowledge and sustainable design, and the SR theme of integrate and communicate

were not prominent at the first-year level. This I concluded was appropriate as these attributes were only required at the higher levels of design expertise (Table 8, p.122).

The briefs in the Graphic Design Studio 1 study guide were geared towards developing a range of technical skills and a familiarity with a number of common GD industry products. Students were required to use very specific techniques and were often expected to do a number of exercises in order to arrive at the final product.

To achieve the desired effect, you will first have to create a collage made up of found (in magazines) and created (self-drawn) images and patterns. You will have to make rubbings of various textures and then turn them into a pattern. (Study guide ACGD100, Linde & Le Cornu, 2013b, p. 23)

In the brief, texture was one of the key elements to be used in a skateboard design. Students were guided through the technical process of how to identify and arrive at a texture that would be used in the final design. Technique is an area of design where learning outcomes and assessment criteria can be explicitly stated (2.2.1). The expectations regarding technique at this first-year level were clearly stated in the guide and by the assessors. In the example below the external moderators, both industry practitioners, described and acknowledged the technical expertise expected of a first-year student.

Ezekiel: *Cool and then the can, which is their first totally vector work. So he's got like all his elements on there, which is nice to see.*
Tebogo: *Ya and I mean for his first vector this is quite nice, he used gradients.* (Audio ACGD100, SR summative, 2014)

Assessors could recognise what techniques were required and they valued work that followed the rules and demonstrated the required technical proficiency.

In section 5.2.2 I discussed that design practice tends to draw on propositional knowledge in the form of design principles and theories. These theories are often used in conjunction with procedural knowledge, as they provide a tacit foundation for doing and judging design. In the first-year guide, students were expected to apply design principles and rules to their design layouts. For instance, the guide stated that “students

also need to be taught about distribution of colour, where to place light and dark areas, and where to create design and what spaces to leave blank” (Study guide ACGD100, Linde & Le Cornu, 2013b, p. 8).

Nevertheless, there was little or no evidence of an explicit discussion of these design principles or theories in the data from the study guide. A few examples of actual GD products were included in the first-year study guide, but these had no corresponding reference to theory. I acknowledge that the formal elements of design theory might have been presented in other modules, or taught in the studio. The latter approach, however, would have been in conflict with other research findings discussed in section 5.1 (p.138), that indicated that design theory is seldom explicitly stated in the studio. Nevertheless, students were expected to understand and apply the basic theories such as composition, colour theory and typographic hierarchy in their practical work. This understanding and application of design theory had to be evident to assessors in the final design product. If considered in relation to Polanyi’s (1966) theory of tacit knowledge (2.2.2), the design principles and theories tacitly underpinned the students’ ability to complete the briefs. This implies that design theory and colour theory would need to be understood in order for the first-year students to successfully apply these in their practical work. Success at the first-year level, as described in the study guide, would entail the student being able to understand, follow and apply the rules and principles of design.

The rules of design, as indicated above, would be evidenced in the look and feel of the design product. The look and feel of a GD piece was largely aesthetic and influenced by the technique and materials used. In a simple explanation, it could be seen in how effectively the student arranged the visual elements such as typography, image, shape, line, tone and colour within a layout. This was an area where it was difficult to separate two themes, and I often coded technique and look and feel together in the data. Even the lecturers, as indicated in the statement below, indicated that it was difficult for them to separate these two categories when using the PISA marking rubric.

Yassin: *I'm also looking at alignment. I'm looking, although it's a technical aspect. I'm looking at design and the technical aspect at the same time, 'cause it does get a bit confusing.* (Audio ACGD200, MS formative, 2014)

In the first year, a valued look and feel was closely linked to the student producing work that followed the brief, applied the design principles and rules, and was visually appealing or effective. The student was therefore not expected to develop a GD gaze or to be highly creative, as the study guide had to be followed and the lecturer was making many of the choices relating to look and feel for the student.

Consulting with the lecturer was a component of the professional and personal behaviour expected of the student. I identified that the behaviour of the first-year student was quite explicitly stated in both the guide and by the assessors. Within the guide, aspects such as attendance and consulting with the lecturer were clearly described as illustrated in the excerpt below.

Next you will start with your final design on Fabriano board. Make sure to bring all necessary media and materials, as the work will be done in class. Failure to do sure [so] will deprive you of the opportunity of in-class assistance and could affect your time management for the project. (Study guide ACGD100, Linde & Le Cornu, 2013b, p. 26)

This category of ideal student links to the assessment of person (2.2.3.1), with the ideal GD student at the novice level valued as an “obedient student” (Steyn, 2012, p. 48). I did not detect an expectation of high levels of expertise, or a sophisticated and critical gaze, or that an ethical/moral practitioner was valued in the Graphic Design Studio 1 data.

In the study guide, the design process (2.2.3.2) at the novice level was presented as a workflow procedure which students had to follow. Students were provided with a number of steps to be completed for all the briefs. A prescriptive design process was explicitly stated and students had little choice over the process, its stages and its sequencing. They were therefore not expected to exercise judgement at all stages of the design process, but were expected to follow the study guide and consult with the

lecturer. For instance, Brief 4 for Graphic Design Studio 1 was a book cover design. The students were required to gather information on three defined topics to inform their design. In the study guide they were provided with a limited choice between five idioms, four styles and the technical parameters.

You should have completed your research on book cover design and your chosen idiom as well as your research on style in your visual diary. Bring your research as well as initial concepts in your visual diary to class as you will present these to your lecturer for discussion and development. (Study guide ACGD100, Linde & Le Cornu, 2013b, p. 38)

The guide explicitly described what the student was expected to do, in what sequence, how the design product was to be presented and the process of decision making. With little or no freedom of choice and no requirement to display the ability to make decisions or value judgements, I saw little or no requirement in the study guide for the student to evidence a GD gaze.

Although an alignment existed between many of the themes found in the study guide data and the data generated from the assessors' conversations, there was one significant difference. This difference lay in the expectation of the assessors regarding concept, which tended to be highly valued by the assessors, but was not emphasised in the study guide. Once again I found it difficult when analysing the data to separate the act of conceptualising from the process of designing. Concept also influenced the other themes such as technique and look and feel. The Graphic Design Studio 1 study guide indicated that students should work within constrained technical and process requirements and "creativity within limitations is achieved by a 'concept' (i.e. the idea behind the design)" (Study guide ACGD100, Linde & Le Cornu, 2013b, p. 2). Yet, students were not expected to make decisions regarding which concept was the best, as the study guide indicated that the lecturer had to be consulted and they would choose the best, or most appropriate, concept. The first-year study guide therefore did not place significant emphasis on students being able to conceptualise or arrive at novel ideas. It was, conversely, an aspect that most assessors and moderators valued highly. On the MS campus at the formative assessment stage, the internal assessors expected

the concept to be sustained throughout the design process and in the final product. In the example provided below, the assessors suspected that the student had attempted to retroactively document the conceptualising process, to match the final design product, whereas they expected him to follow the prescribed design process.

- Dudu: *If you are a superhero then I think....*
Peter: *Stand out.*
Dudu: *Ok red might be good to use to stand out, but I don't think he's thought about how the colours work.*
Peter: *Ya.*
Dudu: *Together to get his concept across.*
Peter: *I agree.*
Dudu: *He's gone and looked at what words will fit.*
Peter: *Fit to the word, not thinking about yourself first.*
Dudu: *He's not thinking about it.*
Peter: *Ya.*
Dudu: *And there's no planning of that, because I think that is not a concept.*
Peter: *No.*
Dudu: *Therefore he struggled to plan an image for the concept or lack thereof.*
Peter: *I agree because the words are cool, but he hasn't even thought about the words and how they relate to him, so it's a huge issue.*
(Audio ACGD100, MS formative, 2014)

The quote above indicated that, in this instance, the assessors valued integration and a coherence that tied all of the design elements together with the concept. This was not evident in the work. There was also reference to the underlying colour theory, as the student's colour selection did not match the emotion that he had sought to communicate. The student had not met the expectation of making use of colours that would be appropriate to the concept and the message. In the excerpt below, the same lecturers discussed a final product in relation to the concept that a different student had started with. They were impressed by the quality of research and conceptualising, even though the final product was disappointing.

- Peter: *So he just cut it out obviously, but I mean you can see what he's done. It's a pity, I mean it was a cool idea and you can see by all his. He actually did a lot more drawings and ideas and research.*

Dudu: *See that's the type of research that they should be doing for this. It's easy to write down an acronym.*

Peter: *No, no of course, but actually to look at and place it into context with images. (Audio ACGD100, MS formative, 2014)*

From the data generated from the marking sessions, it became clear to me that, in the first year, the final product did not always communicate the overriding concept effectively, as in the example above. This was often due to the student's limited technical skill. In these cases, the visual diary provided a very important source that the assessors used to check the student's conceptualisation of the idea. The link, or a lack thereof, between concept and execution was not seen by assessors as critical at the novice first-year level and students could pass a brief if one aspect had been successful, while the other was not.

The ability to arrive at a number of viable ideas and to develop these before choosing a final concept was highly valued by assessors. In the following excerpt one of the external moderators, Tebogo and industry practitioner, indicated that he valued this ability in a first-year student.

Tebogo: *But it's nice. What I enjoy about his work, is he doesn't just take one thing and just goes with that, he kind of explores various concepts before just deciding on one thing. (Audio ACGD100, SR summative, 2014)*

I understood that the external moderator assumed that the student selected which concept to use. Once again this was in conflict with the study guide, where the role of the lecturer in choosing appropriate concepts was emphasised.

When creativity was considered at the novice stage, it was generally linked to the concept or idea on which the design was based. As technique and process were narrowly prescribed and the required design piece was situated within a specific technical context, there was little or no room for students to select creative techniques. "The briefs have strict limitations, yet still need to remain creative within given parameters" (Study guide ACGD100, Linde & Le Cornu, 2013b, p. 2).

In my analysis of all of the data, I found that the concept of creativity in relation to the person or student was not used extensively by assessors. Although there was reference to creative work at the second- and third-year levels, only in the first year were individual students described by assessors as “creative”, “talented” or “conceptual”. When considering the mark for a borderline student, the external moderator said:

Karabo: *Hm, OK, ya it is a tough one. But he’s clearly got the ability, he’s got the talent. He’s just unsuccessful in some and successful in others.*
(Audio ACGD100, MS summative, 2013)

Although innovative and unique products were valued by assessors, creativity did not seem to be linked to Maton’s (2010b) born gaze (3.4.1). This is substantiated by the data from the online survey, where the attribute “gifted with natural born talent” was ranked the least valued SR+ attribute (p.105). This appeared to be an indication that lecturers believed that creativity could be learnt, in other words students could cultivate the valued gaze.

I interpreted the Graphic Design Studio 1 guide’s relativist code to indicate that it was designed to ease students, who might have no art or design experience, into the first year of study, and to provide them with the opportunity to build the valued gaze and attributes over time. However, the assessors evaluated the student work as if the valued gaze should already be in place. The clash of codes, between the relativist code explicitly communicated in the study guide and the knower code explicitly and tacitly applied by the assessors, could have very significant consequences for the student. For the student who took the guide as the explicit curriculum (2.2.2), where the outcomes and assessment criteria were used as a check list of what was expected of them in order for them to pass, this clash would have serious consequences. If the student followed all of the rules as communicated in the guide, they would expect to pass, and yet this might not have been the result of the assessment. In the focus group a number of lecturers indicated that, when they asked students to self-assess their work, the marks arrived at were unrealistically high. One lecturer made the comment:

Jane: *For me it depends on what criteria are you assessing yourself on. If you're assessing yourself on the criteria, that's our criteria, that's kind of, it's our know-how that's put together that criteria. They're not in that position, I think, yet to that extent to assess themselves using that criteria, because they're still learning that criteria.* (Audio focus group, MS, 2015)

As there was no explicit communication of the knower code, students had to contend with a hidden curriculum (2.2.2) and implicit and tacit assessment criteria. It would seem obvious that students would not be able to evaluate their own work, as they did not yet possess the valued gaze. In addition, the gaze, at this point, had not been made explicit in the first-year module documentation. On the other hand, the focus group pointed out that feedback was an ongoing process in the GD studio and this was how the required gaze was communicated to the student.

Yassin: *I think what helps us push the students from that side to the other side is that we might not necessarily explicitly say or tell them what we expect, but through the formative assessments, where feedback is important. Even when you arrive in 1st year, you don't know, but through the feedback.*

Peter: *There's so much feedback in class.*

Yassin: *You're able to grow as a designer to a point where we need you to be, where we don't have to specifically say this is what we expect.* (Audio focus group, MS, 2015)

From these comments it appears that, although there was feedback in the studio, what was valued was not always made explicit. Whether the in-studio feedback was effective, was understood by the student, aligned with the study guide or aligned with what the assessors valued was not the topic of this study. I did however, address some of the problems relating to the clarity of the GD discourse in the studio, the misalignment of feedback and marks and students' understanding of feedback in section 2.2.2.

I observed that assessors who valued a knower code in Graphic Design Studio 1 had more freedom to accommodate unexpected outcomes in the form of innovative designs that were outside of the outcomes and criteria stated in the study guide. Unexpected outcomes were previously discussed as a feature of the unique nature of assessment in creative fields, which conflicted with criterion-referenced assessment (p.33). It was

evident from the data that assessors felt that certain students already evidenced a GD gaze in first year and, by valuing the knower, they could reward this achievement. Once again, I would argue that this code clash could be confusing for students who did not recognise the GD gaze. They might observe that work that did not follow the explicit rules, as stated in the study guide, was valued and rewarded. This aspect is further discussed in section 7.2.1.1.

Considering the lack of clarity regarding the gaze in the study guide, there appeared to be a hidden curriculum and certainly hidden assessment criteria. Dong et al. (2014) indicate that clashes are to be expected when what is valued in a field cannot be made explicit. A hidden curriculum has the potential to use implicit criteria for assessment and can make the assessment practice local and context specific. This would challenge the communication and sharing of an assessment practice and what was valued by the institutional community across the multi-campus structure of this case study. In the multi-campus context of this study, lecturers on small campuses were often quite isolated. When a programme was first offered on this type of campus, lecturers might only have one or two GD colleagues. Being presented with the study guide containing clear outcomes and criteria could be reassuring and of benefit to the new lecturer. Unfortunately, if the coordinating campus lecturer valued a knower code, rather than the relativist code demonstrated in the study guide, feedback at the internal moderation stage might be contentious. For those lecturers who had followed the guide with its relativist code in their teaching and assessment, there might be a significant shift in marks because of the code clash. These lecturers, when receiving feedback from the coordinating campus which indicated that their marking was inaccurate, may have felt that both their teaching and assessment practice was being challenged (2.2).

6.3.2 The strengthening of a GD gaze from first to third year

GD education traditionally follows a master–apprentice system (3.4.1.2), where students spend time with those who already possess a GD gaze. Students are expected to cultivate the gaze through formal studies, modelling, practice, feedback and exposure to iconic design. In the previous section, I pointed out that the Graphic Design Studio 1

study guide communicated a relativist code. Based on the analysis of the Graphic Design Studio 2 and Graphic Design Studio 3 study guides, I identified a shift from the first-year relativist code to a knower code in the second and third year. The knower code tended to strengthen in each year (p.208). In line with the LCT(Specialisation) theory, I propose that the strengthening of SR arose from a greater emphasis on, and valuing of, a specialist GD gaze at the higher levels of study. In the following section, I will illustrate this assumption using examples from the data generated from the study guides and observation of marking sessions. From the analysis of the data, I identified a match or alignment between the guides and what the assessors valued at the formative and summative stages, in both the second- and third-year Graphic Design Studio modules on all of the campuses that participated. I have therefore used both the study guide text and the assessment observation as sources of data to illustrate the shift from first, to second, to third year.

Based on the analysis of the data, I discovered that from the second year the design process and knowledge used shifted into a more industry-specific context. In the second year, the stated aim of the module was to “bridge the gap between basic design knowledge and professional level knowledge by introducing the student to more advanced aesthetic and technical considerations” (Study guide ACGD200, Linde & Le Cornu, 2013a, p. 4). Being able to make relevant problem-solving and value judgements in the process of creating industry-appropriate products was required. The value judgements were therefore based in part on a student’s ability to analyse existing GD products and to position their work within this context. In alignment with what was required and valued in the study guides, assessors looked at the design, materials and production techniques used by students and considered whether they were appropriate for the product, the user and the production methods. For example, the external moderator, Nigel, an industry practitioner, said of a third-year student’s work:

Nigel: *Ya I just think she made, once again a technical error, 'cause she used glossy paper for somebody to write on.* (Audio ACGD300, SR summative, 2014)

The student had therefore not considered the production method to be used for the design product or the needs of the user.

In the second- and third-year modules, the expectation was that students should be proficient in many of the technical aspects, such as the software programmes used. There was less accommodation of poor technique, untidiness and poor presentation. Students were also required to work quickly and accurately. This was achieved through their having built up short cuts, or routines, for some of the tasks, based on their previous experience. This is referred to by Eraut (2006, p. 3) as 'routinised skills' (Table 1, p.37), which become largely tacit. This expectation was clearly stated in this extract from the Graphic Design Studio 3 study guide.

In order to simulate the nature of industry and in turn equip the students to function optimally within such a fast-track environment, the quantity of elements in each brief exceeds what the students have become accustomed to. (Study guide ACGD300, Linde, 2012, p. 1)

This expectation was confirmed by the moderators, who saw these skills as essential for the student's readiness to enter industry, where working quickly would be highly valued. Nigel, one of the external moderators, indicated in the following comment his concern regarding a third-year student's capacity to produce work at the pace required in the industry.

Nigel: *Yes. I mean the problem I have with this person is when you're studying you've got time to do stuff. In the industry you don't have that luxury. When you get a brief you need to have something done in a week, two weeks max. If you lucky you get two weeks to do a big project.* (Audio ACGD300, SR summative, 2014)

Here he links the student's performance with his own experience of the industry (5.2.1), using attributes expected in professional GD practice to judge the student's performance. An understanding of industry-relevant technique was required of students at the higher levels of competency. In the second year a shift occurred in which the assessors considered the techniques, such as software, production

methods and industry practices, and how appropriate these were to the design solution.

Students are encouraged to push the limits of their own creativity, explore the many varieties of output capabilities available, and become more aware that what is conceived in the mind is not always production friendly or feasible. (Study guide ACGD200, Linde & Le Cornu, 2013a, pp. 1–2)

The consideration of a logic and alignment between concept and technique was carried through to the assessment data. Joanne, one of the internal assessors, stated that the student might have made more relevant choices when designing a font which was a component of a formative brief made up of a number of elements.

Joanne: And with the font maybe, because it is a lot of time and effort to make a font, maybe. I am not sure what the font symbolises. There is no definite theme or idea that goes into this font for me. Maybe she could have created a leaf type of font, or add the tree effect to it, to make it fit everything together. But the font does not really fit everything here. (Audio ACGD200, SR formative, 2014)

This indicated that the choices the student made regarding technique were expected to align with the other design aspects, such as the industry parameters, as well as with the design solution and the concept.

At the advanced level, particularly in the Graphic Design Studio 3 module, students had greater freedom of choice, which started with identifying the design problem, through to the selection of production materials and methods. As the design problems presented in the briefs became more complex or wicked, the number and range of technical options available to the student increased. An increase in complexity shifted the selection of knowledge and the design judgements to the student, as there was no one strategy that could be followed. More context-dependent design problems demand that the student conceptualise solutions for more complex problems. This is a strategy for increasing expertise in design education, which can be seen as a strengthening of semantic gravity (Shay & Steyn, 2016).

In addition to solving complex problems, students were expected to be aware of their own strengths and weaknesses, when choosing a technique. They were required to make strategic decisions that accommodated what they were capable of and preferably use techniques at which they were skilled. In the following discussion the external moderators, both industry practitioners, indicated that two students had made poor decisions in choosing which technique to use and that students were expected to be able to 'hide' their weakness through clever design.

Mbali: *Again, you can see like, see where someone isn't strong in drawing. Both of them, they're not very strong in drawing.*

Jade: *No.*

Mbali: *I mean there is ways to getting around it. (Audio ACGD300, KL summative 2014)*

By using the concepts of classification and framing to consider the data, I identified that technique shifted in strength in two ways. Firstly, relative strength was indicated by who had the power to choose which technique to use. In the first year, students had to follow the brief and had no choice in the techniques used, whereas the senior students had greater freedom of choice when it came to technique and were expected to make strategic decisions in selecting appropriate techniques. The second indication was the level of sophistication required when making decisions relating to technique. In Graphic Design Studio 3, assessors valued how creatively and appropriately the technique was used within an industry context. Epistemic relations that were valued, therefore, weakened at the higher levels of competency as there was no fixed technique and students had greater control over what was selected for use.

As described in section 6.3.1, at a first-year level, students were required to follow the design principles or rules. In the second and third year, this expectation shifted. In my analysis, assessors valued work where the design rules had been applied, bent or broken as needed to produce an appealing and industry-appropriate design product. Students therefore needed a firm understanding of design principles and theories. In the following discussion between the external moderator, Karabo, and the lecturer, Peter,

Karabo points out that the first-year student had followed the rules in relation to colour theory, but that she would expect a more adventurous use of colour in the second year.

Karabo: *You must maybe just guide her next year in terms of colour. You often find this with students, sometimes especially in first year. If they do well in projects and they are using specific colours they tend to keep, stick with that because they are too scared.*

Peter: *Ya.*

Karabo: *And it's really important for them to have a really good understanding of colour range throughout the display. (Audio, ACGD100, MS summative, 2013)*

In the Graphic Design Studio 3 study guide, a certain level of propositional knowledge was also valued. The guide indicated that students were expected to write appropriate texts to be used with images, to communicate concepts in presentations, to work out budgets and to apply copyright laws. As the knowledge needed was guided by the design concept and potential solution to the design problem, students had to make sensitive decisions and value judgements as to what knowledge should be selected for use. Students could draw from many sources and were judged on how appropriate the knowledge was for the design solution that they had presented. An illustration of this in Graphic Design Studio 3 was a brief that required students to design an infographic:

Infographics helps the viewer analyse and understand the data being presented. Infographics are:

- visualisations that present complex information quickly and clearly.
- visualisations that integrate words and graphics to reveal information, patterns or trends.
- visualisations that are easier to understand than words alone.
- visualisations that are beautiful and engaging. (Study guide ACGD300, Linde, 2012, p. 48)

For this brief, students had to collect, analyse and synthesise a large number of different forms of information, from various sources. They then organised and translated the data into images, symbols and words that had to be arranged in an aesthetically-pleasing and easy to read poster design. This could be a task that achieves a strengthening of semantic density (p.78) within the GD practice, as the infographic was required to communicate in more symbolic than descriptive terms (Shay & Steyn, 2016).

In order to do this, students were expected to access a broad range of knowledge from different disciplines. This knowledge had to be sorted, organised and translated into a visual design in order to arrive at a conceptually and technically innovative solution for the specific design problem. The complexity of this brief and its challenges are discussed in the excerpt below between the external moderator, Tshepo an academic and practicing designer, and the lecturer, Yassin. Tshepo compares the work of two students for the infographics brief:

Tshepo: *Not bad. Now you see she gets the infographic here, like this. Ya, it's challenging. It's a visual representation of data. It can be a challenge. It should be, ok, so here's the one. This one's actually lekker; this one you can see there's more of a story in this one so it tells you, there's sort of flow and kinda lead you on from one thing.*

Yassin: *That flow.*

Tshepo: [Compares the first infographic with another student's work] *This one has it. So you kinda read it in line, but it's not as exciting, it doesn't have like all the bits and pieces that make the infographic something interesting. Ya that one's actually the better one. That's really cool.* (Audio ACGD300, MS summative, 2014)

In the understanding and application of design theories, as with technique, I found that ER weakened at the higher levels of competency. Students were expected to make use of disciplinary knowledge, but also selected from different disciplinary knowledge as needed. This appears to relate to what I had found in the field of production, where many contend that there is no discipline-specific body of knowledge valued in design (5.2). It was necessary for students to understand and use the GD principles and theories, but these had become embedded in the student's design practice and were tacitly accessed, used and assessed.

In the second- and third-year modules, although ER weakened, SR consisting of look and feel, concept, process, professional practice and integration strengthened. In the data, I identified that assessors seldom referred explicitly to the formal visual elements of design when commenting on work. Look and feel as a theme might be referred to as layout, which encompassed many visual elements. For instance, in the following discussion between David, the external moderator from another academic institution,

and Peter, the lecturer, they compare the original work and the piece that had been re-done by the student for moderation.

David: *Obviously the colours as well.*

Peter: *Yes. So that, and in this case it's really not much of a difference to be honest with you. I think it's just better, maybe not even better, type choice is just easier to read, a bit better layout.*

David: *This one is, its touching the face isn't it, there's no space?*

Peter: *No there's no space.*

David: *No negative space. In the redo it's, you're still missing the type hierarchy.*

Peter: *Ya.*

David: *And you're missing the readability. (Audio ACGD200, MS summative, 2013)*

In their discussion, colour, typography, positive and negative space, and the arrangement of and relationships between the design elements are all seen in terms of how well the piece communicated with the viewer. At the advanced beginner level (p.122), which I aligned with the second year, students were expected to make informed value judgements regarding look and feel. Words such as “appropriate”, “sensitive”, “original” and “mature” (Study guide, ACGD200 Linde & Le Cornu, 2013a, p. 12) were used. When I asked one of the lecturers, Yassin, what mature design might look like he indicated the following:

Yassin: *Um for the second years a mature piece is someone who's able to reference, who's able to connect with what is out there and bring that into their design, you know. Who's able to research and take that research, almost, almost design on trend pieces and an immature piece is someone who always falls back on flat colours, basic shapes. (Audio ACGD200, MS formative, 2014)*

In this statement, instead of discussing mature design, the lecturer discussed the student and what they should be able to do. There was a focus on doing, as described in the literature from the field of production (5.2.2). This, and many other statements identified in the data, indicated that assessors expected the more senior students to develop a GD gaze. This required students to make sensitive and relevant value judgements regarding when and under what circumstances to use a particular look and feel for the final product. These value judgements were based in part on their

experience and their ability to analyse historical or existing GD products. Maton indicates that “a gaze is a canon introjected” (2014b, p. 99), in that it is built on previous iconic examples that are valued in the field or discipline. In the study guide, it was indicated that students should “acquire a thorough knowledge of design and its application through analysis and critique of existing design pieces and the design and creation of original visual communications pieces” (Study guide ACGD200, Linde & Le Cornu, 2013a, p. 6). This made explicit the requirement for students to be aware of industry trends and iconic graphic design pieces. This awareness and ability to critique was required if they were to produce something different or original.

The study guides indicated that, at the competent level (p.122), students were expected to produce considered designs and be able to “evaluate”, “analyse”, “justify”, “organise” and “select” (Study guide ACGD300, Linde, 2012). They were required to explain and defend their design solutions and decisions in presentations and in written submissions. The justification of the student’s decisions could not be based purely on aesthetic considerations, but had to address real-world and industry-related concerns. The lecturer, Yassin, explained in the excerpt below what he valued in a GD product:

Yassin: *What I saw on screen was very, very interesting, but it’s lacking. There’s just so many things wrong with this artwork. For a bank note it’s pretty, but it’s not functional.* (Yassin, Audio ACGD200, MS formative, 2014)

His statement indicated that he valued a GD product that was not only visually appealing, but one that also complied with any number of requirements that would make it fit-for-purpose. At the third-year level, students had the power to choose aspects of the look and feel based on their own value judgements. They were also expected to develop an individual style, but had to be able to substantiate their decisions and choices. That these attributes were valued in both the Graphic Design Studio 3 study guide and by assessors indicated a strengthening of SR when compared to Graphic Design Studio 1.

The concept behind the design solution was often focused on by assessors when

evaluating work at the higher levels of competence. The concept was generally considered by the assessors in relation to industry requirements. They also considered the individual student's original idea and how successfully and consistently this was communicated throughout the brief. In the excerpt below, two external moderators, both industry practitioners discuss a design for the service-learning brief. Their criticism addressed both what they felt was an ineffectual concept, and also how appropriate the design would be when used in different media.

- Mbali: *No, but I mean even look from a billboard point of view there's no, she's not capturing any emotion. So you can't get anyone to relate, if you can't capture emotion.*
- Jade: *No emotion.*
- Mbali: *And she's not capturing emotion at all. So it's all fine and well to have a logo, but what if I drive passed that bus thing I'm not even going to read what it is.*
- Jade: *You're not going to read all of this stuff.* (Audio ACGD300, KL summative, 2014)

Concept and integration were strongly valued categories at the more advanced beginner and competent levels (p.122) expected in the second and third year. Even in the online survey, the 'ability to integrate research, concept and process seamlessly into a final design product' received one of the highest rankings (p.105). What was valued by the assessors was that students should not only arrive at an innovative concept, but should also demonstrate innovation in other areas of the design process. This was in contrast to the first year, where students were rewarded for competence in one area even if they had not been successful in another. Based on the classification described in Table 9 (p.124), being able to integrate concept, technique and look and feel in order to achieve an effective message was one of the higher-level skills that assessors valued. Defining this was not straightforward, as in the data I identified that assessors would often use words or expressions other than integrate. These included "cohesive", "interacts", "relates", "flow" and "coming together". Students were therefore expected to arrive at a workable design solution, and all of the material presented should support this with a recognisable alignment. If one element was missing, the overall message

would be lost. Below are two examples of how assessors expressed the idea of integration as an element they valued in student work.

Yassin: I, I'm looking at the design as a whole and how each element that they've decided to use complements the design as a whole, because it's a bank note. South African bank notes, or bank notes around the world, are very intricate. They have elements that you cannot see from afar. So what I do now is look into the artwork and to see if it relates to their design solution. (Yassin, Audio ACGD200, MS formative, 2014)

External moderator, Tshepo, and the lecturer, Yassin, indicated in the excerpt below that being able to integrate type and image was one level of integration expected of a third year student.

Tshepo: Oh ya, these are very nice. This is great hey, just the type, hey copy. They struggle with like long bits of copy.

Yassin: Mmm. Or rather they can't make a connection between typography and images and how to bring them all together creatively. (Audio ACGD300, MS summative, 2014)

My analysis of the data indicated that, at the competent level (p.122), there was an expectation among assessors to see that students could identify good and bad design as positioned within industry and historical contexts. The study guides stated that students had to be able to use this knowledge to substantiate their own aesthetic choices. I indicated previously (3.4.1.2) that students must, at the foundation phase, be able to “read and write design” (Steyn, 2012, p. 39). At the third-year level GD students were expected to be able to read, write and critique the specialised GD knowledge. From the data, I interpreted this as the valuing of a more sophisticated gaze, which resulted in a further strengthening of the knower code (p.208).

As mentioned earlier, the problems that students were presented with at these higher levels were more complex and authentically positioned within an industry context. This would relate to semantic gravity (Shay & Steyn, 2016). Through the design process, students were expected to interpret the brief, define the problem and develop a number of potential solutions. Within these parameters, they were encouraged to work quite

freely and to “recognise their unique personal approach and methodology and to nurture these as a means of achieving success” (Study guide ACGD200, Linde & Le Cornu, 2013a, p. 4). At these levels, assessors valued appropriate decision-making at all stages of the design process, from research through to production. The appropriateness was linked to the solution, the process and the audience or user. With greater freedom of choice in the interpretation and conceptualising of the problems presented by the brief, students could choose materials, techniques, production methods and even clients or users. Thus, individual students chose different ways to solve the same communication problem and different ways to execute the same brief, especially the competition and live briefs. The live briefs (p.34) were aimed at exposing students to real life situations and to enable them to experience elements of professional practice. For instance, in the service-learning brief, one group of third-year students designed a fun run as a fund raiser for their Non-Governmental Organisation (NGO) client. Another group, on a different campus, designed emergency kits to be handed out to victims of abuse for a different NGO. Each group created all the necessary visual material that would accompany such an effort. The clients and the concepts differed substantially, therefore so did the design solution, the process, the products, the look and feel and the techniques used. Innovative concepts, novel techniques, an appropriate process and successful communication of the concept through the artefacts were valued by assessors. This required a sophisticated GD gaze on the part of the student.

In the Graphic Design Studio 3 study guide, it was stated that students were expected to evaluate their own performance for each brief. This evaluation was firstly to be documented in their visual diary. Secondly, students were expected to provide a written statement in which they defined their design process and evaluated and defended their design choices. Thirdly, they were required to complete the marking rubric, such as the one included as Appendix B. These documents were intended to be read by the lecturers, who would “take them into consideration when assigning project grades” (Study guide ACGD300, Linde, 2012, p. 18). This implied that, as each student potentially arrived at a unique solution, the criteria used to evaluate their work would differ from those used to evaluate another student’s work. Students at the competent

level therefore had some control over the evaluative criteria, which were informed by their individual GD practice. This I interpreted as a strengthening of SR when compared to the first year, where the same evaluative criteria were used for all students' work. Although stated in the Graphic Design Studio 3 study guide, I saw no evidence in the observation data of assessors explicitly consulting the self-described outcomes and assessment documentation submitted by students. The assessors relied on the design process documented in the visual diaries rather than on the written objectives to evaluate the alignment of the design product with the original concept. In the study guide, the shift of choice in the design process to the student and their resulting individualised processes indicated that the student had power over the evaluative criteria, equating to a strengthening of SR. However, as the written outcomes and criteria were not considered by the assessors, this strengthening did not feed through to the formative and summative assessment. Assessors used their own criteria, which differed from student to student. They therefore may have tried to match the criteria to the individual student's process and final artefact even if they did not consider the student's intentions.

As mentioned in section 6.2, certain student behaviour was valued at the second- and third-year levels. This still included a consideration of the quantity of work done, submission of all the elements required, time management, how hard the student worked and whether they were willing to follow the lecturer's guidance and advice. There was nonetheless a greater alignment with industry-level expectations than in the first year. I identified that there was an expectation that students should be able to meet industry requirements, have certain industry attributes and behave in a professional manner. Therefore assessors made comments such as:

David: ... *'cause that's going to get you fired.* (Audio ACGD200, MS summative, 2013)

This external moderator's response to poorly-presented work was positioned in an industry context. This is supported by Logan's (2007) study, as discussed in section 2.2.3.1, that industry standards were used to judge student work towards the end of

their studies. The individual student's progress, or in some cases regression, was also considered. What was not considered was the student as an ethical and moral GD practitioner (5.4). I will discuss this aspect in more detail in section 6.4.

In the analysis of the data from the Graphic Design Studio 2 and Graphic Design Studio 3 sources, the various themes within ER and SR highlighted the strengthening of the GD gaze valued at these levels. The code shift from the first year was driven by a greater appreciation of students accessing and using interdisciplinary and industry knowledge and being able to apply the design theories and rules at will. Even though students were expected to use more propositional knowledge to evaluate, position and justify their designs, there was an overall weakening of ER. Students had far greater choice from the start to the finish of the design process and they had to apply greater sensitivity that considered the logic and integration of the design concept, and their own style, process and product to the design solution. This required them to make critical judgements informed by their own practice and experience, as well as show the ability to position their work within industry and historical contexts.

Maton indicates that, although shifts may appear to be "fine-grained distinctions, their effects are anything but minor" (2014b, p. 174). Firstly, in the study guides the progression from the first-year relativist code to a second-year knower code may not have been obvious to students or to lecturers. As they were positioned in the domain of the real, these codes and underlying structures are not easily accessed without the use of theory or abstraction (3.2.1), and a language of description (4.1.6.3), such as the ones I have used in this study. It was not easy for me, as someone immersed in the literature and theory, to define and identify the codes, therefore for a student to make sense of what was being communicated by the study guide and by the assessments would be extremely difficult. Secondly, the shift occurred largely as a result of the strengthening of the valued gaze, which was based on a number of largely tacit elements such as the emphasis in the second and third year on conceptualising rather than technical proficiency. Yet this change from what was valued and used in first year left students in the second and third year without a set of the rules to follow. In addition,

with a diverse student population (p.15), students from very different backgrounds with very different experiences and education would only have had the first year to build the cultural capital of iconic design and the ability to judge good and bad design. Thirdly, as students were presented with more complex problems, more specific contexts, greater and greater freedom of choice and less and less guidance, if they did not have confidence in their ability to recognise the valued gaze they might struggle to adapt to this newly-introduced knower code. Fourthly, the requirements for self-assessment stated in the study guide may be seen as a pedagogic technique introduced to facilitate building confidence in students so that they could identify, evaluate and challenge the gaze. However, as the self-defined criteria were not used in assessment, and, as indicated by the focus-group data, students could not necessarily identify good and bad design (p.184), this strategy did not seem to be having the desired effect.

What was significantly clarified for me by the analysis was the alignment between the code communicated in the guides and what assessors and moderators predominantly valued in Graphic Design Studio 2 and 3. My interpretation of this alignment rests on the fact that the study guides indicated to a large extent that a knower code was valued. Assessors, even in the first year, valued a knower code (6.3.1), and it was clear that the valued gaze was primarily positioned within industry practice and within a problem-solving and commercial contextual coherence. How this gaze was shared was not the subject of the case study, but could be the subject of further investigation. When an increase in expertise was expected, there would also be an expectation that, at the higher levels of study, a knower code would at least be maintained, but would most likely strengthen.

6.3.3 Web Design: a region in conflict

All GD students at PISA complete the same first- and second-year modules and then select a more specialised stream in third year, either Multimedia or Advertising. Web Design (ACWD300) was the module selected as a sample of the Multimedia stream. The analysis of the Web Design study guide and formative and summative assessment data indicated that a relativist code was valued. Conversely, in one of the summative

marking sessions that I observed on the MS campus, a knower code was valued by the assessors. This I considered significant, not purely based on the one identified code clash, but also because throughout the data I identified an underlying conflict regarding what was valued in the module. There were also differences in how certain themes were described in Web Design when compared to the Graphic Design Studio modules.

In all the data generated, technique was a key theme that was consistently valued in all of the study guides and assessment conversations analysed. When I compared how technique was described in Web Design, it differed from how technique was described in the Graphic Design Studio modules. In the Web Design study guide, technique covered a number of areas from coding to design, as in the industry Web designers often work in teams and complete components of large complex projects. In the excerpt below the lecturer, Arthur, used the think-aloud protocol (4.1.5) to explain not only what he expected of the coding done by a student, but also the industry logic that this expectation was based on.

Arthur: *Right, so in the index what I look for in the index. HTML is, when they arranging their elements are they doing it in order. Is it something that, if this was taken to another web designer would they be able to decode it cause as you know with most clients, they have, the person who comes and does the design, but they also have their internal web developer who just monitors and fixes the website as times goes by. (Audio ACWD300, MS formative, 2014)*

In Web Design, students made use of software products that they had learnt in the first and second year. In addition there were many new technical requirements that they had to master. When analysing the study guide, I found that it not only contained a description of the briefs, but also included large sections on the technical aspects of Web Design. This encompassed a brief history of Web Design and the World Wide Web, the Web Design process, technical terminology, file formats and standards for images and video, the various programming or coding languages, and the layout, which addressed creating responsive designs for different browsers and digital devices. This inclusion of interdisciplinary knowledge was quite different to the other guides analysed, which were primarily focused on defining the requirements for the briefs. I categorised

this knowledge in the Web Design guide as falling within ER. The guide indicated that “although this module may seem to be more technical in nature than the second-year module, you must not forget the design skills and techniques you have been taught” (Study guide ACWD300, Bayman, 2012, p. 5). This and other statements signified a tension that I identified in the module between the technical demands of Web Design and an expectation that students should develop a specialist gaze. I also recognised concerns regarding the perception that Web Design could be done by anyone, which eroded the valuing of a specialist gaze and specialist knowledge. The drawbacks of an emphasis on what the designer can do, rather than what they know and the attributes required for a specialist identity, were discussed in section 5.2. As Web Design software and online tutorials are freely available and a variety of templates can be used by almost anyone to design web pages, designing web sites does not appear, to the lay person, to require any specialist knowledge or specialist knower attributes. This perception was challenged in the study guide.

Anyone can create a website, but not everyone is a designer. Since creating websites has become so easy, it has become harder to convince clients of the value of a well designed website.

Also, tools, such as Dreamweaver, have further aggravated the situation by attempting to hide the “hard part” from you. This has only encouraged a lack of understanding among users and clients. However, all is not lost.

It is for these reasons that Web designers should be graphic designers first. Good design is good design no matter what medium you choose to work in. (Study guide ACWD300, Bayman, 2012, p. 4)

The study guide indicated that, although the technical aspects of Web Design were becoming more accessible and easier to use, the difference between the amateur and professional web designer lay in what the professional designer could offer. I interpreted the statement above as indicating that Web Design students would be expected to develop a specialised gaze, which they would need in order to recognise and create well-designed web sites. Yet I found that there were conflicting messages communicated by the study guide, which was dominated by an emphasis on technical proficiency, on industry and on interdisciplinary knowledge, and contained little

reference to design theory or a gaze. Although the data sometimes suggested that a gaze might be valued, the SR themes such as 'process', 'look and feel', 'personal and professional' and 'integrate' were subordinated to technique.

Following a specific design process was a characteristic that I identified in the third-year Web Design study guide. Students were expected to build web sites for a number of 'clients' and were advised to follow an industry-appropriate design process that was laid out in the guide. The student therefore had little freedom of choice when it came to the steps or sequencing of the design process. In the focus group, the Web Design lecturer indicated that at one point he had given students greater choice over the sequencing of process, but that this strategy had been unsuccessful.

Arthur: *Well, what I ended up doing was, there was a bit of a train smash, but what I ended up doing was giving general guidelines where I say you should have this section done, whether you decided to do that part first or this part first. What, at this deadline half way through the whole thing we should have this. Everyone should have this section done, then we move onto the next thing. (Audio focus group, MS, 2015)*

Although the lecturer had moved away from what was prescribed in the study guide, he became the one who decided on the sequence, even though the sequence was 'customised' for each student. Students still had little decision-making agency over the design process.

Student behaviour relating to meeting deadlines, attendance, class participation and consultation with the lecturer were attributes valued in Web Design. This is illustrated in the explanation given by the lecturer where he described his assessment practice and what he valued in student behaviour.

Arthur: *But with regards to the exercises, he's actually been doing, he's been doing the exercises. He will bring, he brings them in late, but he actually does them within that week that they are due. Like I said, he was actually seeing me during the holidays as well. He was here on campus and asking me about how he does certain things and he worked hard. (Arthur, Audio ACWD300, MS formative, 2014)*

In the excerpt, Arthur indicated the attributes he valued in a student. These included a student who consulted with him and took his advice. Considering this and the control the lecturer had over sequencing, I interpreted the valued student in Web Design to be a supervised learner (Table 8, p.122). This is in contrast to Graphic Design Studio 3, where students were encouraged to develop their own style, manage their own design process, and evaluate the standard of their own work, indicating the valuing of more autonomous and self-reflective learners.

In contrast to the Graphic Design Studio 3 study guide, I identified in the Web Design data that there was no indication that a unique or personal style was valued. In addition, there were minimal references in the data to “creative”, “sensitive” or “considered design”. Conversely, one lecturer claimed that

Arthur: ... *we are web, we are designers as it is, we don't want to present something that's already out there and he's come up with an interesting interactive website.* (Arthur, ACWD300, MS formative, 2014)

This indicated that he valued something unique or creative. In terms of the theme ‘concept’, the Web Design study guide referred to students developing “a completed, well-structured concept that is supported by research you have already completed” (Study guide, ACWD300, Bayman, 2012, p. 44). Concept revolved around functionality, where I found that the guide and the assessors placed a heavy emphasis on the web page and all of its elements working. In the excerpt below the external moderator, David a fellow academic, and the lecturer, Tshepo, debated the importance of functionality and creativity as required for third-year Web Design.

David: *Do you agree seeing it now, that the student has not met the Web Design requirements for third year? It has to be, it has to work.*

Tshepo: *Well this is the problem.*

David: *And it has to be creative.* (Audio ACWD300, MS summative, 2013)

The inclusion of “creative” as a valued requirement was one of the emphases that shifted what was valued in this summative assessment session on the MS campus towards a knower code. The valuing of the knower was further strengthened by the

assessor's expectation of the student being able to integrate a number of elements. In the discussion below, between the external moderator, David, and the lecturer, Tshepo, Tshepo sums up the idea behind integration, which he indicated was a key ability expected of GD students on the MS campus.

David: *His design is the thing I'm worried about. Now how important is the design to the functionality?*

Tshepo: *It's well, we kind of run with the idea that [unintelligible] design is holistic and that everything is inclusive. If you are building a website, creating a visually attractive website, making it work and getting it live is all in the design process. (Audio ACWD300, MS summative, 2013)*

I saw the demands of integrating both functionality and the aesthetic as an indication that a specialist GD gaze was valued. In order to meet these expectations the student would have to be a certain type of knower.

The code clash in Web Design between the study guide and what was valued on campus MS, as well as the various conflicting statements that emerged from the analysis of the study guide and the assessors' conversations, can be considered in relation to Bernstein's concept of regions (5.1.1.1). I saw the Web Design module as a new region, which drew heavily on knowledge from both GD and information technology. The curriculum was thus pushed and pulled by new trends and developments in technology as they evolved. As an accepted or valued gaze would be specific to the social and historical context (3.4.1.2), Web Design, as a new region currently positioned within GD education, appears to have an evolving gaze. In both the study guide and the assessors' conversations there was reference to a conflict between the valuing of industry knowledge, which included technical proficiency, and a more holistic approach, which would also value aesthetic and conceptual aspects. There was therefore a struggle for power as to who would decide on the accepted Web Design gaze, how it might be defined or even if it should be valued. As discussed in Chapter 5 the knowledge and knower to be recontextualised for use in education may be drawn from a variety of sources. Although Web Design is a new region, and may have a limited range of new knowledge circulating in the field of production (5.2), aspects

concerning aesthetics, functionality and usability have been researched (Alsudani & Casey, 2009; David & Glore, 2013). Nonetheless, the sources for describing knowledge and the knower in the data generated in this study were primarily the industry, iconic web design and other areas of art and design. I propose that, where a gaze was valued, it was 'borrowed' from GD, especially as the programme at PISA has a more GD-oriented first and second year. Web Design is yet to establish and acknowledge a discipline-specific knowledge and knower of its own. Where a gaze was expected in this module, as indicated in the summative assessment data from campus MS, the student would have to integrate a number of gazes, some of which have yet to be defined and acknowledged by the field.

What I identified in the data was a conflict between technical proficiency and what I will term design proficiency; the latter encompasses the gaze. The possibility of differing conceptions of what was valued in Web Design was recognised by a number of the lecturers. The underlying structure for Web Design as an ER-, SR- relativist code was something that lecturers described, but in different terms. Two lecturers marking the second-year Graphic Design Studio 2 module identified that students who intended taking the multimedia stream, which included Web Design, did not feel that they needed to be designers. I understood the term used in this context to include the valued knower gaze.

Marie: *This is not ready for 3rd year.*

June: *No, that's why I keep worrying about. I am stressed.*

Marie: *They copping out and why they want to go into multimedia. This is the reason because they can't design. But they think, you know, you don't need design to go into Web. (Audio ACGD200, KL formative, 2014)*

In the quote above, the lecturers indicate that students were possibly aware of the difference between the requirements for the two streams, Graphic Design Studio 3, typified as a knower code, and Web Design, where a relativist code was valued. Students who were weak in design and had not developed the GD gaze would select the multimedia option, as they would not need to acquire the GD gaze in order to be

successful. The students' perception and the dominance of the relativist code was also confirmed by members of the focus group.

Peter: *We've experienced that here.*

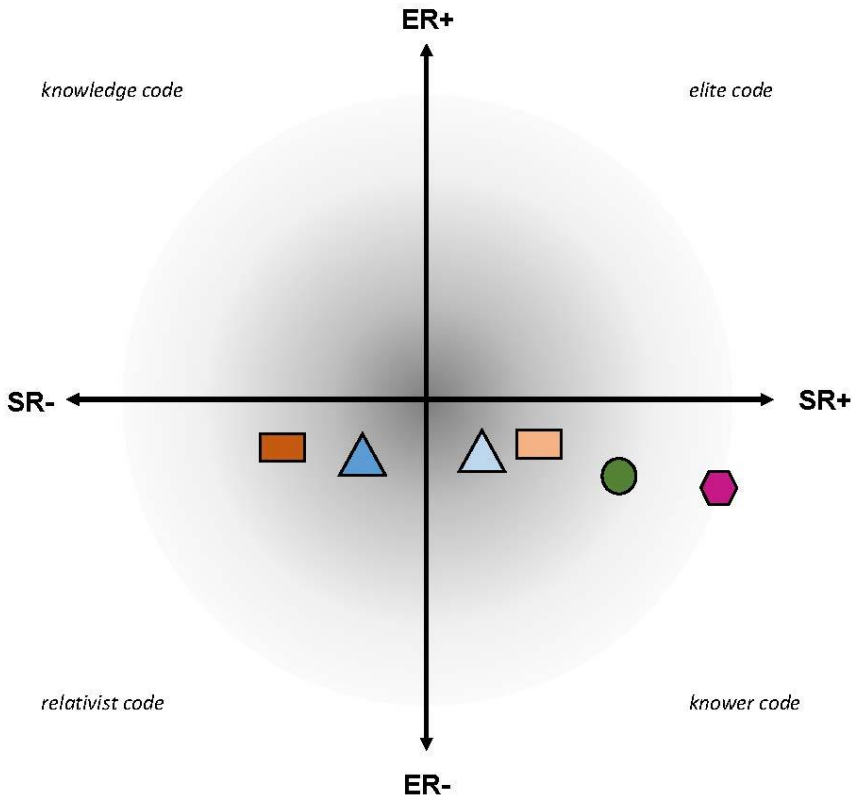
Arthur: *Ya it's true. It's a misconception that, 'cause they believe that, just because you're going into multimedia, you're just going to do technical things.*

Peter: *Which is silly 'cause we're teaching graphic design.* (Audio focus group, MS, 2015)

Peter confirmed that multimedia would require a GD gaze of students, although this was in conflict with the study guide and with what the majority of the assessors on other campuses appeared to value.

The more dominant relativist code identified in the assessment data could be interpreted as the result of a region that has yet to establish, and acknowledge, a body of knowledge and the valued knower gaze. In section 4.1.5.4 (p.103), I indicated that, in the quantitative survey conducted as part of this study, the GD lecturers valued a relativist code. However, this appeared in part to be the result of conflicting opinions with regards to the significance of both ER+ and SR+. Possibly the relativist code indicated on the majority of the campuses for Web Design was also indicative of a lack of consensus.

In Figure 11 below, I provide a heuristic of the code clashes, matches and shifts as identified in the data. Each of the modules analysed in the study is indicated as a different shape. These code clashes, matches and shifts have the potential to cause observable phenomena, such as poor inter-assessor reliability, even though the objects and mechanisms that cause this are in the domain of the real and therefore cannot be directly observed.









	Graphic Design Studio 1 study guide – <i>relativist</i> code
	Graphic Design Studio 1 formative and summative assessment, all campuses – <i>knower</i> code
	Graphic Design Studio 2 study guide, formative and summative assessment, all campuses – <i>knower</i> code
	Graphic Design Studio 3 study guide, formative and summative assessment, all campuses – <i>knower</i> code
	Web Design study guide, formative and summative assessment on the majority of campuses – <i>relativist</i> code
	Web Design summative assessment MS campus – <i>knower</i> code

Figure 11: Specialisation codes for Graphic Design assessment

6.4 Sustainable design and the curriculum

Oak (2000) proposes that the definition of a successful designer is often unexplored in education, and that a definition might align with either an ethical, or a profit-driven

orientation. In other words, profits or ethics may provide the contextual coherence of the curricula. Sustainable design, as identified in the arena of production and as an industry consideration, has the potential to influence the curriculum for a region (5.1) such as GD. Locally and internationally, it appears that sustainable design is either peripheral to or not addressed in design curricula (Oak, 2000; Moalosi et al., 2010; Boehnert, 2013; Hankinson & Breytenbach, 2013; Poslusna & Urbaskova, 2014). This positioning can be seen to emerge from a number of factors. Commercial considerations dominate the design industry and can dominate for-profit PHE (2.1.1). As a consequence, where graduate employability is a measure of success, the design industry would play a significant role in dictating the contextual coherence of the curriculum, which might lead to a commercial or profit orientation. On the other hand, incorporating sustainable design into HE curricula often involves interdisciplinary collaboration and various stakeholders, and requires lecturers to have a sound knowledge of sustainability and related issues (Y. S. Lee, 2014). It therefore has organisational and practical challenges within education. A curriculum that challenges existing traditions, power structures and the perceptions of both lecturers and students may not be accommodated in traditional design courses (Boehnert, 2013).

One approach that incorporates sustainable design peripherally in the curriculum at PISA was the inclusion of live briefs or competitions that were oriented towards sustainable design. For instance, the *Sappi Ideas that Matter* (Sappi, 2015) competition was included as one of the GD briefs in the PISA study guide for Graphic Design Studio 3. This is an international competition that recognises and supports “designers who use their skills and expertise to solve communications problems for a wide range of charitable activities” (Sappi, 2015). Nevertheless, as stated earlier, one aspect of sustainable design was not identified as a criterion valued in the PISA assessment practice (p.124). In the following section, I will discuss my understanding of why this is the case, even though it is valued in the field of production and to some extent by industry.

6.4.1 Not valuing sustainable design

As mentioned earlier (5.4), I identified sustainable design as a significant trend in the design field of production and to some extent in the GD industry. Professional graphic designers are expected to consider this aspect and context when conceptualising, planning and producing design products. Sustainable design can be seen to meet two obligations. The first relates to a professional objective of reducing the negative impact of GD on the environment and complying with various legal and industry regulations. This approach might be incorporated in the design process when conceptualising production methods and selecting production materials. The second obligation of sustainable design has a more personal objective, which addresses the ethical and moral choices and responsibilities of the individual designer to contribute to changing the world for the better.

I found some mention of the concept of sustainable design in the data, for instance both the Graphic Design Studio 1 and 2 study guides included a service-learning brief (p.170). In an education context, engaging in the NGO projects had a number of benefits. Students learnt to work with actual clients, and they often had to work in groups and so were required to interact within a team situation where each student could contribute based on their strengths. They also needed to consider social factors outside of design and production, and the experience of doing this type of project could be transformational for the student (2.2.3.1). Although the objectives of the briefs were in part transformational, my analysis of the data indicated that assessors focused predominantly on the professional aspects. In this excerpt in a summative marking session, the lecturer, Yassin, described what a team of students had done for the service-learning brief in which they designed an event for the NGO.

Yassin: *These are some of the elements, I guess promotional elements like t-shirts, maybe like a key ring and after completing the walk you get like a medal with a person. I guess, some rewards of some sort and the campaign was based on their print campaign to raise awareness and their idea was you know people and you'd ask them are you ok and they say yes they're ok and then next thing you know they commit suicide.*
(Yassin, Audio ACGD300, MS summative, 2014)

The service-learning brief was thus seen by the assessor as a vehicle for students to conceptualise and plan a campaign which included different industry-relevant products. In spite of the significance of sustainable design and the fact that the guide stated that students should develop “an understanding of the importance of social responsibility and utilising one’s skills to make a sustainable contribution” (Study guide ACGD200 2013a, p. 42), there was little evidence of this type of knower being assessed.

Steyn categorises both aspects of sustainable design under SR as “making moral judgements” and indicates that design should have a “productive purpose” (2012, p. 44). I categorised the one identified element of sustainable design, the professional obligation such as using materials that do not harm the environment, as ER. My reasoning was that this was propositional knowledge that students could acquire by reading case studies, technical and legal specifications and similar documents. Conversely, the more personal aspect of the transformation of the designer as an ethical and moral individual, I categorised as SR. As I only identified the first category, or obligation of sustainable design in the data, I have positioned sustainable design solely under ER. This ER version of sustainable design was found in the data from the study guides, and to some extent in what assessors valued. In summary, I would argue that the message communicated to lecturers, students and other stakeholders was that the moral and ethical aspects of sustainable design were not assessed and were therefore not valued.

My explanation for this absence is informed by the difficulties of assessing complex achievements, assessing the person and two factors that relate to the field of production for the region. Firstly, in section 2.2.1 I indicated that the assessment of complex achievements is often evidenced in the workplace, or work-simulated environments. Although one concept of sustainable design had been incorporated into the study guides, the planning of how it would actually be assessed at the formative and summative stages remained unstated. Students were required to do a number of presentations to the lecturer, peers and even clients at various stages of the brief, and at these stages there may have been a form of formative assessment and feedback. As

the presentations were not carried through to the marking of the briefs or the portfolios, this aspect remained hidden to myself as an observer, to the assessors and to the external moderators.

Secondly, although the students were encouraged in the study guide to reflect on their designs and their design process, there was no evidence in the data generated from the marking sessions that these reflections were read. In the Graphic Design Studio 3 study guide, one of the requirements of the NGO brief was that students should record “reflective writings of your personal learning experience with the NGO and throughout the project” (Study guide ACGD300, Linde, 2012, p. 28). Previously, I discussed the challenges of involving GD students in written reflection (2.2.3.2). Although the written reflection may have been read by the lecturer, it appeared to have fallen away and was not considered at the formative and summative assessment stages. Thirdly, as indicated in section 2.2.3.1, there are a number of ethical concerns in HE with assessing the transformation of the student. Assessors may have been hesitant to assess the student and their transformation based on ethical and moral concerns. By including value judgements of the student as an ethical and moral individual implies that these judgements would align with someone’s predefined criteria and standards and that these standards might be swayed by “ideological and political positions” (Akama, 2012). I suspect that assessors were not comfortable with making value judgements that called on them to take personal and ideological stances. Akama (2012) offers a middle ground when addressing human-centred design, where she proposes the cultivation of awareness through reflection becomes part of the designer’s life and interaction with others.

True, long-term sustainable change towards building and creating an ethical practice cannot come from being told what to design or choosing the ‘right’ values to adopt. Neither does it come from simply undertaking community-based projects, taking up a social cause or deploying participatory methods. It requires active creation and the practising of practice that is truly human-centred and aware – aware of oneself, of others and the world we live in. (Akama, 2012)

As sustainable design is valued in the field of production, there may have been an oversight or a lag between the industry-based and published research (5.4.1) and what was valued in the institution. The values related to sustainable design which are currently valued in the field of production may not have fed through into the curriculum and assessment practice. I propose that four factors may lead to this. Firstly, sustainable design might not have been part of the lecturer's GD education or practice, making it difficult for them to incorporate it into the curriculum and assessment. Secondly, with a little emphasis on or support of research in PHE, lecturers were possibly not encouraged to stay up to date with the new knowledge generated in the field of production. Thirdly, there was a strong focus on industry relevance and employability within the institution, therefore the industry interpretation of sustainable design dominated, especially as industry standards and criteria were found to be significant in the analysis of the data. Therefore, the contextual coherence reflected in the field of production could cause conflict between a problem-solving, commercial orientation and the more altruistic requirements of sustainable design. Fourthly, Y.S. Lee (2014) points out that there are many practical difficulties experienced when trying to incorporate sustainable or socially-responsible design concepts and approaches into a design curriculum. For instance, students might have to be taught reflection techniques and be open to assessors reading these documents.

6.5 Conclusion

Based on the data generated utilising the research methods described in Chapter 4, this chapter documents key elements of the analysis and highlights the findings in terms of knowledge-knower structures. This was achieved through firstly presenting the context in relation to the theoretical framework. Here the contextual elements as identified in the data were considered as structures and cultures that influenced the GD assessment practice of this case study. The majority of the contextual elements were found to play a role in GD assessment, but these were secondary or contingent to the underlying knowledge-knower structures that communicated what was valued in GD at each stage of assessment.

In the second section I presented the significant code clashes, matches and shifts identified in these specialist knowledge-knower structures in each form of assessment communication. In summary, these findings may indicate that:

- Where code matches or alignment occurred, it was generally because the study guide and the assessors valued a knower code and a knower with an industry-relevant gaze (p.198). This seemed to be the norm that most assessors and course designers agreed on, with the exception of the Graphic Design Studio 1 study guide and Web Design in most instances.
- The code clash identified in the first-year module Graphic Design Studio 1 (6.3.1) between the study guide and what assessors valued had potentially significant consequences for students and for lecturers in the multi-campus context. With this clash came mixed communication to the student, who might be guided by the relativist code explicitly stated in the study guide, but whose work was assessed using a knower structure.
- The code shift recognised as a strengthening of the GD specialist gaze (6.3.2) between Graphic Design Studio 1, Graphic Design Studio 2 and Graphic Design Studio 3 was more explicitly stated in the study guides. Nevertheless, what was valued in the progressive strengthening of the gaze were many tacit elements, therefore students could be surprised by the shift from first to second year and then from second to third year. Being able to recognise this code shift relied on students possessing the valued GD gaze, which may or may not have been the case after one year of study. Students and certain assessors may have felt lost without explicit rules to follow in order to meet the valued assessment requirements of Graphic Design Studio 1 and 2.
- The Web Design (6.3.3) module illustrated the phenomenon of a new region where the specialised knowledge and knower are part of an ongoing conflict and negotiation as illustrated in the study guide and in the assessors' conversations. The evolving nature of the region and its reliance on technology opened up what was valued in assessment to disagreement and dispute, or code clashes, as

there was no established disciplinary knowledge or gaze that could be consistently communicated.

- Finally, sustainable design (6.4), which was a relatively new phenomenon in GD, was an area that was only partially incorporated into the curriculum and only one aspect was considered in assessment.

In this chapter, I describe the results of the application of the language of description and the analysis of the data. This enabled me to use examples from the qualitative data to illustrate how the knowledge-knower structures were communicated in the assessment practice. The resulting knowledge-knower structures for the various modules and at different stages of assessment were thus established. In this way the various codes clashes, matches and shifts were uncovered, and I discussed some of the possible implications of these structures within the context of the study.

The potential broader significance of the code clashes, matches and shifts will be discussed in Chapter 7, where I synthesise the findings in relation to the research question, the sub-questions and the broader structures and discourses.

Chapter 7 Reflection on the findings and their implications

The aim of this chapter is to describe how the analysis and findings presented in Chapter 6 add to the broader areas of knowledge production. Firstly, I address the development of theory and the contribution of this study to the established knowledge structuring and knowledge-knower structuring theories. Secondly, I establish how the findings of this study have answered the research questions that I posed in Chapter 1. Thirdly, I reflect on the potential impact that a knower code, such as the one valued in GD assessment, and the code matches, clashes and shifts might have: for students, the institution, assessors, the broader field of design education and assessment, as well as for myself as Dean and researcher. In sections 7.4 and 7.5, I outline the limitations of the study and the possibilities for further research.

7.1 The development of theory

As established in sections 3.1 and 4.1, critical realism as a metatheory informed this study, while knowledge and knowledge-knower theories (3.4) provided the conceptual framework and analytic tools. The knowledge theories were essential to uncovering how the field of GD defined the valued knowledge and knower, and ultimately how the varying strengths of knowledge and knower defined the underlying structures or specialisation codes used in the assessment practice. As assessment is a social practice, the theories that I selected could not exclusively focus on knowledge (5.2); they also needed to take into account the knower. In addition, the unique nature of the GD field (5.2) and practice (5.2.2) and the range and types of knowledges used needed to be accommodated. As a number of previous studies had investigated elements of the knowledge valued in school-level art (Bolton, 2008), the knowledge-knower structures found in different forms of design (Carvalho & Dong, 2010; Carvalho, 2010; Dong et al., 2014), GD curricula design (Clarence-Fincham & Naidoo, 2013), and the knowledge-knower structures found in a foundation design programme (Steyn, 2012; Shay & Steyn, 2016), I was fortunate that the use of Bernstein's theories and LCT(Specialisation) had been well established.

However, in this study I chose to focus on assessment and what was valued at the various stages of assessment. Given the nature of GD assessment, my adoption of the critical realist metatheory and the conceptual tool of LCT(Specialisation) was somewhat unusual when compared to existing interpretivist or constructivist accounts (Hickman, 2008). The decision to use LCT(Specialisation) provided an alternate view or perspective (3.2.1.1), allowing me to uncover and identify the underlying mechanisms that might contribute to the phenomenon of GD assessment. The use of theory as a form of abstraction opened up the phenomenon of assessment to a greater extent than I had initially envisaged. It not only proved effective in enabling me to identify what was explicitly stated and tacitly used in assessment, but I could also identify gaps, code clashes, matches and shifts. The approach proved to be effective in building a holistic picture of the valued codes at the different stages of assessment. This study therefore further develops the use of LCT(Specialisation) in a practice that differs from academic disciplines and some professions with greater conceptual coherence, such as science or medicine³³. In addition, I separated out assessment as part of the field of reproduction, rather than curriculum design or teaching, which have been more commonly addressed using Specialisation and other legitimation codes such as Semantics. This illustrates the adaptability of Specialisation to uncover underlying structures for different fields and at different stages of the pedagogic device (p.71).

7.2 Addressing the research questions

What underlying knowledge-knower structures are revealed by the assessment criteria used when judging graphic design practical work within a multi-campus private higher education context?

The findings in Chapter 6 to a large extent answered my research question stated above. In identifying the codes presented in Table 11 (p.177) I not only established what would be considered valued GD knowledge and knower, but also identified that the valued code sometimes strengthened, clashed or shifted (p.208). This could occur between what was valued at the formative and summative assessment stages, or between different levels of the qualification (6.3). These could be extensive changes,

³³ See Muller (2008a) on using conceptual coherence and contextual coherence as concepts for curriculum design.

illustrated by code clashes, or more subtle changes, as seen in the code shifts. In the following sections I will highlight the code clashes, matches and shifts identified and interpret these in light of their potential significance. In answer to the following sub-question:

- How does the discipline of graphic design describe knowledge and the knower?

I used the field of production to establish that the valued GD knowledge and knower could be identified in a number of areas and might take different knowledge forms. The field of production (5.2) described these two concepts in various ways and indicated that knowledge and knower might be drawn from different areas such as industry and design practice to establish legitimation. I also established an external language of description (4.1.6.1) from the assessment data, which allowed for the analysis presented in Chapter 6. This analysis offered slightly different descriptions of the valued GD knowledge and knower, allowing me to identify where the two fields aligned and where they did not.

At PISA the curriculum and assessment criteria were circulated to all campuses, with the aim that they be used by students, lecturers and external moderators. For the lecturers and students on the various campuses, the study guides were the source of the contextual coherence of the course as well as the explicitly-espoused, institutionally-valued outcomes and criteria for individual modules. Each guide demonstrated a particular code, although the code, which was positioned in the domain of the real (p.59), would not be open and accessible to all. In addition to the analysis of the espoused codes in the study guide texts and marking sessions, the process of considering the data generated in this study according to the LCT(Specialisation) conceptual tool allowed me to identify both the explicit and tacit criteria used in assessment, which links to answering the following sub questions:

- What knowledge-knower structures are espoused in the evaluative criteria as they appear in the institutional documents?
- What knowledge-knower structures are used as explicit evaluative criteria by individual assessors at the formative and summative assessment stages?

- What knowledge-knower structures are used as tacit evaluative criteria by individual assessors at the formative and summative assessment stages?

Ultimately the resulting codes and the code clashes, matches and shifts provided an in-depth and rich description of the practice and what was valued and used during assessment. In the following section I look at what these findings may mean.

7.2.1 Knower codes

When seen in light of other findings (Carvalho, 2010; Steyn, 2012; Clarence-Fincham & Naidoo, 2013), the knower code identified in many of the modules that I analysed (p.177), may be considered indicative of the GD field. With the knower code predominantly valued in assessment, not only is this type of code difficult to define (p.121), but it is also difficult to communicate explicitly. The knower code identified in this study was characterised by a largely tacit gaze and a number of personal and professional attributes that were valued by assessors. As illustrated in the findings, the GD gaze incorporated aesthetics, conceptualising, the design process, and the ability to integrate all of the design elements in an effective manner (p.124). When a knower code is valued in assessment, it comes with the expectation that the student would acquire the valued specialist gaze and attributes through education and exposure to other knowers, even though the valued gaze in a knower code may not always be made explicit. This puts the assessment practice at odds with an OBE approach that values pre-determined or even policy directed non-discipline specific assessment criterion.

7.2.1.1 Impact on students

The benefits of transparency in assessment have been well established by others (Rowe, 2007; O'Donovan et al., 2008; Smith, 2013). That GD education needs to do a better job of making what is valued more transparent for the various stakeholders is difficult to dispute. Without transparency students may struggle to gain access to the 'rules of the game' and as a result epistemic access is at risk (6.3.1). So too is progression, as recognising the subtle tacit changes in how achievement is assessed is essential for students to understand what is required of them to succeed. The strengthening of the valued gaze, as identified between the various levels of the

Graphic Design Studio modules (6.3.2), is deeply hidden, thus the expectation of students to be able to distinguish between good and bad design (p.199) in order to produce good designs and to contribute to the field would be impacted. If students do not recognise the valued knower and knowledge, their chances of engaging with this knowledge is vastly reduced (Wheelahan, 2007, 2010).

Students who do not possess the valued gaze would have difficulty influencing or challenging the valued code established by the module designers and used by the lecturers and assessors. In addition, where design aspires to new and novel solutions and therefore each student may arrive at a different solution, students may be expected to define and defend their own outcomes and criteria (p.197). Without possession of the valued knowledge and gaze, students had little or no chance of giving input on these aspects. If the student is to be seen as an individual with a measure of influence on the curriculum and assessment, then, as Belluigi (2015) points out, the structures and cultures of the curriculum and institution would have to accommodate the student's intentionality. This did not happen in the assessment of senior student work as observed in this study (p.198), as assessors paid little attention to students' individual reflections on their objectives, outcomes, process and progression. With the increasing pressure in HE on staff and assessors to assess larger numbers of students quickly and efficiently, this type of individualised assessment may be even less likely to happen in the future. By implication, as class sizes grow there will be ever-increasing pressure on delivering an efficient and cost-effective assessment practice. An assessment practice that includes the assessment and valuing of the knower may require panel marking, and expert opinion, and could allow for a certain amount of student agency in defining outcomes and criteria. It might at least include the students' reflections and self-assessment. In the current pressurised HE environment, this alternative type of assessment would be at risk.

7.2.1.2 *The institution and assessors*

I described in section 2.2 not only the unusual characteristics of GD assessment, but also how this form of assessment was positioned within the broader HE and institutional multi-site structure (2.1). This addressed the first sub-question:

- What characterises graphic design assessment?

In response to the contextual changes of PHE (2.1), and the external (2.1.3) and internal pressures (2.1.2), came an emphasis at PISA on providing access to diverse and large numbers of students; establishing, maintaining and monitoring assessment standards; the scrutiny of quality and compliance; and the expectation of student success. As I indicated previously, success was often couched in terms of pass and throughput rates (p.24), as well as graduate employability (p.134). Within a for-profit institution such as PISA success would also be measured by profitability. The institutional values were thus informed by ideologies of employability, managerialism, performance, quality assurance, compliance and education as a commercial commodity. These were the components of the power structures within which the GD curricula at PISA were designed, study guides were written and the assessment practice functioned. The impact of these structures could be seen in the institutional culture in which the curricula were centrally designed to be disseminated to multiple campuses. In addition, the institutional assessment approach, which aligned with national requirements, seemed to be that explicit learning outcomes could be efficiently measured against predefined criteria, and this would ensure the same standards and inter-assessor reliability on all campuses. Conversely, these perceptions have been challenged by others (Wallace et al., 2008; Mahmud et al., 2010) and by the findings of this study.

The structure adopted and expectations indicated above suggest that there was an implicit understanding at PISA that all lecturers would be able to read the study guides, outcomes and criteria, understand what was valued, and follow this HEQSF approach in assessment. This approach does not take into account the messy complexity of the field, or the varying identities of the assessors or their agency. Herein lies a potential

power struggle over the Specialisation codes valued. One possible result is that the documents that align with HEQSF requirements are followed blindly at the expense of the logic (p.68) or code of the discipline. However, in this study assessors largely ignored the espoused institutional outcomes and criteria during marking and moderation (p.164). In the case of the Graphic Design Studio 1 code clash (6.3.1), the power of the study guides to define the valued code was unrealised. Power to decide on the valued knowledge and knower rested with the assessors, opening up their value judgements to dispute and placing the onus on the assessor and, in problematic cases, on myself as Dean, to substantiate the judgements made.

GD is a complex field which encourages the solving of wicked problems (2.2); it therefore requires an assessment practice that accommodates this complexity as well as the valued knower code. A knower code may demand different forms of assessment than disciplines which value knowledge or elite codes. The assessment process of panel marking ideally allows for a group of connoisseurs to assess person, process and product (2.2.3) in authentic contexts. This approach can be seen to be labour intensive and expensive. Where the institution and objectives of efficiency and profit impact on lecturers' participation in panel marking (p.165), the lecturers' potential to influence the assessment practice could be constrained (p.108). In other words, the potential of the panel marking system, in which lecturers and assessors discuss, negotiate and share the valued codes within the institution, or with other assessors and moderators, would remain unrealised. This, as well as the fact that campuses were geographically separated, could significantly reduce the opportunities to build a stable assessment community where valued outcomes, criteria and standards could be constructed, negotiated and agreed on; one of the strategies that Shay (2008b) proposes for improving criterion-referenced assessment. As knower codes and complex achievements are not unique to GD, aligning assessment approaches such as panel marking with calls for efficiency remains a challenge faced in design and other areas.

7.2.1.3 Contesting code clashes

Code clashes were identified in two modules. The first clash identified was between the study guide for Graphic Design Studio 1, a relativist code, and what the assessors

valued and used to evaluate student work for this module, a knower code (6.3.1). The second was in Web Design, where a knower code was valued on one campus at the summative assessment stage, whereas a relativist code was identified at all other stages (6.3.3). These code clashes have implications for the assessment practice, for students and for assessors.

With a reliance on and institutional belief in documents to clearly state the expectations and rules of achievement, students, parents and assessors may be confused when an alternate code is used in assessment. The potential for confusion and contestation was clearly evidenced in the Graphic Design 1 module (6.3.1), where the relativist code stated in the study guide was not the code valued and used by the assessors. The power of the study guide written by the coordinating campus course designers was not acknowledged by the assessors, who disregarded the espoused relativist code and used a knower code during assessment. Seen in light of these findings, a code clash may result in marks shifting at the different stages of assessment, and when assessors are called on to substantiate these variances they might have difficulty in making the primarily tacit gaze of the specialist knower explicit to stakeholders. One of the results of such clashes could be the challenging of expert opinion. A case such as this is described earlier (p.3), and I had experienced such challenges as an educator, and as Dean. Identifying the knowledge-knower structures used in education could therefore be a useful tool when evaluating the alignment of learning outcomes, teaching and assessment, rather than focusing only on content.

7.2.1.4 Shifts and subtle changes

The subtle shifts in strength identified in my findings, such as the increased strength of the gaze in the Graphic Design Studio modules (6.3.2), were based on a number of elements that were seldom explicitly stated in the study guides or in the assessors' conversations. They tended to be caused by a combination of a strengthening of SR (p.195) and a weakening of ER (p.190). SR strengthened as students were given more and more freedom to define problems and make decisions. In part, these decisions relied on their understanding of industry knowledge, as well as an understanding of the history of design or iconic design. These two elements, the gaze and the knowledge

needed to make design decisions, were not easily separated, as the knowledge became embedded in the practice. Iconic design is not something that remains static; it changes with time and influence. In a region such as GD, the contextual coherence of the programme will evolve and change over time and with the influence of technology. The valued knowledge and the valued gaze may therefore be contested, dynamic and shifting. This was evidenced in the absence of sustainable design (6.4) and an allegiance in assessment to a commercial contextual coherence (p.200). It also emerged from the analysis of Web Design (6.3.3), where I identified that the valued gaze was still evolving and the focus of debate. Within knower codes, what is valued may change and be disputed within the broader design community and within assessor communities, placing pressure on assessors to keep up to date with the various areas of knowledge production (5.2). The exchange of information regarding the latest trends in the industry and technology was, for instance, a significant benefit of the panel marking system. It was one way in which assessors could keep up with these changes and possibly identify a clash between the contextual coherence of the course and what was valued in industry.

7.2.1.5 Matches

Some participants proposed that assessors shared a common educational and industry experience which might explain the quite commonly shared knower code that assessors valued. Although PISA encouraged the employment of lecturers/assessors and moderators with industry experience (p.168), a certain level of academic experience was a prerequisite. The concept of a hegemonic community of practice however, with a shared understanding based on engagement in the same practice, similar aims and common experience is challenged in this study (p.168) and has been challenged by others (2.2.4). The disputes to this claim revolve around how tacit knowledge might be shared and understood in these communities, whether a shared understanding remains context dependent and local, and how the different identities of the participants shift within communities. For instance, as GD is a horizontal discourse, various languages may be valued by different assessors from different backgrounds. In addition, as illustrated in the survey findings (4.1.5.4), lecturers may have a wide range of education

and industry experience. The push and pull of these influences may result in the valued knowledge-knower structures shifting, especially in the newer regions such as Web Design (6.3.3). Certainly what was valued in the field of production, in which I included industry and a professional identity as sources of new knowledge (5.1), did not always feed through to the study guides and what was valued and used during assessment. Although many assessors were, or had been design practitioners, to my knowledge only a few were actively involved in the field of production, that is, producing new knowledge through practice-based and other forms of research. This might have made staying up to date with this area of the field of production (5.2.2) difficult. Matches, although based on a common valuing of a knower code, may be temporary, as new course designers, assessors, knowledge, new professional identities, new technology and new orientations of the contextual coherence are introduced, potentially changing the code.

7.3 Implications and possible transformation of practice

These findings have implications for the theories used, the institution, lecturers and assessors at PISA, the broader practice of GD education, art and design assessment, and the assessment of complex achievements, as well as for myself as Dean, educator and researcher.

As discussed previously, the use of knowledge theories to make the different forms of knowledge and even implicit and tacit knowledge more visible has been established (Bolton, 2008; Carvalho, 2010; Steyn, 2012; Shay & Steyn, 2016). While others (Bolton, 2008; Steyn, 2012; Clarence-Fincham & Naidoo, 2013) have applied the theories to curriculum development and to pedagogy, my study contributes to the development and use of LCT(Specialisation) at the critical stage of assessment. The study therefore illustrates the versatility of the conceptual tool to provide a fine-grained exploration of a field characterised by tacit understandings and the invisible or opaque outcomes and criteria valued. My study therefore contributes to the existing body of knowledge wherein the use of knowledge theories, LCT(Specialisation) in particular, is established.

I have outlined (7.2) the impact of the code clashes and shifts described in the findings as a potential influence on student success, progression and assessor reliability. The

findings therefore have significance for the institution, assessors and students. By using knowledge theories, the structure of what is valued by assessors can be made more visible and possibly translated for stakeholders, including those designing the curriculum, those who teach and award marks, and those who study GD. In Carvalho's (2010) study, she indicates that using knowledge-knower theories allows one to move away from discussions of content, to a discussion of the structures valued in the discipline. To this end, the members check that I had conducted and the feedback sessions planned could assist with informing lecturers on the various campuses of the underlying structures and providing the group with a grammar with which to communicate these. With the knowledge-knower structures as a basis for discussion, increased collaboration and sharing between lecturers, course designers and assessors may more effectively facilitate shared understandings. This would not guarantee assessor reliability, but could prove a good starting point for a common understanding across all campuses. This understanding and transparency might ultimately also benefit students in making it clearer what is expected of them and how they will be evaluated. More broadly, as LCT(Specialisation) has been used to uncover knowledge-knower structures in a number of fields, there is a potential for comparison not only between different fields of design, but also between different practice-based fields and the more conceptually coherent disciplines and professions. Ultimately this study adds to a body of knowledge that might inform HE policies on how to accommodate disciplines with a range of codes.

In contrast to Steyn's findings that "recontextualised design knowledge bears a close resemblance to design knowledge in the field of production" (2012, p. iii), I found that the knowledge and knower valued in the field of production were not necessarily valued in assessment. Although many characteristics were similar, the key differences were those of sustainable design and the valuing of the knower as an ethical and moral practitioner, as the later characteristic was not valued in assessment. This leads to recognising that the contextual coherence of GD may be shifting, and acknowledging the potential impact that such a shift might have on course design and assessment, not only at PISA, but also within the broader design education community. Others have

indicated the challenges to incorporating sustainable design into the curriculum and assessing sustainable design as an element of good design (Joubert & Economou, 2009; Moalosi et al., 2010; Y. S. Lee, 2014). The integration of sustainable design and projects that facilitate the development of moral and ethical practitioners, and how this might be assessed, is an area that requires attention and has potential for further investigation.

The implications of the separation of theory from practice in the GD curriculum and in assessment results in a downplaying of the powerful theoretical knowledge and its role in practice. This has to some extent already been addressed at PISA, where the course designers are in the process of creating a more integrated curriculum. A group of lecturers are designing the curriculum, rather than individuals designing modules, and I act as adviser. The designers work in a group in order to exchange ideas and to ensure that all aspects of the course are constructed in a cohesive way, and therefore not undervaluing one type of knowledge or another. Based on this study, aspects such as sustainable design, reflection and the valuing and acquiring of a GD gaze receive attention. In this process, attention would need to be given to the role that theory plays and how to build a GD gaze in the first year of study. Steyn (2012) points out the significance of scaffolding design knowledge and the gaze, and therefore the existing study guide for the Graphic Design Studio 1 module, with its relativist code, may not adequately prepare students for the knower gaze valued at higher levels. With an integrated curriculum, the building of the knower and the related gaze may be achieved in a more deliberate manner with the objective of not disadvantaging students who do not already possess such a gaze.

In the findings, I identified that students at the second- and third-year levels were expected to arrive at different solutions for authentic, complex and ill-defined problems similar to those identified by Shay and Steyn (2016). Once they had defined the problem, the solution became context specific and the solutions could vary greatly. The design solution and the design itself were informed by the students' knowledge, experience and gaze. Students were expected to be able to transfer and apply the gaze to different contexts, an essential attribute required to solve complex or wicked

problems. This substantiates Steyn's (2012) findings using Semantics, where the strengthening of the gaze was seen as a form of knowledge building within hierarchical knower structures. Other fields of design might consider the use of theory and these findings in order to scrutinise their own practices, according to how the specialist knowledge-knower is defined and how new knowledge might be built and transferred to different contexts.

As more and more HE institutions (Wilkins & Huisman, 2012), including PISA, look at expanding through setting up multiple campuses, the multi-site phenomenon brings the assessment practices in such environments under scrutiny. This has particular significance for fields that assess complex achievements. My initial impulse, as Dean, to find a solution for inter-assessor reliability in a multi-site context has not been achieved in this study. The findings, however, can inform a number of changes that could be considered, such as the increased use of exemplars of the valued gaze with accompanying critique, thereby establishing standards for visual work; the explicit linking of theory and how it can be used and assessed in practice, collaboration and the sharing of outcomes, criteria and standards; and using disciplinary defined knowledge-knower structures as the basis for these conversations. In addition, the matching of appropriate assessment practices with the knowledge-knower structure becomes significant.

A critical realist approach ultimately aims to transform practice (p.59), and although this study does not offer an implementation plan for future transformation, it can provide the starting point and a language that will aid the transformation of practice. Once again, this could be applied at PISA, or by others involved in curriculum design and assessment in other fields and at other institutions.

On a personal level, this study and the findings have enabled me to gain a deeper understanding of the assessment of complex achievements, and how the knowledge-knower structures of GD are realised in assessment. In critical realist terms, my study has produced a better understanding of why GD assessment is what it is. As indicated in Chapter 2, I embarked on this project with an understanding of assessment that was

informed by a positivist paradigm. As Dean, I sought to find more effective ways for GD assessment to deliver what was expected by the Institution, that is, assessment that was fair, reliable, valid, transparent and consistent across all campuses. I was reassured by the critical realist approach that I chose, where the aim was to arrive at a plausible explanation for a phenomenon. With critical realism as a metatheory came a valuing of empirical data, and a way to accommodate elements of positivist and interpretivist understandings with the depth ontology and an acceptance that the understandings created would be socially and historically situated. My previous research in photography had been largely technical, whereas this study demanded richness and nuance in order to accommodate a field such as GD education, its various forms of knowledge and an assessment practice that was peopled. I had to pull myself away from viewing the data represented in quantitative terms and return to the qualitative, messy and rich nature of the enacted assessment practice. Using a critical realist approach, and the appropriate theories and methodologies, coupled with my reflections and interpretation of the data, I aimed to arrive at the best explanation of the practice of GD assessment.

I have not arrived at an answer or a 'fix' to inter-assessor reliability on multiple campuses, as my understanding has in part revealed the improbability of an agreed on right or wrong mark for a piece of student work. However, as Dean called in to advise on curriculum design, I feel that, based on this study and the findings, I can better guide those designing curricula and GD assessments.

Cultural change in assessment cannot be left to overburdened individual academics. It requires sustained leadership that is founded upon well-developed policies and practices, in which values, purposes and directions are clearly articulated and shared. (Morgan, 2011, p. 228)

As a researcher going through this journey, my understanding of research has been expanded, enhanced and strengthened, including my understanding of research methods, analysis and linking theory to data. In addition, as someone in a position to lobby for alternate ways to conduct research in the creative arts and design, being able to understand and substantiate the value of practice-based research in the broader

research context will be invaluable. This benefit could extend beyond myself, the institution and students into how creative art and design research is acknowledged in South Africa.

7.4 Limitations

The aim of this study was to provide a better understanding of the underlying structures that inform GD assessment and create the phenomenon of GD assessment. In keeping with a case study approach, there was no aim to generalisability but, as indicated in the section above, the findings are potentially transferable to other practices, contexts and disciplines.

There are always a myriad choices to be made by a researcher in a research project, but I have attempted throughout this study to substantiate my choices and to supply a logic and coherence to the thinking and methods used. The focus was on assessment and on the valued disciplinary knowledge and knower at the stage of assessment, which is part of the field of recontextualisation. Teaching and what occurs in the design studio, for instance feedback, was not addressed. Studies in these areas could provide a different view of the knowledge-knower structures that are communicated to students.

Other than the analysis of the quantitative survey data, the analysis of the assessment data was very much reliant on my interpretation as guided by my understanding of the theories used and based on previous examples provided (Steyn, 2012; R. T.-H. Chen & Maton, 2016; Dong et al., 2014). I acknowledge that this is a socially-situated interpretation, based on my application of the theories to the data.

7.5 Possibilities for further research

Based on the findings and approaches used in this study, many areas open up to further research; some have already been mentioned (p.200). The following are additional areas that have the potential for investigation.

The use of knowledge theories as an approach to analysis and interpretation could equally be applied to my own field of photography or to other disciplines in different

contexts. The study enabled me to 'see' the field of GD as knowledge-knower structures and codes and how these might impact other structures, and even individuals, such as students. Given the diverse student population in South Africa and at PISA, students, their experiences and their understandings of the valued knowledge-knower structure would also provide valuable insight into assessment in terms of communication, achievement, progression, understanding and epistemic access. The influence of industry has been touched on in this study (5.2.1), but an analysis of the codes valued in the industry might also prove to be insightful and, when seen in conjunction with curriculum and assessment codes, this type of analysis could contribute to curriculum design and assessment, especially when considered in relation to an emphasis on employability.

A number of additional LCT dimensions have been developed, such as Semantics, which focuses on knowledge building; these could be used to re-interpret the existing data generated for this study in order to provide additional nuances of the assessment practice.

7.6 Conclusion

In this study I have established an understanding of the assessment practice of GD as seen through the lens of LCT(Specialisation). This approach has enabled me to accommodate the diverse types and sources of knowledge and knower that make the assessment practice in a visual, practice-based field what it is. Providing an understanding of the specialisation codes, based on institutional documents and the observation of individual assessors' practice, highlights the potential for diverse and changing perspectives in this field when it comes to the assessment of student practical work. This was illustrated in the code clashes, matches and shifts. Creating this picture of knowledge-knower structures provided a basis for further analysis and greater insight into the field of GD and the logic of its unique assessment characteristics.

Holistically, this study provides a nuanced interpretation of an assessment practice that is rich in social complexity, as contrasted with national and institutional structures that have very different characteristics and objectives. By defining GD assessment practice

using an established, robust and nuanced conceptual language, this study contributes to validating this form of assessment practice, as well as acknowledging that, in valuing a specialist knower in assessment, there is always the potential for conflict and challenge of the valued gaze.

References

- Akama, Y. (2012). A way of being. *Design Philosophy*, 10, Retrieved March 25, 2015, from https://www.academia.edu/1549831/A_way_of_being_in_design_practice_Zen_and_the_art_of_being_a_human-centred_practitioner
- Allais, S. M. (2007a). Education service delivery: The disastrous case of outcomes-based qualifications frameworks. *Progress in Development Studies*, 7(1), 65–78.
- Allais, S. M. (2007b). Why the South African NQF failed: Lessons for countries wanting to introduce national qualifications frameworks. *European Journal of Education*, 42(4), 523–547.
- Alsudani, F., & Casey, M. (2009). The effect of aesthetics on web credibility. In *HCI 2009 – People and Computers XXIII – Celebrating people and technology* (pp.512–519). Cambridge: British Computer Society.
- Altbach, P. G. (2011). The branch campus bubble? Retrieved July 25, 2013, from www.insidehighered.com/views/2011/07/15/essay_on_the_challenges_facing_inter-national_branch_campuses
- Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution. World Conference on Higher Education*. Paris: UNESCO.
- Amin, A., & Roberts, J. (2008). Knowing in action: Beyond communities of practice. *Research Policy*, 37(2), 353–369.
- Archer, B., & Roberts, P. (2005). Criteria, objectives and competencies. In B. Archer, K. Baynes, & P. Roberts (Eds.), *A Framework for Design and Design Education* (pp. 34–44). Wellesbourne: DATA & Loughborough University.
- Archer, M. (1998). Addressing the cultural system. In M. Archer, R. Bhaskar, A. Collier, & T. Lawson (Eds.), *Critical realism essential readings* (pp. 503–543). London: Routledge.
- Archer, M., Bhaskar, R., Collier, A., & Lawson, T. (1998). General introduction. In M. Archer, R. Bhaskar, A. Collier, & T. Lawson (Eds.), *Critical realism essential readings* (pp. ix–xxiv). London: Routledge.
- Ashwin, P. (2008). Accounting for structure and agency in “close-up” research on teaching, learning and assessment in higher education. *International Journal of Educational Research*, 47(3), 151–158.

- Austerlitz, N., Blythman, M., Jones, B. A., Jones, C. A., Grove-White, A., Morgan, S., ... Vaughan, S. (2008). Mind the gap: Expectations, ambiguity and pedagogy within art and design higher education. In L. Drew (Ed.), *The Student Experience in Art and Design Higher Education* (pp. 125–148). Cambridge: Jill Rogers Associates Limited.
- Australian Learning & Teaching Council. (2010). *Moderation for fair assessment in transnational learning and teaching: Literature review*. Retrieved February 24, 2014, from http://www.resource.unisa.edu.au/file.php/285/ALTCLitReview_Oct_2010.pdf
- Ayers, D. F. (2011). A critical realist orientation to learner needs. *Adult Education Quarterly*, 61(4), 341–357.
- Ball, S. J. (2003). The teacher's soul and the terrors of performativity. *Journal of Education Policy*, 18(2), 215–228.
- Barnett, M. (2006). Vocational knowledge and vocational pedagogy. In M. Young & J. Gamble (Eds.), *Knowledge, curriculum and qualifications for South African Further Education*. Cape Town: HSRC Press.
- Barnett, R. (2000). University knowledge in an age of supercomplexity. *Higher Education*, 40, 409–422.
- Barnett, R. (2004). The purposes of higher education and the changing face of academia. *London Review of Education*, 2(1), 61–73.
- Barrow, M. (2006). Assessment and student transformation: Linking character and intellect. *Studies in Higher Education*, 31(3), 357–372.
- Bayazit, N. (2004). Investigating design: A review of forty years of design research. *Design Issues*, 20(1), 16–30.
- Bayman, W. (2012). *Web design ACWD300* (V2.3 ed.). PISA.
- Belluigi, D. Z. (2007). *Excavating the "Critique": An investigation into disjunctions between the espoused and the practiced within a Fine Art Studio Practice curriculum*. Unpublished master's thesis, Rhodes University, Grahamstown.
- Belluigi, D. Z. (2009). Exploring the discourses around "creativity" and "critical thinking" in a South African creative arts curriculum. *Studies in Higher Education*, 34(6), 699–717.
- Belluigi, D. Z. (2015). *The problem of authorship: Considering the significance of interpretative approaches on the conditions for creativity in undergraduate fine art studio practice*. Unpublished doctoral thesis, Kingston University.

- Bernstein, B. (1971). *Class codes and control volume I: Theoretical studies towards a sociology of language*. London: RoutledgeFalmer.
- Bernstein, B. (1975). *Class, codes and control volume III: Towards a theory of educational transmission*. Oxon: Routledge.
- Bernstein, B. (1986). The pedagogic device. In *Pedagogy, symbolic control and identity* (pp. 25–39). Boston: Rowman & Littlefield.
- Bernstein, B. (1996). *Pedagogy, symbolic control and identity: Theory, research, critique* (Rev. Ed.). Oxford: Roman & Littlefield.
- Bernstein, B. (1999). Vertical and horizontal discourse: An essay. *British Journal of Sociology of Education*, 20(2), 157–173.
- Bernstein, B., & Solomon, J. (1999). “Pedagogy, identity and the construction of a theory of symbolic control”: Basil Bernstein questioned by Joseph Solomon. *British Journal of Sociology of Education*, 20(2), 265–279.
- Bezuidenhout, G., de Jager, J. W., & Naidoo, V. (2013). Factors that influence students’ choice of private higher education institutions. *South African Journal of Higher Education*, 27(5), 1181–1196.
- Bhaskar, R. (1998a). Philosophy and scientific realism. In M. Archer, R. Bhaskar, A. Collier, T. Lawson, & A. Norrie (Eds.), *Critical realism essential readings* (pp. 16–47). London: Routledge.
- Bhaskar, R. (1998b). *The possibility of naturalism: A philosophical critique of the contemporary human sciences*. (3rd ed., Vol. 22). London: Routledge.
- Bhaskar, R. (2008a). *A realist theory of science*. London: Routledge.
- Bhaskar, R. (2008b). *Scientific realism and human emancipation*. London: Routledge.
- Biggs, J. (1999). What the student does: Teaching for enhanced learning. *Higher Education Research & Development*, 18(1), 55–75.
- Biggs, M. (2002). Editorial: The concept of knowledge in art and design. *Working Papers in Art and Design*, 2. Retrieved January 11, 2013, from http://www.herts.ac.uk/___data/assets/pdf_file/0005/12299/WPIAAD_vol2_biggs.pdf
- Biggs, M. (2007). Modelling experiential knowledge for research. In M. Mäkelä & S. Routarinne (Eds.), *The Art of Research: Research Practices in Art and Design*. Helsinki: University of Art and Design (Uiah).

- Björklund, L. (2008). The repertory grid technique: Making tacit knowledge explicit: Assessing creative work and problem solving skills. In *Researching Technology Education: Methods and Techniques* (pp. 46–69).
- Blair, B. (2004). *Interpretations of assessment: A study of students' understanding of the assessment criteria*. Unpublished doctoral thesis, Institute of Education, London University, London.
- Blair, B. (2006). 'At the end of a huge crit in the summer, it was "crap" – I'd worked really hard but all she said was "fine" and I was gutted.'. *Art, Design & Communication in Higher Education*, 5(2), 83–95.
- Bland, L. S. (2005). *The effects of self-reflective learning process on student art performance*. Unpublished doctoral thesis, Florida State University.
- Bloxham, S. (2009). Marking and moderation in the UK: False assumptions and wasted resources. *Assessment & Evaluation in Higher Education*, 34(2), 209–220.
- Boehnert, J. (2013). Ecological literacy in design education: A foundation for sustainable design. In J. B. Reitan, P. Lloyd, E. Bohemia, L. M. Nielsen, I. Digranes, & E. Lutnæs (Eds.), *2nd International Conference for Design Educators Design Learning for Tomorrow: Design Education from Kindergarten to PhD* (pp. 442–457). Oslo: DRS CUMULUS.
- Bolt, B. (2006). Materializing pedagogies. *Working Papers in Art and Design*, 4. Retrieved July 7, 2015, from http://www.herts.ac.uk/__data/assets/pdf_file/0015/12381/WPIAAD_vol4_bolt.pdf
- Bolton, H. (2008). Comparing pedagogy linked to success in art and science: Usefulness of Bernstein's theory of pedagogy, and a question. In *5th Basil Bernstein Symposium* (pp. 1–36). Cardiff.
- Bourdieu, P. (1995). *The rules of Art: Genesis and structure of the literary field*. Stanford: Stanford University Press.
- Bourdieu, P., & Passeron, J.-C. (1990). *Reproduction in education, society and culture* (Reprint). London: Sage.
- Box, H. (2007). *Homeless, sticky design. Strategies for visual, creative, investigative projects*. Unpublished doctoral thesis, University of Technology, Sydney.
- Branch, J. L. (2000). The trouble with think alouds: Generating data using concurrent verbal protocols. CAIS 2000: *Dimensions of a Global Information Science*. Canadian Association for Information Science Proceedings of the 28th Annual Conference.

- Breslin, M., & Buchanan, R. (2008). On the case study method of research and teaching in design. *Design Issues*, 24(1), 36–40.
- Bruton, D. (2007). Fusing Horizons – A Grammatical approach for the arts and humanities: Using rules, contingency and hermeneutics in design education. *Arts and Humanities in Higher Education*, 6(3), 309–327.
- Buchanan, R. (1992). Wicked problems in design thinking. *Design Issues*, 8(2), 5–21.
- Buchanan, R. (2001). Design research and the new learning. *Design Issues*, 17(4), 3–23.
- Buchanan, R. (2001). Design research and the new learning. *Design Issues*, 17(4), 3–23.
- Businessstech. (2015). Here are South Africa's 26 universities. Retrieved November 5, 2015 from <http://businessstech.co.za/news/general/101412/here-are-south-africas-26-universities/>
- Cadle, B. (2009). The politics of change, craft and the Bauhaus reborn: New relationships in design education. In A. Breytenbach & A. J. Munro (Eds.), *12th National Design Education Forum Conference Proceedings* (pp. 29–38). Graaf Reinet: DEFSA.
- Cahalan, A. (2007). The future of design education. Retrieved November 11, 2013, from <http://education.agda.com.au/articles/view/story/the-future-of-design-education>
- Cairns, M. (2001). Reflections: Margie Cairns interviewed by Helene Perold. Retrieved January 24, 2014, from http://chet.org.za/files/PEROLD_2001_Cairns_interview.pdf
- Cannatella, H. (2001). Art assessment. *Assessment & Evaluation in Higher Education*, 26(4), 329–326.
- Carey, P. (2006). Other wise: Towards a meeting of graphic design and indigenous knowledge. In *Redesigning Design Education DEFSA 2006*. Port Elizabeth: DEFSA.
- Carroll, M.-J. (2010). *Text legibility and readability of large format signs in building and sites*. Buffalo.
- Carter, B., & New, C. (2004). Realist social theory and empirical research. In *ESA Social Theory Conference* (pp. 1–40). Paris.
- Carvalho, L. (2010). *A sociology of informal learning in/about design*. Unpublished doctoral thesis, University of Sydney, Sydney.

- Carvalho, L., & Dong, A. (2010). Bringing a social realist approach into computer-supported learning environments: The design studio case study. In *6th International Basil Bernstein Symposium: Philosophy and sociology of knowledge and its transmission*.
- Carvalho, L., Dong, A., & Maton, K. (2009). Legitimizing design: A sociology of knowledge account of the field. *Design Studies*, 30(5), 483–502.
- Case, J. (2011). Knowledge matters: Interrogating the curriculum debate in engineering using the sociology of knowledge. *Journal of Education*, 51, 1–20.
- Case, J. (2013). *Researching learning in higher education* (Kindle ed.). Abingdon: Taylor & Francis.
- Cause, L. (2010). Bernstein's code theory and the educational researcher. *Asian Social Science*, 6(5), 3–10.
- Cennamo, K., & Brandt, C. (2012). The “right kind of telling”: knowledge building in the academic design studio. *Educational Technology Research and Development*, (5), 839–858.
- Chen, L. (2007). International journal of Design: A step forward. *International Journal of Design*, 1(1), 1–2.
- Chen, R. T.-H., & Maton, K. (2016). LCT and qualitative research: Creating a language of description to study constructivist pedagogy. In K. Maton, S. Hood, & Suellen Shay (Eds.), *Knowledge-building: Educational Studies in Legitimation Code Theory* (Kindle ed.). Routledge.
- Cheung, M. (2012). When mind, heart, and hands meet: Communication design and designers. *International Journal of Technology & Design Education*, 22, 489–511.
- Christensen, T., & Yasar, S. (2007). Paradigms and protocols in the study of creative collaboration: Implications for research of design team processes and product. In *IASDR07* (pp. 1–10). Hong Kong.
- Christiaans, H., & Venselaar, K. (2005). Creativity in design engineering and the role of knowledge: Modelling the expert. *International Journal of Technology and Design Education*, 15(3), 217–236.
- Çıkış, Ş., & Çil, E. (2009). Problematization of assessment in the architectural design education: First year as a case study. *Procedia - Social and Behavioral Sciences*, 1(1), 2103–2110.

- Clarence-Fincham, J., & Naidoo, K. (2013). Taking a longer view: Processes of curriculum development in the Department of Graphic Design at the University of Johannesburg. *Cristal*, 1(1), 80–102.
- Cloete, N., & Gillwald, A. (2014). South Africa informational development and human development: Rights vs. capabilities. In M. Castells & P. Himanen (Eds.), *Reconceptualizing Development in the Global Information Age*. Oxford University Press.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (6th ed.). Oxon: Routledge.
- Coleman, L. (2015). How drawing is used to conceptualize and communicate design ideas in graphic design: Exploring scamping through a literacy practice lens. In T. Lillis, K. Harrington, M. Lea, & S. Mitchell (Eds.), *Working with Academic Literacies: Case Studies Toward Transformative Practice* (pp. 257–266). Fort Collins: WAC Clearinghouse.
- Collier, A. (1994). *Critical realism: An introduction to Bhaskar's philosophy*. London: Verso.
- Collina, L. (2007). Crossing the disciplinary design borders: From interior design to product service systems. In L. Justice (Ed.), *DesignEd Asia Conference 2007 Sustaining Cultures through Design*. Hong Kong: The Hong Kong Polytechnic University.
- Combrink, L., & Marley, I. R. (2009). Practice-based research: Tracking creative creatures in a research context. *Literator*, 30(1), 177–206.
- Corson, D. (1991). Bhaskar's critical realism and educational knowledge. *British Journal of Sociology of Education*, 12(2), 223–241.
- Costandius, E. (2006). OBE: The only way forward for design education? In *Redesigning Design Education DEFSA 2006*. Port Elizabeth: DEFSA.
- Council on Higher Education (CHE). (2004a). Programme planning, design & management. In *ITL resource* (pp. 1–22). Pretoria: CHE.
- Council on Higher Education (CHE). (2004b). *Resources for improving teaching and learning*. (2007). HEQC institutional audits manual 2007. Pretoria.
- Council on Higher Education (CHE). (2007). HEQC institutional audits manual 2007. Pretoria: CHE.
- Council on Higher Education (CHE). (2009). *The state of higher education in South Africa. HE Monitor*. Pretoria.

- Council on Higher Education (CHE). (2010). Access and throughput in South African higher education. *HE Monitor*, (9).
- Council on Higher Education (CHE). (2012). Higher education in South Africa. Retrieved April 26, 2013, from www.che.ac.za/heinsa/
- Council on Higher Education (CHE). (2013). *A framework for qualification standards in higher education*. Pretoria: CHE.
- Cousin, G. (2013). Getting to the bottom of the well: The value of qualitative research into teaching and learning. *Cristal*, 1(1), 123–136.
- Cowdroy, R., & Williams, A. (2006). Assessing creativity in the creative arts. *Art, Design & Communication in Higher Education*, 5(2), 97–117.
- Cowdroy, R., & Williams, A. (2008). Achieving cost-effective design education: Highest quality graduates for least resources and cost. In *International Design Conference - Design 2008* (pp. 1409–1416). Dubrovnik.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Cross, N. (1999). Design research: A disciplined conversation. *Design Issues*, 15(2), 5–10.
- Cross, N. (2001). Designerly ways of knowing: Design discipline versus design science. *Design Issues*, 17(3), 49–55.
- Cross, N. (2004). Expertise in design: an overview. *Design Studies*, 25(5), 427–441.
- Danermark, B., Ekstrom, M., Jackobsen, L., & Karlsson, J. C. (2002). *Explaining society: Critical realism in the social sciences*. London: Routledge.
- David, A., & Glore, P. (2013). The impact of design and aesthetics on usability, credibility, and learning in an online environment. *Online Journal of Distance Learning Administration*, 13(4), 1–8. Retrieved August 22, 2015, from http://www.westga.edu/~distance/ojdl/winter134/david_glore134.html
- Davies, A. (1989). Using assessment to improve the quality of student learning in art and design. London: University of the Arts. Retrieved November 6, 2010 from <http://ualresearchonline.arts.ac.uk/626/>

- Davies, A. (1998). Using learning journals to identify critical incidents of understanding. *Improving Student Learning Outcomes*. Oxford: Oxford Brookes University. Retrieved November 6, 2010 from http://ualresearchonline.arts.ac.uk/628/1/cltd_isl_learningjournals.pdf
- Davies, A. (2000). Writing learning outcomes and assessment criteria in art and design. London: London Institute. Retrieved July 16, 2011, from <http://ualresearchonline.arts.ac.uk/627/>
- de la Harpe, B., Peterson, J. F., Frankham, N., Zehner, R., Neale, D., Musgrave, E., & McDermott, R. (2009). Assessment focus in studio: What is most prominent in architecture, art and design? *International Journal of Art & Design Education*, 28(1), 37-51
- Delandshere, G. (2002). Assessment as inquiry. *Teachers College Record*, 104(7), 1461–1484.
- Demirkan, H., & Hasirci, D. (2009). Hidden dimensions of creativity elements in design process. *Creativity Research Journal*, 21(2-3), 294–301.
- Dineen, R., & Collins, E. (2005). Killing the goose: Conflicts between pedagogy and politics in the delivery of a creative education. *Journal of Art and Design Education*, 24(1), 43–52.
- Di Russo, S., & Feast, L. (2013). Analysing collaborative design practice: An applied investigation using the critical realist framework. In *Consilience and Innovation in Design' IASDR 2013* (pp. 1–12). Tokyo.
- Dong, A., Maton, K., & Carvalho, L. (2014). The structuring of design knowledge. In P. Rogers & J. Yee (Eds.), *Routledge Companion to Design Research* (pp. 1–18). London: Routledge.
- Dorst, K. (2008). Design research: A revolution-waiting-to-happen. *Design Studies*, 29(1), 4–11.
- Drew, L., & Shreeve, A. (1984). Assessment as participation in practice. *Higher Education*. London: University of the Arts London.
- Dziwa, D. D. (2013). Assessment procedures used in art and design main study at teacher education level in Zimbabwe: Validity and reliability. *Academic Research International*, 4(1), 82–92.
- Easton, G. (2010). Critical realism in case study research. *Industrial Marketing Management*, 39(1), 118–128.

- Ehmann, D. (2005). Using assessment to engage graphic design students in their learning experience. In *Making a Difference: 2005 Evaluations and Assessment Conference* (pp. 107–113). Sydney.
- Elder-Vass, D. (2007). A method for social ontology: Iterating ontology and social research. *Journal of Critical Realism*, 6(2), 226–249.
- Elkins, J. (2001). *Why Art cannot be taught*. USA: University of Illinois Press.
- Elkins, J. (2009). On beyond research and new knowledge. In J. Elkins (Ed.), *Artists with PhDs: On the new doctoral degree in studio art*. Washington: New Academia.
- Ellmers, G. (2000). Reflection and graphic design pedagogy: Developing a reflective framework to enhance learning in a graphic design tertiary environment. *Assessment*, (1998), 1–10.
- Ellmers, G., & Foley, M. (2007). Introducing reflective strategies informed by problem-based learning to enhance cognitive participation and knowledge transference in graphic design education. In *International Conference on Design Education* (pp. 1–5). Sydney.
- Ellmers, G., Foley, M., & Bennett, S. (2008). Graphic design education: A revised assessment approach to encourage deep learning. *Journal of University Teaching & Learning Practice*, 5(1), 78–87.
- Elton, L., & Johnston, B. (2002). *Assessment in Universities: A critical review of research*. In L. Elton & B. Johnston (Eds.), *Assessment in Universities: A critical review of research*. London: LTSN Generic Centre.
- English, A. (2010). *Assessing the visual arts: Valid, reliable, and engaging strategies*. Unpublished master's thesis, The Evergreen State College.
- Ensor, P. (2004). Contesting discourses in higher education curriculum restructuring in South Africa. *Higher Education*, 48, 339–359.
- Eraut, M. (2006). Learning the complexity of professional practice. In *Learning through Enquiry* (pp. 1–9). Surrey: University of Surrey. Retrieved February 27, 2013, from [http://surreyprofessionaltraining.pbworks.com/w/page/11505911/Professor Michael Eraut Learning the complexity of professional practice](http://surreyprofessionaltraining.pbworks.com/w/page/11505911/Professor%20Michael%20Eraut%20Learning%20the%20complexity%20of%20professional%20practice)
- Fairclough, N. (2005). Discourse analysis in organizational studies: The case for critical realism. *Organizational Studies*.

- Feast, L. (2010). Epistemological positions informing theories of design research: Implications for the design discipline and design practice. In *“Design and complexity”, the 2010 Design Research*. Montreal.
- Feast, L. (2013). Investigating the significance of informal interactions within interdisciplinary design activity. In *Consilience and Innovation in Design’ (IASDR 2013)* (pp. 1–12). Tokyo.
- Fehnel, R. (2002). Private higher education. In N. Cloete, R. Fehnel, P. Maassen, T. Moja, H. Perold, & T. Gibbon (Eds.), *Transformation in Higher Education, Global Pressures and Local Realities in South Africa* (pp. 345–369). Rondebosch: Centre for Higher Education Transformation (CHET).
- Fish, S. (1980). Is there a text in this class? Interpretive communities. In *The Authority of Interpretive Communities* (pp. 338–355). Cambridge, Mass: Harvard University Press.
- Fleetwood, S. (2006). Themes and issues: A rejoinder to Sheila Dow and Paul Downward. *Journal of Critical Realism*, 5(1), 169–182.
- Fourie, J. (2015). A blanket university fee reduction benefits the wealthy – and slows change. Retrieved November 3, 2015, from <https://theconversation.com/a-blanket-university-fee-reduction-benefits-the-wealthy-and-slows-change-49384>
- Frascara, J., & Winkler, D. (2008). Jorge Frascara and Dietmar Winkler on design research. *Design Research Quarterly*, 3(3).
- Fraser, W. J., & Killen, R. (2003). Factors influencing academic success or failure of first-year and senior university students: Do education students and lecturers perceive things differently? *South African Journal of Education*, 23(4), 254 – 260.
- Freitas, N. De. (2007). Activating a research context in art and design practice. *International Journal for the Scholarship of Teaching and Learning*, 1(2), 1–15.
- Fremantle, C., & Kearney, G. (2015). Owning failure: Insights into the perceptions and understandings of art educators. *International Journal of Art and Design Education*, 34(3).
- Friedman, K. (1997). Design science and design education. In P. McGrory (Ed.), *The Challenge of Complexity* (Reprint, pp. 1–40). Helsinki: University of Art and Design Helsinki.
- Friedman, K. (2000a). Creating design knowledge: From research into practice. In *IDATER* (pp. 5–32). Loughborough University.

- Friedman, K. (2000b). Design knowledge: Content, context, continuity. In D. Durling & Ken Friedman (Eds.), *Doctoral Education in Design. Foundations for the Future. Proceedings of the La Clusaz Conference* (pp. 5–16). United Kingdom: Staffordshire University Press.
- Friedman, K. (2014). *Writing for the PhD in art and design. Issues for research supervisors and research students. A Research Skills Working Paper*. Melbourne.
- Froneman, L. (2002). Private higher education institutions in a changing South African environment. *Acta Commercii*, 2, 35–44.
- Galle, P. (1996). Replication protocol analysis: A method for the study of real-world design thinking. *Design Studies*, 17, 181–200.
- Gamble, J. (2001). Modelling the invisible: The pedagogy of craft apprenticeship. *Studies in Continuing Education*, 23(2), 185–200.
- Gamble, J. (2006). Theory and practice in the vocational curriculum. In M. J. Young & J. Gamble (Eds.), *Knowledge, Curriculum and Qualifications for South African Further Education* (pp. 87–103). Cape Town: HSRC Press.
- Gamble, J., & Hoadley, U. (2008). Positioning the regulative. In *5th Basil Bernstein Symposium*. Cardiff: University of Cardiff.
- Gerber, A. (2008a). Design & sustainability:pt2. *Creative Review*, December, 30–33.
- Gerber, A. (2008b). Design and sustainability. *Creative Review*, November, 21-22.
- Giloi, S. (2014). Design assessment: A socially responsible practice or subjective judgement? In A. Breytenbach & K. Pope (Eds.), *Design with the other 90%: Cumulus Johannesburg* (pp. 234–240). Greenside Design Center and University of Johannesburg.
- Giloi, S., & du Toit, P. (2013). Current approaches to the assessment of graphic design in a higher education context. *Journal of Art & Design Education*, 32(2), 256–268.
- Glăveanu, V. P. (2011). Creating creativity: Reflections from fieldwork. *Integrative Psychological & Behavioral Science*, 45(1), 100–15.
- Global Company. (2012). *Global company performance summary 2012*. London.
- Goldschmidt, G. (2003). Expert knowledge or creative spark? Predicaments in design education. In *Design Thinking Research Symposium*. Sydney.
- Goldschmidt, G., & Weil, M. (1998). Contents and structure in design reasoning. *Design Issues*, 14(3), 85.

- Gordon, J. (2004). The “wow” factors: The assessment of practical media and creative arts subjects. *Art Design & Communication in Higher Education*, 3(1), 61–72.
- Graham, M. A., & Sims-Gunzenhauser, A. (2009). Advanced placement in studio art and secondary art education policy: Countering the null curriculum. *Arts Education Policy Review*, 110(3), 18–24.
- Gulikers, J. T. M., Bastiaens, T. J., & Kirschner, P. a. (2004). A five-dimensional framework for authentic assessment. *Educational Technology Research and Development*, 52(3), 67–86.
- Hall, M., Symes, A., & Luescher, T. M. (2002). *Governance in South African higher education*. Retrieved March 25, 2013, from <http://www.che.org.za>
- Hankinson, M., & Breytenbach, A. (2013). Barriers that impact on the implementation of sustainable design. In Eija Salmi (Ed.), *CumulusHelsinki–Espoo* (pp. 89–92). Helsinki: Cumulus.
- Harding, J., & Hale, L. (2007). Anti-creativity, ambiguity and the imposition of order. In *Higher Education* (pp. 1–11). Cardiff: University of Wales Institute, Cardiff in collaboration with the Higher Education Academy.
- Hardy, T. (2006). Domain poisoning: The redundancy of current models of assessment through art. *International Journal of Art & Design Education*, 25(3), 268–274.
- Harland, R., & Sawdon, P. (2011). From fail to first: Revising assessment criteria in art and design. *Art, Design & Communication in Higher Education*, 10(1), 67–99.
- Harman, K., & McDowell, L. (2011). Assessment talk in design: The multiple purposes of assessment in HE. *Teaching in Higher Education*, 16(1), 41–52.
- Haseman, B. (2006). A manifesto for performative research. *International Australia Incorporating Culture and Policy, Theme Issue “Practice-Led Research,”* 118, 98–106.
- Havergal, C. (2015). Africa’s “teaching shops”: The rise of private universities. Retrieved November 4, 2015, from <https://www.timeshighereducation.com/features/africas-teaching-shops-the-riseof-private-universities>
- Hayward, F. M. (2006). Quality assurance and accreditation of Higher Education in Africa. In *Conference on Higher Education Reform in Francophone Africa: Understanding the Keys of Success*. Ougadougou.

- Hernández, G. (2013). Design values, designing values and valuing designing: Three scenarios for values in design education. In J. B. Reitan, P. Lloyd, E. Bohemia, L. M. Nielsen, I. Digranes, & E. Lutnaes (Eds.), *Design Learning for Tomorrow: Design Education from Kindergarten to PhD* (pp. 14–17).
- Hickman, R. (2008). The nature of research in arts education. In R. Hickman (Ed.), *Research in Art and Design Education: Issues and Exemplars* (pp. 15–24). Bristol: Intellect.
- Hounsell, D., Falchikov, N., Hounsell, J., Klampfleitner, M., Huxham, M., Thomson, K., ... Caledonian, G. (2007). Innovative assessment across the disciplines: An analytical review of the literature. *The Higher Education Academy*, (November), 1–77.
- Howard, S., & Maton, K. (2011). Theorising knowledge practices: A missing piece of the educational technology puzzle. *Research in Learning Technology*, 19(3), 191–206.
- Hughes, G. (2011). Towards a personal best: A case for introducing ipsative assessment in higher education. *Studies in Higher Education*, 36(3), 353–367.
- Jackson, B. (1995). Assessment practices in art and design: A contribution to student learning? In G. Gibbs (Ed.), *Improving Student Learning - Through Assessment and Evaluation* (pp. 1–10). Oxford: Oxford Centre for Staff Development. Retrieved June 11, 2010, from <http://www.londonmet.ac.uk/deliberations/ocslid-publications/islass-jackson.cfm>
- Jackson, N. (2004). How can creativity be taught? Personal accounts of teaching to promote students' creativity'. Retrieved November 07, 2012, from <http://www.heacademy.ac.uk/1418.htm>
- Jackson, N. (2008). Tackling the wicked problem of creativity in higher education. In *ARC Centre for the Creative Industries and Innovation* (pp. 1–33). Brisbane.
- Jansen, J. D. (2004). Changes and continuities in South Africa's higher education system, 1994 to 2004. In L. Chisholm (Ed.), *Changing class: Education and social change in post-apartheid South Africa*. Cape Town: HSRC Press.
- Jawitz, J. (2007). New academics negotiating communities of practice: Learning to swim with the big fish. *Teaching in Higher Education*, 12(2), 185–197.
- Jessop, B. (2000). Critical realism and the strategic-relational approach. *New Formations*, 40–53.

- Johnston, B. (2004). Summative assessment of portfolios: An examination of different approaches to agreement over outcomes. *Studies in Higher Education*, 29(3), 395–412.
- Joubert, N., & Economou, I. (2009). Towards an educational strategy for promoting social, environmental and ethical awareness in visual communication education. In *12th National Design Education Forum Conference Proceedings* (pp. 4–5). Graaf Reinet: DEFSA.
- Kawulich, B. B. (2014). Participant observation as a data collection method. *Qualitative Social Research*, 6(2).
- Kethro, P. (2007). *Assessment in design programmes: An investigation into the approaches and values of assessors at the Durban University of Technology*. Unpublished master's thesis. University of Kwazulu Natal.
- Kethro, P. (2013). *Pedagogical ways-of-knowing design meaning in the design studio*. Unpublished doctoral thesis. Rhodes University.
- Khatle, A. G. (2012). *Developing an integrated management model for Private Higher Educational Institutions in South Africa*. Unpublished doctoral thesis. University of Johannesburg.
- Kimbell, L. (2009). Beyond design thinking: Design-as-practice and designs-in-practice. In *CRESC Conference* (pp. 1–15). Manchester.
- Kimbell, R., & Perry, D. (2001). *Design and technology in a knowledge economy and a distinctive model of teaching and learning*. London.
- Kleiman, P. (2005). Beyond the tingle factor: Creativity and assessment in higher education. In *Economic and Social Research Council* (pp. 1–22). University of Strathclyde.
- Knight, P. T. (2004). Assessment of complex learning: The Engineering Professors' Council's new thinking about first-cycle engineering degrees. *European Journal of Engineering Education*, 29(2), 183–191.
- Knight, P. T. (2007). Fostering and assessing “wicked” competences. Retrieved July 2, 2013, from [http://www.open.ac.uk/opencetl/files/opencetl/file/ecms/web-content/Knight-\(2007\)-Fostering-and-assessing-wicked-competences.pdf](http://www.open.ac.uk/opencetl/files/opencetl/file/ecms/web-content/Knight-(2007)-Fostering-and-assessing-wicked-competences.pdf)

- Knight, P. T., & Page, A. (2007). *The assessment of “wicked” competences: A report to the Practice-based Professional Learning Centre for excellence in teaching and learning in the Open University*. London. Retrieved November 26, 2012, from [http://www.open.ac.uk/opencetl/files/opencetl/file/ecms/web-content/knight-and-page-\(2007\)-The-assessment-of-wicked-competences.pdf](http://www.open.ac.uk/opencetl/files/opencetl/file/ecms/web-content/knight-and-page-(2007)-The-assessment-of-wicked-competences.pdf)
- Knight, P. T., & Yorke, M. (2003). *Assessment learning and employability. Assessment, Learning and Employability*. Glasgow: Open University.
- Knight, P. T., & Yorke, M. (2005). Assessment close up: The limits of exquisite descriptions of achievement. In *HECU Theme D, The Student Experience, Presentation* (pp. 1–13). Open University.
- Kontos, P. C., & Poland, B. D. (2009). Mapping new theoretical and methodological terrain for knowledge translation: Contributions from critical realism and the arts. *Implementation Science*, 4(1), 1-10.
- Kraak, A. (2004). Discursive tensions in South African higher education, 1990 to 2002. *Journal of Studies in International Education*, 8, 244–280.
- Kruss, G., & Kraak, A. (2005). A contested good? Understanding Private Higher Education in South Africa. *Journal of Third World Studies*, Spring, 266–270.
- Lamere, K. A. B. (2008). Authorities/knowledge/beliefs/outcomes: “Governing” in the profession of graphic design in the US. In *Undisciplined! Design Research Society Conference*. Sheffield.
- Lamont, A., & Maton, K. (2008). Choosing music: Exploratory studies into the low uptake of music GCSE. *British Journal of Music Education*, 25(03), 267.
- Lawson, B. (2004). Schemata, gambits and precedent: Some factors in design expertise. *Design Studies*, 25(5), 443–457.
- Lawson, T. (1998). Economic science without experimentation. In M. Archer, R. Bhaskar, A. Collier, T. Lawson, & A. Norrie (Eds.), *Critical realism essential readings*. London: Routledge.
- Lee, N. (2009). Project methods as the vehicle for learning in undergraduate design education: A typology. *Design Studies*, 30(5), 541–560.
- Lee, Y. S. (2014). Sustainable design re-examined: Integrated approach to knowledge creation for sustainable interior design. *International Journal of Art and Design Education*, 33(2014), 157–174.
- Linde, D. (2012). *Graphic design studio 3 ACGD300 (V2.0 ed.)*. PISA

- Linde, D., & Le Cornu, B. (2013a). *Design studio 2 ACGD200* (V1.3 ed.). PISA.
- Linde, D., & Le Cornu, B. (2013b). *Graphic design studio 1 ACGD100* (V1.2 ed.). PISA.
- Lindström, L. (2007). Assessing craft and design conceptions of expertise in education and work. In A. Havnes & L. McDowell (Eds.), *Balancing dilemmas in learners in contemporary education* (pp. 61–72). New York: Routledge.
- Loeries Awards Company. (2015). *Entry categories: The Loeries Durban 2015*. Loeries Durban. Johannesburg. Retrieved July 2, 2015 from http://www.loeries.com/Documents/Loeries2015_Categories.pdf
- Logan, C. (2006). Circles of practice: Educational and professional graphic design. *The Journal of Workplace Learning*, 18(6), 331–343.
- Logan, C. (2007). Metaphor and pedagogy in the design practicum. *International Journal of Technology and Design Education*, 18(1), 1–17.
- Love, T. (2005). A unified basis for design research and theory. In *International Design Congress - IASDR 2005: New Design Paradigms*. Douliou.
- Luckett, K., & Hunma, A. (2013). Making gazes explicit: Facilitating epistemic access in the Humanities. *Higher Education*, 67(2), 183–198.
- Luckett, K., Hunma, A., & Pancham, K. (2012). Making insights, gazes and lenses explicit in the humanities: The quest to facilitate cumulative learning in humanities foundation courses. In *Knowledge & Curriculum in Higher Education Symposium* (pp. 1–21). Cape Town: UCT.
- Lupton, E. (2010). *Thinking with type* (2nd ed.). New York: Princeton Architectural Press.
- Mabizela, M. (2007). Private surge amid public dominance in higher education: The African perspective. *JHEA/RESA*, 5(2&3), 15–38.
- Mahmud, S., Wallace, A. M., Sanderson, A. G., Singh, P. H., Briguglio, A. C., Thuraisingam, T., & Yeo, S. (2010). Collaborative approaches to moderation of assessment in transnational education. In *Engaging for the Future* (pp. 1–8). Sydney.
- Manchado-Perez, E., Berges-Muro, L., & Lopez-Fornies, I. (2014). Value of adaption of methodologies between different knowledge areas in the context of project based learning: A case of industrial design engineering University degree. *Journal of Cases on Information Technology*, 16(3), 18–32.

- Martin, J. L. (2012). The Jazz is strong with this one: Presentation and positioning of knowers in performance student texts. In *The 39th International Systemic Functional Congress* (pp. 3–8). Sydney: The Organising Committee of the 39th International Systemic Functional Congress, Sydney.
- Mathee, T. (2009). Pre-Tech Man. In *12th National Design Education Forum Conference* (pp. 107–115). Graaf Reinet: DEFSA.
- Maton, K. (2000a). Languages of legitimation: The structuring significance for intellectual fields of strategic knowledge claims. *British Journal of Sociology of Education*, 21(2), 165–180.
- Maton, K. (2000b). Recovering pedagogic discourse: A Bernsteinian approach to the sociology of educational knowledge. *Linguistics and Education*, 11(1), 79–98.
- Maton, K. (2004). The wrong kind of knower: Education, expansion and the epistemic device. In J. Muller, B. Davies, & A. Morais (Eds.), *Reading Bernstein, researching Bernstein* (pp. 218–231). London: RoutledgeFalmer.
- Maton, K. (2007). Knowledge-knower structures in intellectual and educational fields. In F. Christie & J. R. Martin (Eds.), *Language, knowledge and pedagogy: Functional linguistic and sociological perspectives* (pp. 87–108). London: Continuum.
- Maton, K. (2008a). Grammars of sociology. In *5th Basil Bernstein Symposium* (pp. 1–39). Cardiff.
- Maton, K. (2008b). Habitus. In M. Grenfell (Ed.), *Pierre Bourdieu*. Towbridge: Acumen.
- Maton, K. (2010a). Analysing knowledge claims and practices: Languages of legitimation. In K. Maton & R. Moore (Eds.), *Social realism, knowledge and the sociology of education: Coalitions of the Mind* (pp. 63–84). London: Continuum.
- Maton, K. (2010b). Canons and progress in the arts and humanities: Knowers and gazes. In K. Maton & R. Moore (Eds.), *Social realism, knowledge and the sociology of education: Coalitions of the mind* (pp. 154–197). London: Continuum.
- Maton, K. (2011). Theories and things: The semantics of disciplinarity. In F. Christie & K. Maton (Eds.), *Disciplinarity functional linguistic and sociological perspectives* (pp. 62–84). London.
- Maton, K. (2013). Making semantic waves: A key to cumulative knowledge-building. *Linguistics and Education*, 24(1), 8–22.

- Maton, K. (2014a). Building powerful knowledge: The significance of semantic waves. In E. Rata & B. Barrett (Eds.), *Knowledge and the Future of the Curriculum: International studies in social realism* (pp. 1–15). London: Palgrave Macmillan. Retrieved July 27, 2014, from http://www.karlmarton.com/pdf/2014Maton_RataBarrett.pdf
- Maton, K. (2014b). *Knowledge and knowers: Towards a realist sociology of education*. Oxon: Routledge.
- Maton, K., & Moore, R. (2009). Introduction. In *Social realism, knowledge and the sociology of education: Coalitions of the Mind* (pp. 1–13).
- Maton, K., & Muller, J. (2006). A sociology for the transmission of knowledges (pp. 1–37). Retrieved September 21, 2012, from <http://www.legitimationcodetheory.com/pdf/2006MatonMuller.pdf>
- Maxwell, J. A. (2004). Causal explanation, qualitative research and scientific inquiry in education. *Educational Researcher*, 33(2), 3–11.
- Maxwell, J. A. (2012). *A realist approach for qualitative research*. Thousand Oaks, CA: Sage.
- McDougall, J. (2004). *A study in the sociocultural framing of discourse*. University of Birmingham.
- McGuirk, T. (2009). Making: The paragon of knowledge. In C. Côté-Real, A. Couto, & C. Duarte (Eds.), *Proceedings of the 5th international Conference of UNICOM/IADE “40IADE40.”* Lisbon: Creative University.
- McGuirk, T. (2011). A Nomos for art and design. *Journal of Research Practice*, 7(1).
- McKillop, C. (2006). “StoriesAbout ... Assessment”: *Understanding and enhancing students’ experiences of assessment in art and design higher education using on-line storytelling and visual representations*. Unpublished doctoral thesis. Robert Gordon University.
- Meissa Limited. (2011). Acquisition of connections education takes Global companies education spend to over \$1,800m in 18 months. Retrieved October 26, 2011, from http://www.meissa-limited.com/2011/10/06/acquisition-of-connections-education-takes-_____education-spend-to-over-1500m-in-18-months/
- Melles, G. (2008a). Practice, profession and project in interdisciplinary doctorates of design: new responses. In *GLIDE’08 Conference Proceedings* (Vol. 1, pp. 76–96). New York: Rensselaer Polytechnic Institute.

- Mercer, J. (2007). The challenges of insider research in educational institutions: Wielding a double-edged sword and resolving delicate dilemmas. *Oxford Review of Education*, 33(1), 1–17.
- Moalosi, R., Rapitsenyane, Y., & M'Rithaa, M. K. (2010). An analysis of sustainability issues in Southern African design institutions' programmes. In Fabrizio Ceschin, C. Vezzoli, & J. Zhang (Eds.), *Sustainability in Design: Now!, LeNS Conference* (pp. 812–820). Bangalor.
- Moore, R. (2000). The (re) organisation of knowledge and assessment for a learning society: The constraints on interdisciplinarity. *Studies in Continuing Education*, 22(2), 183–199.
- Moore, R. (2003). Curriculum restructuring in South African higher education: Academic identities and policy implementation. *Studies in Higher Education*, 28(3), 301–319.
- Moore, R., & Muller, J. (2002). The growth of knowledge and the discursive gap. *British Journal of Sociology of Education*, 23(4), 627–637.
- Morgan, C. J. (2011). *In the eye of the beholder? An investigation of student assessment in the creative arts in universities*. Unpublished doctoral thesis. Southern Cross University.
- Morgan, C. J. (2012). Conceptualising creativity in the creative arts: Seeking common ground. *TEXT Special Issue: Creativity: Cognitive, Social and Cultural Perspectives*, (April 2012), 1–17.
- Morrow, W. (2007). *Learning to teach in South Africa*. Cape Town: HSRC Press.
- Muller, J. (2006). Differentiation and progression in the curriculum. In M. Young & J. Gamble (Eds.), *Knowledge Curriculum and Qualifications for South African Further Education* (pp. 66–86). Cape Town: HSRC Press.
- Muller, J. (2008a). *In search of coherence: A conceptual guide to curriculum planning for comprehensive universities*. Cape Town.
- Muller, J. (2008b). Recognition and standing in the disciplines. In *5th Basil Bernstein Symposium* (pp. 1–26). Cardiff.
- Muller, J. (2014). Every picture tells a story: Epistemological access and knowledge. *Education as Change*, 1–15.

- Muller, J., Maassen, P., & Cloete, N. (2006). Modes of governance and the limits of policy. In N. Cloete, P. Maassen, R. Fehnel, T. Moja, H. Perold, & T. Gibbon (Eds.), *Transformation in Higher Education: Global Pressures & Local Realities* (pp. 289–310). Dordrecht: Springer.
- Muller, J., & Young, M. (2013). Disciplines, skills and the university. *Higher Education*, 67(2), 127–140.
- Nel, H. (2007). Enhancing the student experience in merged multi-campus university South Africa. In *Annual Conference of the Society for Research into Higher Education (SRHE)* (pp. 1–7).
- Nelson, H. C., & Stolterman, E. (2012). *The design way: Intentional change in an unpredictable world* (2nd ed.). Cambridge: MIT Press Books.
- Newbury, D. (1996a). Research perspectives in art and design: Introductory essay. Birmingham: University of Central England.
- Newbury, D. (1996b). Viewpoint knowledge and research in art and design. *Design Studies*, 17, 215–219.
- Niedderer, K. (2007). Mapping the meaning of knowledge in design research. *Design Quarterly*, 2(2), 5–14.
- Niedderer, K. (2008). Reviewing the understanding and use of experiential knowledge in research, (January), 1–16.
- Niedderer, K. (2009). Relating the production of artefacts and the production of knowledge in research. In N. Nimkulrat & T. O’Riley (Eds.), *Reflections and connections: On the relationship between creative production and academic research* (pp. 59–68). Helsinki: University of Art and Design Helsinki.
- Niedderer, K. (2013). Explorative materiality and knowledge: The role of creative exploration and artefacts in design research. *FORMakademisk*, 6(2), 1–20. Retrieved May 20, 2014, from <https://journals.hioa.no/index.php/formakademisk/article/view/651/613>
- Niedderer, K., & Reilly, L. (2007). New knowledge in the creative disciplines – proceedings of the first Experiential Knowledge Conference 2007. *Journal of Visual Art Practice*, 6(2), 81–87.
- Niedderer, K., & Roworth-Stokes, S. (2007). The role and use of creative practice in research and its contribution to knowledge. In *Proceedings of the IASDR International Conference 2007 ...* (pp. 1–18). Hong Kong: Hong Kong Polytechnic University.

- Niedderer, K., & Townsend, K. (2014). Craft Research: Joining emotion and knowledge. *Design Journal*, 17(4).
- Nimkulrat, N. (2012). Situating creative artefacts in art and design research. In *Making: An international conference on materiality and knowledge* (pp. 1–16). Notodden.
- O'Donovan, B., Price, M., & Rust, C. (2008). Developing student understanding of assessment standards: A nested hierarchy of approaches. *Teaching in Higher Education*, 13(2), 205–217.
- Oak, A. (2000). It's a nice idea, but it's not actually real: Assessing the objects and activities of design. *Journal of Art & Design Education*, 19(1), 86–95.
- Ogude, N., Nel, H., & Oosthuizen, M. (2005). *The challenge of curriculum responsiveness in South African higher education*. Retrieved December 6, 2013, from http://www.che.ac.za/sites/default/files/publications/d000132_Ogude-et-al_Curriculum_responsiveness_SA_HE.pdf
- Orr, S. (1999). Transparent opacity: Assessment in the inclusive academy. In *Improving Student Learning: Diversity and Inclusivity* (pp. 175–187).
- Orr, S. (2007). Assessment moderation: Constructing the marks and constructing the students. *Assessment & Evaluation in Higher Education*, 32(6), 645–656.
- Orr, S. (2010a). Artfully assessing artwork in art and design. Faculty of Arts, York St. John University: The Higher Education Academy.
- Orr, S. (2010b). Collaborating or fighting for the marks? Students' experiences of group work assessment in the creative arts. *Assessment & Evaluation in Higher Education*, 35(3), 301–313.
- Orr, S. (2010c). Making marks: Assessment practices in art and design. *ADM-HEA*, 10, 1–8.
- Orr, S. (2011). "Being an artist you kind of, I mean, you get used to excellence": Identity, values and fine art assessment practices. *International Journal of Art & Design Education*, 30(1), 37–44.
- Orr, S., & Bloxham, S. (2012). Making judgements about students making work: Lecturers' assessment practices in art and design. *Arts and Humanities in Higher Education*, 12(2-3), 234–253.
- Outhwaite, W. (1999). Realism and social science. In M. Archer, R. Bhaskar, A. Collier, T. Lawson and A. Norrie (Eds.), *Critical realism essential readings* (pp. 282–296). London: Routledge.

- Oxford University Press. (2013). Oxford Dictionary.
- Oxman, R. (1999). Educating the designerly thinker. *Design Studies*, 20, 105–122.
- Payne, J. (1999, March 17). SMC gives assistance to S. African university. *Santa Monica College Weekly*, p. 1. Retrieved January 24, 2014, from <http://cbsrdb3.ucr.edu/cgi-bin/cdnc?a=d&d=CRS19990317.2.2#>
- Peacock, M. (1999). Explaining theory choices: An assessment of the critical realist contribution to explanation.
- Percy, C. (2004). Critical absence versus critical engagement: problematics of the crit in design learning and teaching. *Art, Design & Communication in Higher Education Journal*, 2(3), 143–154.
- Polanyi, M. (1958). *Personal knowledge: Towards a post-critical philosophy*. London: Routledge.
- Polanyi, M. (1966). *The tacit dimension* (1st ed.). New York: Doubleday & Company, Inc.
- Popovic, V. (2004). Expertise development in product design—strategic and domain-specific knowledge connections. *Design Studies*, 25(5), 527–545.
- Popovic, V. (2007). Transition from object to activity: Product design knowledge models. In *International Association of Societies of Design Research 2007: Emerging Trends in Design Research*. Hong Kong: The Hong Kong Polytechnic University.
- Poslusna, I., & Urbaskova, H. (2014). Sustainable development in architectural education. *European Scientific Journal, Special ed.*
- Power, N. (2011). Design as research, research as design: Extending the boundaries of research through cultural production. In *South East Asia Technical University Consortium (SEATUC)*. Vietnam. Retrieved March 22, 2014, from http://www.arch.kmutt.ac.th/research/inter_Conference/2011/3.Design_as_Research.pdf
- Prentice, R. (2000). The place of practical knowledge in research in art and design education. *Teaching in Higher Education*, 5(4), 521–534.
- Price, L. (2007). Two concepts from critical realism that can help us in our research: Transfactuality and the concrete universal/concrete singular. In *PhD Week, Education Department, Rhodes University* (pp. 1–6). Grahamstown: Education Department Rhodes University.

- Price, M. (2005). Assessment standards: The role of communities of practice and the scholarship of assessment. *Assessment & Evaluation in Higher Education*, 30(3), 215–230.
- Price, M., Carroll, J., Donovan, B. O., & Rust, C. (2011). If I was going there I wouldn't start from here: A critical commentary on current assessment practice. *Assessment & Evaluation in Higher Education*, 36(4), 479–492.
- Quinn, L. (2006). *A social realist account of the emergence of a formal academic staff development programme at a South African university*. Unpublished doctoral thesis, Rhodes University. Grahamstown.
- Reid, A., & Solomonides, I. (2007). Design students' experience of engagement and creativity. *Art Design & Communication in Higher Education*, 6(1), 27–39.
- Reyman, I. M. M. J., Hammer, D. K., Kroes, P. A., Aken, J. E. van, Dorst, C. H., Bax, M. F. T., & Basten, T. (2006). A domain-independent descriptive design model and its application to structured reflection on design processes. *Research In Engineering Design*, 16, 147–173.
- Rowe, G. (2007). Successful learning through assessment design. In *FLUX: Design Education in a Changing World DEFSA International Design Education Conference 2007*. DEFSA. Cape Town.
- RSA DoE (Republic of South Africa South Africa, Department of Education) (1997). *A programme for the transformation of Higher Education (White paper 3)* (Government Gazette No.18207), Pretoria.
- RSA (Republic of South Africa) (2013). Publication of the General and Further Education and Training Qualifications Sub-framework and Higher Education Qualifications Sub- Framework of the National Qualifications Framework. (Government Notice No.578 of 2013). *Government Gazette* 36721, August 2013.
- Rust, C. (2007). Towards a scholarship of assessment. *Assessment & Evaluation in Higher Education*, 32(2), 229–237.
- Rust, C., Price, M., Donovan, B. O., & Brookes, O. (2003). Improving students' learning by developing their understanding of assessment criteria. *Assessment & Evaluation in Higher Education*, 28(2), 147–164.
- SA Study. (2015). PISA registration is still open for 2015! Retrieved July 22, 2015, from <http://sastudy.co.za/article/-----registration-is-still-open-for-2015/>
- Sappi. (2015). Sappi ideas that matter. Retrieved July 22, 2015, from <http://www.na.sappi.com/ideasthatmatterNA/learn.html>

- Sauthoff, M. (2004). Walking the tightrope: Comments on graphic design in South Africa. *Design Issues*, 20(2), 34–50.
- Savic, S., & Huang, J. (2014). Research through design: What does it mean for a design artefact to be developed in the scientific context? *In A Matter of Design: Making Society through Science and Technology* (pp. 12–14). Milan.
- Sayer, A. (2010). *Method in social science: A realist approach*. (2nd ed.). London: Taylor & Francis.
- Schön, D. A. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
- Schwarte, A. (2011). The rapid expansion of environmental sustainability in Graphic Design in the United States in the late Twentieth Century: A decade of change from the ground up. In *Design History Society Annual Conference 2011* (pp. 1–18). Barcelona.
- Scott, D. (2005). Critical realism and empirical research methods in education. *Journal of Philosophy of Education*, 39(4), 633–646.
- Scott, D. (2010). *Education, epistemology and critical realism*. London: Routledge.
- Scrivener, S. (2002). The art object does not embody a form of knowledge. *Working Papers in Art and Design*, 2, 1–12.
- Scrivener, S. (2009). The roles of art and design process and object in research. In N. Nimkulrat & T. O'Riley (Eds.), *Reflections and connections: On the relationship between creative production and academic research* (pp. 69–81). Helsinki: University of Art and Design Helsinki.
- Seale, C. (1999). Quality in qualitative research. *Qualitative Inquiry*, 5(4), 465–478.
- Seale, C. (2002). Quality issues in qualitative inquiry. *Qualitative Social Work*, 1(1), 97–110.
- Sehoole, C. T. (2004). Trade in educational services: Reflections on the African and South African higher education system. *Journal of Studies in International Education*, 8(3), 297–316.
- Sehoole, C. T. (2012). A decade of regulating private higher education in South Africa. *International Higher Education*, (66), 19–20.
- Sevaldson, B. (2010). Discussions and movements in design research: A systems approach to practice research in design. *FORMakerdisk*, 3(1), 8–35.

- Shalem, Y., & Slonimsky, L. (2010). Seeing epistemic order: Construction and transmission of evaluative criteria. *British Journal of Sociology of Education*, 31(6), 755–778.
- Shay, S. (2005). The assessment of complex tasks: A double reading. *Studies in Higher Education*, 30(6), 663–679.
- Shay, S. (2008a). Assessment at the boundaries: Service learning as case study. *British Educational Research Journal*, 34(4), 525–540.
- Shay, S. (2008b). Beyond social constructivist perspectives on assessment: The centring of knowledge. *Teaching in Higher Education*, 13(5), 595–605.
- Shay, S. (2012). Conceptualizing curriculum differentiation in higher education: A sociology of knowledge point of view. *British Journal of Sociology of Education*, 1–20.
- Shay, S., & Steyn, D. (2016). Enabling knowledge progression in vocational curricula: Design as a case study. In K. Maton, K. Hood, & S. Shay (Eds.), *Knowledge-building: Educational Studies in Legitimation Code Theory* (Kindle ed.). Routledge.
- Shreeve, A. (2007). Learning development and study support – an embedded approach through communities of practice. *Higher Education*, 6(1), 11–25.
- Shreeve, A. (2009). “I’d rather be seen as a practitioner, come in to teach my subject’: Identity work in part-time art and design tutors. *Journal of Art & Design Education*, 28(2), 151–159.
- Shreeve, A., Wareing, S., & Drew, L. (2008). Key aspects of teaching and learning in the visual arts. In H. Fry, S. Ketteridge, & S. Marshall (Eds.), *A Handbook for Learning and Teaching in Higher Education* (3rd ed.). London: KoganPage.
- Sims, E., & Shreeve, A. (2006). *Evaluating practice-based learning and teaching in art and design*. London: University of the Arts London.
- Smart, J., & Dixon, S. (2002). The discourse of assessment: Language and value in the assessment of group practice in the performing arts. *Arts and Humanities in Higher Education*, 1, 185–204.
- Smith, K. M. (2013). Assessment as a barrier in developing design expertise: Interior design student perceptions of meanings and sources of grades. *Journal of Art and Design Education*, 2(2013), 203–214.

- Souleles, N. (2006). Learning and assessment: Staff conceptions of final projects for an undergraduate multimedia design degree. In W. Hansmann & J. Brown (Eds.), *Eurographics*.
- Souleles, N. (2013). The evolution of art and design pedagogies in England: Influences of the past, challenges for the future. *Journal of Art & Design Education*, 32(2), 243–255.
- Sousa, F. J. (2010). Metatheories in research positivism, postmodernism, and critical realism. In *Advances in Business Marketing and Purchasing* (Vol. 16, pp. 455–503). Emerald Group Publishing Limited.
- South African Qualifications Authority (SAQA). (2001). Criteria and guidelines for assessment of NQF registered unit standards and qualifications. SAQA. Retrieved February 3, 2013, from <http://www.saqa.org.za/docs/guide/2001/assessment.pdf>
- South African Qualifications Authority (SAQA). (2004). Review and evaluation: Quality management processes. In *Criteria and Guidelines for the Implementation of the Recognition of Prior Learning* (pp. 71–80). Pretoria: SAQA.
- South African Qualifications Authority (SAQA). (2012). *Level descriptors for the South African National Qualifications Framework*. Pretoria: SAQA.
- Stake, R. E. (1994). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*. Sage.
- Steyn, D. (2012). *Conceptualising design knowledge and its recontextualisation in the studio work component of a design foundation curriculum*. Unpublished master's thesis, University of Cape Town, Cape Town.
- Stolterman, E. (2008). The nature of design practice and implications for interaction design research. *International Journal of Design*, 2(1), 55–56.
- Sunley, P., Pinch, S., & Reimer, S. (2011). Design capital: Practice and situated learning in London design agencies. *Transactions of the Institute of British Geographers*, 36(3), 377–392.
- Thompson, R. (2009). Creativity, knowledge and curriculum in Further Education: A Bernsteinian perspective. *British Journal of Educational Studies*, 57(1), 37–54.
- Triggs, T. (2011). The future of design education - graphic design and critical practices: Informing curricula. In *ICOGRADA Design education manifesto 2011* (pp. 1–3). International Council of Graphic Design Associations.

- Trowler, P. (2011). Researching your own institution: Higher education. British Educational Research Association online resource. Retrieved February 12, 2013, from <https://www.bera.ac.uk/wp-content/uploads/2014/03/Researching-your-own-institution-Higher-Education.pdf?noredirect=1>
- Trowler, P. (2013). Can approaches to research in Art and Design be beneficially adapted for research into higher education? *Higher Education Research & Development*, 32(1).
- Walker, A., & Barfield, R. (2006). Assessment in art and design: Findings of the Scottish enhancement theme on assessment from an art school perspective, with examples from a joint programme in China. In *Enhancement in art, design and media in Scotland* (pp. 1–12). Dundee. Retrieved July 16, 2011, from <http://www.adm.heacademy.ac.uk/events/enhancement-in-art-design-and-media-in-scotland>
- Wallace, M., Yeo, S., Briguglio, C., Sanderson, G., Parvinder, H.-S., & Thuraingsam, T. (2008). *Moderation of Assessment in Transnational Higher Education*.
- Walters, S., & Isaacs, S. (2009). National qualifications frameworks: Insights from South Africa. In *The European Qualifications Framework linking to a globalized world* (Vol. 9, pp. 1–33). Brussels.
- Wang, D., & Ilhan, A. O. (2009). Holding creativity together: A sociological theory of the design professions. *Design Issues*, 25(1), 5–21.
- Wangenge-Ouma, G. (2012a). Improvements in access, but participation rates still a problem. In J.H. Hofmeyr (Ed.), *The Youth Dividend: Unlocking the Potential of Young South Africans* (Jan H. Hof, pp. 63–67). Cape Town: Institute for Justice and Reconciliation.
- Wangenge-Ouma, G. (2012b). Tuition fees and the challenge of making higher education a popular commodity in South Africa. *Higher Education*, 64, 831–844.
- Watson, D., & Robbins, J. (2008). Closing the chasm: Reconciling contemporary understandings of learning with the need to formally assess and accredit learners through the assessment of performance. *Research Papers in Education*, 23(3), 315–331.
- Webster, H. (2006). Power, freedom and resistance: Excavating the design jury. *International Journal of Art & Design Education*, 25(3), 286–296.
- Webster, H. (2007). The analytics of power re-presenting the design jury. *Journal of Architectural Education*, 21–27.

- Webster, H. (2010). A Foucauldian look at the design jury. *Art, Design & Communication in Higher Education*, 5(1), 5–19.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York: Cambridge University Press.
- Wheelahan, L. (2005). Theorising the relationship between the individual, knowledge and skill. In *Emerging Futures - Recent, Responsive & Relevant Research, 8th Annual AVETRA Conference*. Brisbane.
- Wheelahan, L. (2007). How competency based training locks the working class out of powerful knowledge: A modified Bernsteinian analysis. *British Journal of Sociology of Education*, 28(5), 637–651.
- Wheelahan, L. (2008). An analysis of the structure of curriculum in vocational qualifications in Australian tertiary education. In *The Fifth Basil Bernstein Symposium* (pp. 1–25). Cardiff.
- Wheelahan, L. (2010). The role of the disciplines in curriculum: A critical realist analysis. In *Why Knowledge Matters in Curriculum: A social realist argument*. Oxon: Routledge.
- Wheelahan, L. (2014). Babies and bathwater: Revaluing the role of the academy in knowledge. In P. Gibbs & R. Barnett (Eds.), *Thinking about Higher Education* (pp. 125–138). Heidelberg: Springer.
- Wilkins, S., & Huisman, J. (2012). The international branch campus as transnational strategy in higher education. *Higher Education*, 64(5), 627–645.
- Winters, T. (2011). Facilitating meta-learning in art and design education. *International Journal of Art & Design Education*, 30(1), 90–101.
- Wolfe, E. W. (2006). Uncovering rater's cognitive processing and focus using think-aloud protocols. *Journal of Writing Assessment*, 2(1), 37–56.
- Wolff, K., & Hoffman, F. (2014). "Knowledge and knowers" in Engineering assessment. *Cristal*, 2(1), 74–95.
- Wolmarans, N. (2013). Engineering Design, why is it so difficult to teach and to learn? In *Proceedings of the 2nd Biennial Conference of the South African Society for Engineering Education* (pp. 219–228). Cape Town.
- Wynn, D., & Williams, C. K. (2012). Principles for conducting critical realist case study research in information systems. *MIS Quarterly*, 36(3), 787–810.

- Yin, R. K. (2009). *Case Study Research Design and Methods* (4th ed.). Thousand Oaks, CA: SAGE.
- Yorke, M. (2011). Summative assessment: Dealing with the “measurement fallacy.” *Studies in Higher Education*, 36(3), 251–273.
- Young, M. (2006a). Conceptualising vocational knowledge: Some theoretical considerations. In M. Young & J. Gamble (Eds.), *Knowledge Curriculum and Qualifications for South African Further Education* (pp. 104–124). Cape Town: HSRC Press.
- Young, M. (2006b). Reforming the Further Education and Training curriculum: An international perspective. In M. Young & J. Gamble (Eds.), *Knowledge Curriculum and Qualifications for South African Further Education*. Cape Town: HSRC Press.
- Young, M., & Muller, J. (2010). Three educational scenarios for the future: Lessons from the sociology of knowledge. *European Journal of Education*, 45(1).
- Zehner, R., Forsyth, G., Harpe, B. De, Peterson, F., Musgrave, E., Neale, D., ... Watson, K. (2010). Optimising studio outcomes: Guidelines for curriculum development from the Australian studio teaching project. In *Connected 2010-2nd International Conference on Design Education* (pp. 1–5). Sydney: The University of New South Wales.

Appendix A Online survey questions

Graphic Design Survey
Sue Giloi
Data for PhD in Higher

Thank you for agreeing to take part in this survey

The objective of this survey is to establish which knowledge and knower characteristics are valued in the Graphic Design field.

The questions relate to the characteristics of a successful professional Graphic Design practitioner.

Please rank each category in terms of importance.

All responses are anonymous unless you wish to add your name and details on the last page.

All questions require a response, except those on the last page.

Thank you for taking part in the research.

*** 1. I have been informed about the aims of this survey and am willing to participate.**

Yes

No

Survey Questions A

The objective of this survey is to establish which knowledge and knower characteristics are valued in the Graphic Design field.
The questions relate to the characteristics of a successful professional Graphic Design practitioner.
Please rank each category in terms of importance.

*** 2. Written communication skills.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 3. Ability to integrate research, concept and process seamlessly into a final design product.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 4. Intuitively know how to make the best design choices.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 5. Ability to contextualise their work within design history.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 6. Be gifted with natural born talent.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 7. Have hand-eye skills for crafting design products.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 8. Take risks when designing.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 9. Ability to justify their own design process and decisions.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 10. Surround themselves with well-designed product.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 11. Be highly educate.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey Questions B

The objective of this survey is to establish which knowledge and knower characteristics are valued in the Graphic Design field.
The questions relate to the characteristics of a successful professional Graphic Design practitioner.
Please rank each category in terms of importance.

*** 12. Have technical skills.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 13. Ability to make ethical and moral choices when creating design products.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 14. Ability to work for extended periods of time.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 15. Be in touch with current design trends.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 16. Ability to visualise the final product.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 17. Be passionate about design.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 18. Take calculated risks and make strategic decisions when designing.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 19. Be knowledgeable about design history.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 20. Have an extensive network of fellow designers.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 21. Design, layout and typography skills.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Graphic Design Survey
Sue Giloi
Data for PhD in Higher

Survey Questions C

The objective of this survey is to establish which knowledge and knower characteristics are valued in the Graphic Design field.
The questions relate to the characteristics of a successful professional Graphic Design practitioner.
Please rank each category in terms of importance.

*** 22. Read published research and journal articles about design.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 23. Time management skills.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 24. Ability to distinguish between good or bad design.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 25. Love all forms of good design.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 26. Ability to explain their own design process.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 27. Be artistic.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 28. General knowledge.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 29. Look and dress like a designer.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 30. Problem solving skills.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 31. Ability to work in a number of different media.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***32. Ability to analyse design case studies.**

Not important

Somewhat important

Important

Very important

Survey Questions D

The objective of this survey is to establish which knowledge and knower characteristics are valued in the Graphic Design field.
The questions relate to the characteristics of a successful professional Graphic Design practitioner.
Please rank each category in terms of importance.

***33. Be methodical.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***34. Ability to talk about design in a knowledgeable way.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***35. Have an eye for design.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***36. Ability to work hard.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***37. Knowledge of other disciplines.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***38. Be creative.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***39. Possess business skills.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***40. Have a distinctive personal style.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***41. Possess aesthetic skills.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***42. Present ideas and concepts convincingly.**

Not important	Somewhat important	Important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***43. Ability to conduct academic research.**

Not important

Somewhat important

Important

Very important

Personal information (not compulsory questions) Final page

This information will only be viewed by the researcher.
Please complete any of the following questions in this section. No names will be used in the final document or published research.

Or

Skip to the send survey button.

Thank you for participating.

44. Personal Information

Name	<input type="text"/>
Age	<input type="text"/>
Sex	<input type="text"/>
Highest qualification (eg. Diploma, Honours Degree, PhD)	<input type="text"/>
Qualification field (eg. Graphic Design, Fine Art, Multimedia)	<input type="text"/>
Years spent in higher education	<input type="text"/>
Years spent in industry	<input type="text"/>
Years spent at MGI	<input type="text"/>
Employed full time or part time at MGI	<input type="text"/>
Campus	<input type="text"/>

Appendix B PISA marking rubric

Module code: ACGD100 Brief name and number: Brief 1: Thank you for not smoking

Name of candidate:	Student Number:
Name of Assessor:	Telephone Number:
Date of Assessment:	Date of Moderation:

Performance Measurement

The following measurement will be used to assess the criteria met:

1 not achieved 2 not quite achieved 3 just achieved 4 well achieved

NOTE: Assign a '0' for non-submission

Criteria	Weighting	1	2	3	4	Total
Research and Resources	2					
Thinking	3					
Design Solutions	2					
Technical	2					
Professional/Personal	1					
Points						

Point Range	0 - 9	10 - 19	20 - 24	25 - 29	30 - 34	35 - 40
Percentage Range	0 - 39 %	40 - 49 %	50 - 55 %	56 - 64 %	65 - 74 %	75 - 100%
Final Mark						

COMMENTS

In order for a student to be rated competent for this assignment, the student must obtain an average of 50%.

The following signatures serve as proof that the student has received the assignment back after marking. This document is only signed once the assignment has been handed back to the student.

Student's signature:.....

Lecturer's signature:.....Date:.....

Graphic Design Practical Work: Marking Rubric

The intended outcomes of the brief should be addressed in the following criteria:

➤ **Research and Resources:**

Research is about knowledge acquisition. Students are required to collect references and resources and to research strategically and comprehensively from diverse and relevant sources. This includes the collection of references and resources from historical and contemporary archives, images and photography. Students can also use their own sketches as a resource. Additionally, students can gather information from target markets, conduct and/or analyse feasibility studies, user studies, market relevance, and from analysing similar products or services, clients' needs and positions.

Students must document their process meticulously, provide commentary on their research and referencing, and objectively communicate the rationale behind their selections and choices.

➤ **Thinking:**

Thinking involves interpreting and applying research and resource findings. It also involves creating relevant conclusions, motivations and justifications related to such information.

Creative thinking is the capacity to synthesise (combine) existing ideas, images, or expertise in original ways. The practice of thinking, reacting, and working in an imaginative way is characterised by a high degree of innovative, divergent thinking, experimentation and risk-taking.

Analytical thinking involves unpacking the information gathered into its constituent parts.

Critical thinking requires strategic questioning, recognising patterns, considering various perspectives and making value judgements that can be applied to your concepts and design solutions.

Problem solving is the mental process of overcoming obstacles through discovery and analysis to find a solution that best resolves all the issues at hand. Problem solving begins with problem finding through the use of creative and critical thinking. Students should develop concepts through reflection, independent thought and strategic development through sketches, documentation, and refinement to completion.

➤ **Design Solutions:**

This is the successful application of the concept through the design solution. The relationship between the concept and design solution should be consistent and accurate.

How well the piece is composed and applies the design principles, is relevant to:

- Emphasis; hierarchy; unity; contrast; balance; shape

And when appropriate, is relevant to the use of the following:

- type; shape; image; format; value; colour

At its highest level, the design solution should exceed the parameters of the brief by demonstrating originality and innovation.

➤ **Technical:**

This is the measurement of the students' skills in the application of the design solution in any medium: whether it be writing, hand or software skills. As students progress in the module, the level of technical proficiency and accuracy is expected to rise. This includes the use of different techniques and production methods that are defined by the brief requirements.

This includes the naming and organisation of electronic files and documents.

➤ **Professional/Personal:**

This assesses the students' work ethic. Professionalism deals with the students' ability to manage their time successfully; attend lectures and meet all milestones and due dates; submit work in all required formats (hard copy and/or electronic); and comply with academic and industry standards appropriate to their level of studies.

Students are expected to work effectively and professionally within a team if required by the brief, as well as during class with peers.

This includes the extent of a student's engagement and personal investment, participation, attitude, passion and commitment, interest, strengths and weaknesses.

Final pieces should be completed, resolved and polished. Final presentation (oral, written, product) should be judged by the student's ability to persuasively communicate rationale and process and justify design solutions and choices in a professional manner.

Appendix C Table of all recorded data

Source of data	Form and modules	Purpose	Duration
Pilot observation of external moderation Campus MS (summative session)	Video and audio recording of assessment ACGD100, ACGD200 and ACWD300	Identify the knowledge-knower structure valued by external moderators	148 minutes
Pilot interview with two external moderators Campus MS	Audio recording	Not used in the analysis	34 and 27 minutes
Pilot interview with two external moderators Campus KL	Audio recording	Not used in the analysis	26 minutes
Observation of external moderation Campus MS (summative session)	Video and audio recording of assessment ACGD300	Identify the knowledge-knower structure valued by external moderators	36 minutes
Observation of mid year external moderation Campus KL (formative session)	Video and audio recording of assessment ACGD300 and ACWD300	Identify the knowledge-knower structure valued by external moderators	76 minutes
Observation of external moderation Campus SR (summative session)	Video and audio recording of assessment ACGD100, ACGD300 and ACWD300	Identify the knowledge-knower structure valued by external moderators	180 minutes
Observation of internal formative marking Campus MS	Video and audio recording of ACGD100	Identify the knowledge-knower structure valued by internal assessors at formative stage	77 minutes
Observation of internal formative marking Campus MS	Video and audio recording of ACGD200 and ACWD300	Identify the knowledge-knower structure valued by internal assessors at formative stage	128 minutes
Observation of internal formative marking Campus KL	Video and audio recording of ACGD200 and ACG300	Identify the knowledge-knower structure valued by internal assessors at formative stage	43 minutes
Observation of internal formative marking Campus CF	Video and audio recording of ACGD200 and ACG300	Identify the knowledge-knower structure valued by internal assessors at formative stage	25 minutes
Interview of focus group Campus MS	Video recording	Member check and feedback of findings	78 minutes

Appendix D ER and SR coded themes in NVivo

Nodes

Name	Sources	References	Created On
ER-	21	2256	2014/12/22 09:07 AM
General knowledge	20	321	2014/11/30 06:30 PM
Industry or real world relevant	21	559	2014/11/22 12:16 PM
Social responsibility	7	34	2014/11/30 06:22 PM
Technique	21	1376	2014/08/30 10:47 AM
ER+	22	566	2014/12/22 09:10 AM
Brief must be followed	20	247	2014/08/30 11:45 AM
Design theory	21	319	2014/11/22 12:15 PM
Following assessment procedures	15	284	2014/12/22 02:39 PM
SR-	19	216	2014/12/22 09:19 AM
Lecturer chooses	19	198	2014/08/30 11:44 AM
Student lecturer collaborate	5	18	2014/08/31 10:25 AM
SR+	21	4496	2014/12/22 09:09 AM
Comparison to peers, own previous work, level	20	174	2014/11/29 02:15 PM
Concept	20	706	2014/08/30 12:01 PM
Creative	5	21	2014/11/22 12:10 PM
Thinking	5	38	2014/11/22 12:14 PM
History & Iconic	20	156	2014/11/22 12:18 PM
Integrate	20	437	2014/08/30 12:07 PM
Look & Feel	21	1007	2014/08/30 10:55 AM
Monitor own learning	6	23	2014/11/30 05:25 PM
Process	20	540	2014/08/30 12:10 PM
Professionalism	20	357	2014/11/22 12:15 PM
Conclusions drawn about the student	20	275	2014/08/30 12:46 PM
Student chooses	20	193	2014/08/30 11:44 AM
Student communicates effectively or not	19	369	2014/11/22 01:00 PM
Student independant	20	154	2014/08/31 10:25 AM
Student judgement, problem solving	21	380	2014/11/22 12:29 PM

Appendix E Example of coded theme

2015/02/02 12:32 PM

Name	Name	Coded Text
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	they should be able to apply their general knowledge of design techniques as well as creative and conceptualising skills to make better decisions when designing for different contexts
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	This brief will challenge the student to conduct in-depth research on a particular topic, synthesise the information and develop a visually-aesthetic infographic that will make the information more easily understood and visually appealing.
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Typographic, production and broadcast specifications must be included in all submissions. This must be reflected in or reflective of your detailed treatment of text matter
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Understand and appreciate the fundamentals of design and how they can be applied practically
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Using the story and characters created, students should rework content and illustrate and layout a short story book or graphic novel using one of the titles provided.
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Visual communication
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Visual communication.
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Visual communication.
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Visually presenting information using various multimedia applications
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Work on further development and execution of design solutions, explore with typography and various styles and techniques
Look & Feel	ACGD300 _Graphic Design Studio III_V2_Study Guide 2014	Work on packaging and poster solutions.
Look & Feel	ACGD300 External MS November 2014	It's just when it comes to copy she gets a mind block except like here she has some really, really cool elements, it's just a problem I don't think it reads like an infogram
Look & Feel	ACGD300 External MS November 2014	so how this opens, obviously this you pulled it out, ok don't fall apart now
		Thsepo Wow this is complicated stuff
		Yassin Extensive
Look & Feel	ACGD300 External MS November 2014	So what they thought or what they came up with was a walk, these are some of the elements I guess promotional elements like t-shirts, maybe like a key ring and after completing the walk you get like a medal with a person I guess, some rewards of some sort
Look & Feel	ACGD300 External MS November 2014	they don't know how to choose type, they don't know how to match type with what they are trying to create visually you know I think they like doing the theory and stuff that they do in 1st year with like drawing type and all the bits and pieces and the components of type face, but how do they actually match a type face, that's
Look & Feel	ACGD300 External MS November 2014	, I'm not sure it's a great, it's not really nicely laid out you

Name	Name	Coded Text
Look & Feel	ACGD300 External MS November 2014	, they just simply choose one they think looks nice and it doesn't always work, it's the same audio as well
Look & Feel	ACGD300 External MS November 2014	But there's a lot of cool things happening here you know. I mean there's little things, this kind of stuff you know where like placement can be worked on, but this is really cool. What a nice idea
Look & Feel	ACGD300 External MS November 2014	Ja that's a bit of a let-down hey. OK packaging is interesting, but I think it would have been nice if they maybe considered the material cause it's cardboard I mean I understand but they can't print stuff out, but I think
Look & Feel	ACGD300 External MS November 2014	Now you see she get's the infographic here, like this, ja, it's challenging, it's a visual representation of data, it can be a challenge. It should be, ok so heres the one.
Look & Feel	ACGD300 External MS November 2014	OK those are nice I really like the little icons and I like that he's sort of you know incorporated something into it. That's really nice, it's actually quite lekker. So his copy's quite cool, sorry context.
Look & Feel	ACGD300 External MS November 2014	so they had to use type creatively
Look & Feel	ACGD300 External MS November 2014	So they wanted to promote the really connecting with people that you know and in this campaign as you can see selfies, basic selfies and then all this person is gone
Look & Feel	ACGD300 External MS November 2014	That one there I think is extremely successful
		Yassin Mmmmm
		Thsepo I really do think so, I think you get the point, I like sort of and there's ja, the bold at first and I don't know, there's sort of a cool flow about the whole thing. Ya its nicely packaged, you've got these nice packages of information which I think is important
Look & Feel	ACGD300 External MS November 2014	Their choice and use of type isn't great but the oil packaging isn't bad, infographics that's pretty cool, you kinda get the idea. Ja I mean there's nice little icons and things here and they kinda get the message across
Look & Feel	ACGD300 External MS November 2014	This is her interpretation of the book brief. Lovely illustrations, layout is a bit questionable
Look & Feel	ACGD300 External MS November 2014	This one I think there's a lot of stuff, she starts with one idea and kind of ends with something else
Look & Feel	ACGD300 External MS November 2014	This one's actually lekker, this one's you can see there's more of a story in this one so it tells you there's sort of flow and kinda lead you on from one thing.
Look & Feel	ACGD300 External MS November 2014	Yassin Do you think maybe it's a colour choice here?
		Thsepo It might be, maybe the dark background cause you kinda lose a few things like. I think the glossy paper's not helping either

Name	Name	Coded Text
Look & Feel	ACGD300 External MS November 2014	Yassin Mmm and there it could have been like integrated the illustrations Thsepo It's very chunky, the paragraph. Ja exactly. And there's a lot of room for that
Look & Feel	ACGD300 External MS November 2014	Yassin Mmmm. Or rather they can't make a connection between typography and images and how to bring them all together creatively.
Look & Feel	ACGD300 External MS November 2014	Yassin Or there's not visual clues as to how to read it. We have these
Look & Feel	ACGD300 External MS November 2014	Yassin What she chose to go for was a manifesto, so you can say steer yourself in any direction so how you read it is really up to you
Look & Feel	ACGD300 External MS November 2014	Yassin Yeah she had a lovely idea it's just obviously execution was a bit of a tragedy
Look & Feel	ACGD300 External MS November 2014	Yassiin That is just too big, the layout think about it, this, even the style yes it's very documentary, but it can be more stylized yes
Look & Feel	ACGD300 External MS November 2014	Visually that's actually better, these little lines are a bit Yassin Better than the white
Look & Feel	ACGD300 External MS November 2014	Thsepo The white block is too distracting Thsepo And ISTD the whole thing is about typographic layout, these are nice little illustrations, but things are missing here and there's no Yassin There's no visual hierarchy
Look & Feel	ACGD300 External MS November 2014	Thsepo This is and like the way the type is actually laid out here, I mean you kinda look at it and you go it reads badly. I think they tried to shove it into that space and it just doesn't work. Thsepo Are these little, are these things hers? Yassin Ja her own illustrations. Illustration wise she's very
Look & Feel	ACGD300 External MS November 2014	Thsepo Ja Yassin On point
Look & Feel	ACGD300 External MS November 2014	Thsepo Because these things, I mean this, these things are just not considered. I like the concept of it, it's much stronger, I like the idea.

Appendix F Survey data frequencies and descriptives

Statistics									
	N		Mean	Median	Mode	Std. Deviation	Minimum	Maximum	
	Valid	Missing							
Q8_ERneg Possess business skills	29	0	1.72	2.00	2	.649	0	3	
Q7_ERneg Knowledge of other disciplines	29	0	2.00	2.00	2	.598	1	3	
Q2_ERneg Have technical skills	29	0	2.03	2.00	2	.626	1	3	
Q6_ERneg Ability to work in a number of different media	29	0	2.03	2.00	2	.731	1	3	
Q4_ERneg General knowledge	29	0	2.21	2.00	2	.559	1	3	
Q3_ERneg Take calculated risks and make strategic decisions when designing	29	0	2.28	2.00	2	.649	1	3	
Q5_ERneg Problem solving skills	29	0	2.52	3.00	3	.509	2	3	
Q9_ERneg Written communication skills	29	0	2.52	3.00	3	.634	1	3	
Q1_ERneg Ability to justify their own design process and decisions	29	0	2.55	3.00	3	.506	2	3	
Q19_ERpos Ability to conduct academic research	29	0	1.59	2.00	1	.907	0	3	
Q11_ERpos Be highly educate	29	0	1.69	2.00	1	.761	1	3	
Q14_ERpos Read published research and journal articles about design	29	0	1.69	2.00	2	.761	0	3	
Q16_ERpos Ability to analyse design case studies	29	0	1.72	2.00	2	.922	0	3	
Q17_ERpos Be methodical	29	0	1.72	2.00	2	.797	0	3	
Q10_ERpos Ability to contextualise their work within design history	29	0	1.86	2.00	2	.833	0	3	
Q18_ERpos Ability to talk about design in a knowledgeable way	29	0	1.93	2.00	2	.851	1	3	
Q15_ERpos Ability to explain their own design process	29	0	2.45	2.00	2 ^a	.572	1	3	
Q12_ERpos Be in touch with current design trends	29	0	2.62	3.00	3	.561	1	3	
Q13_ERpos Design, layout and typography skills	29	0	2.69	3.00	3	.541	1	3	
Q20_SRneg Have hand-eye skills for crafting design products	29	0	1.72	2.00	2	.649	1	3	
Q24_SRneg Have an extensive network of fellow designers	29	0	1.72	2.00	2	.649	0	3	
Q21_SRneg Take risks when designing	29	0	2.00	2.00	2	.845	0	3	
Q22_SRneg Surround themselves with well-designed product	29	0	2.21	2.00	2 ^a	.819	0	3	
Q27_SRneg Possess aesthetic skills	29	0	2.24	2.00	2	.689	0	3	
Q23_SRneg Ability to work for extended periods of time	29	0	2.48	3.00	3	.738	1	3	
Q28_SRneg Present ideas and concepts convincingly	29	0	2.55	3.00	3	.506	2	3	
Q26_SRneg Ability to work hard	29	0	2.72	3.00	3	.528	1	3	
Q25_SRneg Time management skills	29	0	2.83	3.00	3	.384	2	3	
Q31_SRpos Be gifted with natural born talent	29	0	1.14	1.00	1	.581	0	2	
Q41_SRpos Have a distinctive personal style	29	0	1.48	1.00	1	.986	0	3	
Q38_SRpos Be artistic	29	0	1.55	1.00	1	.736	0	3	
Q35_SRpos Be knowledgeable about design history	29	0	1.59	2.00	2	.825	0	3	
Q37_SRpos Love all forms of good design	29	0	1.97	2.00	2	.731	1	3	
Q32_SRpos Ability to make ethical and moral choices when creating design products	29	0	2.28	2.00	3	.751	1	3	
Q30_SRpos Intuitively know how to make the best design choices	29	0	2.34	2.00	2 ^a	.670	1	3	
Q39_SRpos Have an eye for design	29	0	2.34	2.00	2	.614	1	3	
Q33_SRpos Ability to visualise the final product	29	0	2.41	3.00	3	.682	1	3	
Q40_SRpos Be creative	29	0	2.66	3.00	3	.553	1	3	
Q34_SRpos Be passionate about design	29	0	2.72	3.00	3	.455	2	3	
Q29_SRpos Ability to integrate research, concept and process seamlessly into a final	29	0	2.83	3.00	3	.384	2	3	
Q36_SRpos Ability to distinguish between good or bad design	29	0	2.83	3.00	3	.384	2	3	

a. Multiple modes exist. The smallest value is shown

Appendix G Consent document

RESEARCH INFORMATION FOR ASSESSORS

PROJECT TITLE: **A knowledge and knower code analysis of the assessment criteria used for the judgment of graphic design practical work.**

Primary investigator: Ms S. Giloi, for PhD (Higher Education) sueg@ru.ac.za
Supervisor: Prof. L. Quinn, Rhodes University. L.Quinn@ru.ac.za
Co-supervisor: D. Bellugi, Rhodes University

This is an invitation to participate in research that forms part of my PhD studies. This information will help you to decide if you would like to participate. Before you agree to take part, you should fully understand what is involved.

Topic

The assessment of Graphic Design practical work is a complex process that involves a number of stages and individuals. The objective of this research is to gather data relating to the evaluative criteria used by assessors in order to identify the disciplinary knowledge valued and used in assessment. An analysis of the data should allow for a better understanding of assessment in graphic design and inform possible further improvements in curriculum design, pedagogy and assessment practice.

I would like to ask if you would be willing to have a marking session video and audio taped. As this would be a normal assessment session it will not impact on your time. Video and audio recordings will be made. Statements made during the sessions may be quoted but using fictitious names, therefore the participant would remain anonymous. All participants will be invited to a feedback session in which they can view the transcripts and the conclusions and give further feedback or clarification.

If during the process, you feel that the observation has influenced the marks awarded please state this as there are procedures in place for the work to be re-assessed.

Implications

The research in no way considers the standards or actual marks awarded by assessors and is not part of any quality assurance processes. The names of the assessors, moderators, students and campus will not be used in the research and I will attempt to ensure confidentiality and anonymity throughout the process. All ethical and institutional requirements regarding the secure storage of raw data and transcripts will be adhered to.

Potential benefits

You will be contributing to the disciplinary and educational knowledge in the design field and to possible improvements in curriculum design, pedagogy and assessment practice at .

Rights

You should not agree to take part in the study unless you are completely satisfied with all aspects. If you agree to participate, but wish to withdraw at any point you may do so.

Ethical clearance

Ethical clearance has been granted by Rhodes University Education Faculty Higher Degrees Committee and the Ethics Committee.

Contact details:

Please feel free to contact me if you have any questions.
Sue Giloi: sueg@ru.ac.za or 0825050923

Your co-operation and participation in the study will be greatly appreciated. Please sign the underneath informed consent document if you agree to participate in the study. Please give the completed form to . If you wish to receive a copy of the signed informed consent from the researcher, please contact me at the above e-mail address.

Regards

Sue Giloi

CONSENT FORM

I hereby confirm that I have been adequately informed by the researcher about the nature, conduct, benefits and risks of the study. I have also received, read and understood the above written information. I am aware that the results of the study will be anonymously processed into a research report. I understand that my participation is voluntary and that I may, at any stage, without prejudice, withdraw my consent and participation in the study. I had sufficient opportunity to ask questions and of my own free will declare myself prepared to participate in the study.

I agree to take part in phases two and four of the study.

Research participant's name: _____ (Please print)

Research participant's signature: _____

Date: _____

Researcher's name: _____ (Please print)

Researcher's signature: _____

Date: _____

Appendix H Example of a PISA Brief for Web Design

When designing your packaging take into consideration the visual style and elements of your chosen era as visuals for your packaging but also consider that the shape and structural elements of your die-cut relate and communicate that specific era. Work on different concepts and layouts in your visual diary. Remember that your packaging needs to carry six soda cans. Use an existing soda can to assist you in measurements and size. Consider all the necessary information that this type of packaging should contain. Once a concept in your visual diary has been approved, you will start designing the packaging on computer.

As you should now have acquired all the skills needed to work with the design programs, you will be expected to create the packaging to size (so that actual cans, can be transported within them). You also need to consider how to keep the design looking like packaging for soft drinks, while striving for individuality. There are dozens of possibilities to create new and effective packaging out of one board and you are required to come up with one that is practical, individual, and new.

3.8.3. Requirements

- Visual diary containing all research and developmental work of visual concepts and die-cut options.
- You should develop as many concepts and layout options as possible to choose the most appropriate one.
- Make a mock-up of your chosen die-cut to ensure that it will hold six cans and get the specific size measurements.
- Once your concept has been approved and your die-cut works effectively, you can start designing the packaging on computer. Map out the outlines of your die-cut on computer and design within that parameter; this way you know exactly what will be displayed where. Remember to include the logo created in Brief 7 into your design.
- Make sure to research existing soft drink packaging to identify all the necessary information required on the label.

- After completion, you will have to print out your packaging twice. One print will be used as a life size package containing empty or full cans to illustrate its functionality. The second print of the die-cut (this is the construction of the packaging in flat form, indicating where to cut, fold, etc.) will have to be mounted on an A2 black mounting board. Tip: when you print the die-cut to construct the packaging, ask your printer to print on a thicker cardboard-like paper to ensure your packaging is strong and durable.
- You will hand in your visual diary with research and planning as well as packaging containing cans and your flat die-cut mounted on A2 black mounting board.
- Print a tag with your name and student number to paste to the back of your project.

3.8.4. Intended outcomes



Upon completion of this project, you should be able to:

- Make successful use of a visual diary for research, development, and planning.
- Effectively gather and analyse researched information and concepts and draw appropriate, supported conclusions.
- Demonstrate the ability to conceptualise visually strong ideas.
- Demonstrate an understanding of branding principles and how to successfully apply the brand in different application.
- Demonstrate an understanding of the design principles.
- Successfully apply design principles to achieve a functional packaging.
- Successfully develop compositions where type and image are combined.
- Demonstrate an understanding of packaging, die-cuts, and related principles.
- Use effective and appropriate techniques and methods to communicate concepts.
- Demonstrate the ability to visually communicate abstract

For next session, you should have completed your research and conceptualisation. Bring along your research and packaging concepts in your visual diary for presentation. Make sure to bring along some paper or cardboard as well as a couple of cans to assist you in building a mock-up of your packaging.

Creating mock-ups of packaging ideas and beginning rough work on labels.

You will present your various ideas for approval. Once the most successful die-cut and design layout has been chosen you will have to create a mock-up to ensure the functionality of the packaging. Once your lecturer is satisfied with your ideas you should start designing the final packaging on computer.

Next session you will have to present your design on computer. Ask your lecturer for advice and assistance. Make sure to bring your visual diary as well as a digital version of the logo to work on your label.

You will be working on designing your packaging on computer. Consider different sizes of the logo and font, colours, compositions, and the required information. Ask your lecturer for assistance.

You will be handing in next session so make sure to consult your lecturer on your final work before printing. After printing construct your packaging by cutting and folding it. Remember to add either full or empty cans in your packaging when handing in. You will have to print a second copy of the die-cut to mount on A2 black mounting board. Make sure to print at least a day before hand-in as problems often arise on the hand in day.

Hand in and critique of Brief 8 at the beginning of the last class of this brief.