Cape Peninsula
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EXPLORING PLANNING EDUCATION THROUGH AN ENTERPRISE APPROACH

by

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in the Faculty of Informatics and Design

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DECLARATION

I, **Avhatakali Sithagu**, declare that the contents of this dissertation/thesis represent my own unaided work, and that the dissertation/thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed **Date**

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DEDICATION

To Phathutshedzo and Julius Sithagu

ABSTRACT

The South African (town) planning education system has been influenced by philosophies of European and American planning education models. The Cape Peninsula University of Technology (CPUT) planning school is no exception to this influence. The planning school adopted the technical and physical design model which was meant to respond to the need for technically skilled labourers of the 19th century. In the 19th century, education was security to a lifetime job, however in the current technological revolution this is no longer the case; it is the learned skills and experiences that can be added to your portfolio. Employers argue that graduates are out of sync with the needs and demands of the workplace; they are unable to express what they have learnt in the classroom in the workplace. The argument of this research is that the dominance of the technical skills component in the CPUT planning programme meant that graduates had a high level of technical skills while their "soft skills" were insufficiently developed. The "soft skills" that graduates need are enterprise skills. Enterprise skills are the result of enterprise education. There are two forms of enterprise education: education for enterprise aims to equip students with business start up skills, education through enterprise (which is the focus of this research) aims to teach students interpersonal skills through "learning by doing"; this enables students to translate the theory learnt in the classroom in the workplace. The objective of education through an enterprise approach is to develop behavioural skills, attitude and values which students can use in their professions. The research problem is that the current town planning curriculum of CPUT does not motivate nor support graduates to be enterprising.

The first objective of this research is to investigate enterprise skills that are relevant for planning graduates. The second objective is to investigate the existence of enterprise skills development in the town planning curriculum of CPUT. Therefore, the research questions are:

1. Which enterprise skills are relevant for town planning graduates?
2. Is there an existence of enterprise skills development in the CPUT town planning curriculum?

A mixed method research approach was used to answer the above-mentioned research questions. A quantitative research approach was used to answer the first research question, and this took the form of a questionnaire. There were two research participants: employers of CPUT graduates in the Western Cape were asked to identify relevant skills that graduates should have for the workplace. The other research participants were lecturers at the CPUT

Department of Town and Regional Planning. They were asked to identify the skills that they developed through their teaching. The qualitative research approach was used to answer the second research question, this was in the form of structured interviews, and it was directed at the lecturers of the CPUT planning department. The objective of the qualitative method was to investigate the teaching styles of lecturers whether they promoted the development of enterprise skills.

Employers have confirmed that CPUT graduates demonstrate more technical skills than the interpersonal skills. Although employers are content with the quality of technical skills, they have indicated that the workplace needs graduates with thinking skills, teamwork, planning and organising, the ability to recognise the importance of stakeholders, time management, the ability to adapt to change and the ability to act resourcefully. On the other hand, lecturers believed that they developed graduates that have thinking skills, self-learning, problem solving, analytical skills, planning and organising, decision making, communication skills, independence and confidence. The skills that employers get, do not correlate with those skills that graduates demonstrate. The skills that graduates demonstrate do not correlate with the skills that they have been taught. Literature confirms this trend by stating that planning practitioners and planning educators share a common misunderstanding about what skills graduates should have.

The teaching styles of lecturers at the CPUT planning department were analysed using the principles of teaching through an enterprise approach which is: student centeredness, collaborative, experiential, flexible and negotiated teaching methods. It was found that the principles of collaboration and experiential learning were evident teaching practices. However, the principles of student centeredness, flexibility and negotiation were non-existent practices. In other words, there is some existence of an enterprise approach in teaching. Is it sufficient enough to develop enterprise skills that graduates need in industry? No, employers have confirmed that what they want from graduates is not what they get.

Even though literature does not explicitly link planning education and enterprise education, there are numerous planning education authors who believe in the concept and principles of enterprise education. The findings of this research have also indicated that indeed enterprise skills are vital for the workplace. The advantage of integrating enterprise education is that it can be moulded to fit the purpose and objective of any subject; it can be weaved into already existing subjects so that it does not overwhelm the system. There are numerous opportunities in the CPUT planning curriculum that provide a platform for the inclusion of enterprise education, such as planning design studios, service learning projects, etc. What is needed is a mind-shift from authoritarian teaching to a more student centred approach.

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CHAPTER ONE
INTRODUCTION TO THE RESEARCH

1.1 Introduction and background to the research problem

This research topic was initiated by the researchers' personal work- related experience as a new graduate from a Technikon. She had joined the Witwatersrand Technikon in 2004 before the Technikon merged with Rand Afrikaans University (RAU) to form the University of Johannesburg (UJ). The reason for joining a Techinkon at the time was due to the popular notion that Technikon students were easy to employ due to their high levels of technical skills. As a young graduate, she took pleasure in being appreciated for her technical skills, however she realised that she lacked the "soft skills" that would have helped her grow in her professional career. These "soft skills" included negotiation, confidence, and awareness of the business environment, networking skills, report writing and debating skills, to name but a few. Her belief was that there was a heavy emphasis on the development of the technical skills while the soft skills were untapped. Her interest in this topic was further amplified when she joined Cape Peninsula University of technology (CPUT) as a junior lecturer in the department of town and regional planning. Even though the university and the department have gone through a vast number of changes, both structurally and strategically, she still believed that teachers teach the way they were taught. The way she was taught was in passive mode with the lecturer as the dominant figure in the classroom. Of course teaching methods have evolved, but her interest is how much have teaching styles evolved. The opportunity to probe the latter occurred when she enrolled for her M-tech degree and presented this as her research problem. She stumbled across the concept of enterprise education and was fascinated with how it resonates with her research problem and the teaching alternatives it gave. Her research problem was further confirmed by her literature study; that graduates do not have the soft skills for the workplace because they are not taught those skills at universities.

What interested her about enterprise education was its fluidity. It can be customized to fit any subject or profession. The value of enterprise education is in the process of learning and not the product of learning. In other words, how can you express what you have learnt inside the walls of a classroom in the workplace? The way you express what you have learnt in the classroom is through interpersonal or life skills. Therefore, which interpersonal skills are relevant to the (town and regional) planning profession? What planning values need to be

instilled through planning education? In essence, what life skills are we teaching our students?
Enterprise education is an opportunity for the department of town and regional planning to further develop the interpersonal skills that may not necessarily be developed to their full extent.

1.1. 1 Contextual background of planning education in South Africa

The South African planning education system has been influenced by the European and American planning models. Even though South Africa has a stronger institutional planning framework (compared with other African countries) which also influences the planning education system, the adoption of European and American planning law and curriculum structures do not resemble the complex and unique problems of poverty, urbanisation and informality that the South African landscape faces. Most of the universities adopted the British town and country planning education model which has a heavy influence of physical planning and technical design (Watson & Odendaal, 2012).

Planning programs in South Africa can be divided in three broad categories. The first category is heavily influenced by technical design and physical planning. These programmes are usually offered in partnerships with the engineering and architectural departments which are offered as undergraduate degrees. The second category consists of programmes that have originated from physical planning and design but have recently shifted to policy, management and administration. The third category consists of programmes that are focused on geography, regional or environmental science. Most of these programmes are offered as post-graduate degrees (Watson & Odendaal, 2012).

There are eleven planning schools in South Africa, all with programmes influenced differently. Some universities were established to satisfy the apartheid governments' racial segregation. Therefore, those universities preached British planning laws and top-down control oriented planning with a heavy influence on physical planning. Some universities were opposed to the latter and promoted more people centred and developmental approach to planning. Others adopted the American planning model which emphasises social sciences in planning education, while others have a more developmental approach (Watson & Odendaal, 2012).

Out of the eleven planning schools, there are three universities of technology that were previously known as Technikons. The concept of Technikon can be traced back to the 19th century. The 19th century was an era of mass industrialisation in the form of mines and the development of railways. Therefore there was a great need for a large number of technically skilled labourers. In the early 20th century there were establishments of technical colleges that could teach students technical skills needed in the workforce. Due to the great demand of skills, there were developments of more advanced technical education institutions. With the adoption of the Technical Education Amendment Act of 1979, the colleges were changed to Technikons. The term Technikon is a combination of two words: "techni" a Greek word meaning "ingenuity, dexterity or skill" (Maserumele, 2005) and "kon" is the Afrikaans word meaning "could" (Maserumele, 2005). Therefore, a uniquely South African term, Technikon, was adopted. The purpose of Technikons was to deliver vocational education and experiential learning in order for graduates to obtain practical skills so that they can be ready for the workforce. There were fifteen Technikons in South Africa, however by 1994 the number was reduced to five. Of the five Technikons there were three that offered planning programmes, namely: Cape Technikon (which is now known as the Cape Peninsula University of Technology: CPUT), Witwatersrand Technikon (which is now known as University of Johannesburg: UJ) and Durban Institute of Technology (which is now known as Durban University of Technology: DUT). By 2003 the committee of Technikon principals lobbied for all the Technikons to be changed to universities of technology. The primary reason for changing Technikons to universities of technology was to follow global trends in higher education, the global trend being; offering programmes that were career-oriented with advanced technology, applied knowledge and the development of research. All three institutions (CPUT, UJ and DUT) offer undergraduate planning programmes that have a very similar curriculum structure. They have a first year programme spent in the classroom, the second year is experiential learning (in which students are employed in planning employment sectors) and the third year programme, in which a qualifying student would graduate with a national diploma in town and regional planning. There are little differences in their programmes; there is a dominant element of technical design and physical planning in their programmes. In essence, they can be encapsulated as institutions that Watson and Odendaal (2012) categorise as heavily influenced by technical design and physical planning.

1.1. 2 Contextual background of the Town and Regional Planning curriculum at CPUT

In the case of CPUT, the planning curriculum has undergone profound changes over the past three decades. The Department of Town and Regional Planning was established in the

1970’s at the former Cape Town College. It was a sister department with the Department of Civil Engineering, Land Survey and Cartography; together they fell under the Faculty of Engineering. The relationship of the latter three departments had a significant effect on the structure of the planning curriculum. The curriculum had traces of engineering-oriented subjects such as databases, surveying and civil engineering. A combination of the latter subjects and planning related subjects resulted in students acquiring a high percentage of technical skills. The planning department was producing “mini-engineers”. This also contributed to the philosophy that Technikon planners were technicians with purely technical skills (Department of Town and Regional, 2009:29).

The National Diploma qualification is made up of three years. In the first year, students are taught basic planning knowledge and technical skills that they transfer to the second year. The second year is experiential learning; students are employed and mentored in the town planning workplace. In this year, students are exposed to professional knowledge and practice, which they will transfer to the third year. In the third year, students are taught more advanced planning knowledge, areas of specialisation and technical skills, which they will have to transfer to the workplace. The curriculum structure is summarised by the figure below (Department of Town and Regional, 2009:29).

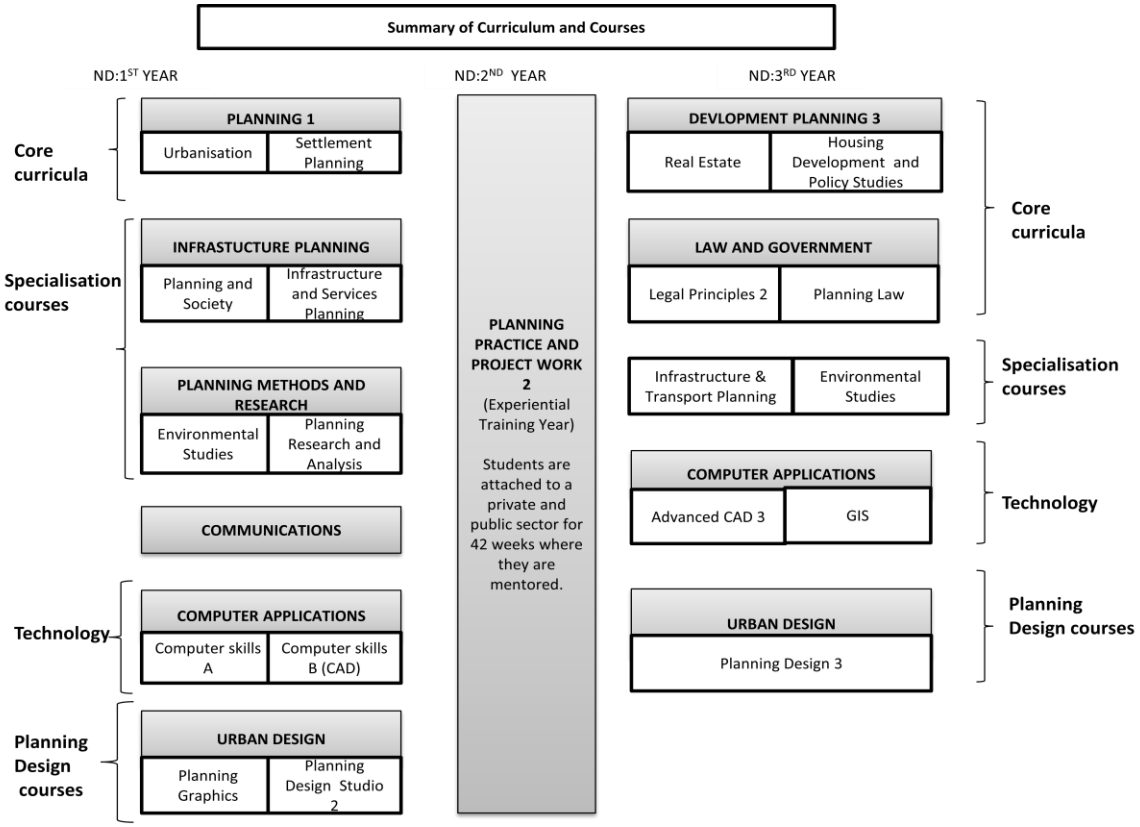


Figure 1.1: Showing a summary of the CPUT National Diploma in Town and Regional Planning curriculum.

Adapted from the Department of Town and Regional (2009:21)

1.1.3 The challenges of the current Town and Regional Planning curriculum (CPUT)

Prior 1994 planners were concerned with town planning, that is, development control, layout planning and managing town planning schemes. Therefore planning was a system of plan-making and development control. The planning profession at that time was heavily influenced and headed by engineers, which meant that planning was highly technical. The role of a planner has drastically changed from prior 1994 to post 1994. There are more issues that concern planners now than in the past. Issues such as the eradication of poverty and inequality, environmental management, economic development and community participation. However, planners are ill-equipped to deal with such issues since they are still educated using the traditional planning processes of development control. New planning processes such as community participation and integrated development planning are some of the challenges that planners have not been prepared for during their academic years (Ovens & Associates, 2007).

Traditional town planning is slowly eroding, new demands and new skills are needed. Graduates are finding it difficult to respond to these demands (Harrison et al., 2003).

Verster's et al. (2010) conducted research on CPUT planning graduates. The aim was to track employment and performance of town planning graduates from CPUT. The research included planning graduates who have graduated from the institution in 2006 to 2010. One of the objectives was to identify strengths and weaknesses of the skills and competencies that planning graduates had in the work place. The research shows that the main strength of planning graduates was technical skills at 52%, followed by communication skills at 20%, layout planning at 16%, critical thinking, research and presentation skills at 4%. The weaknesses were, report writing at 43%, graphics, Computer Aided Design (CAD) and Geographical Information System (GIS) at 33%, communication skills at 22%, and research skills at 2%.

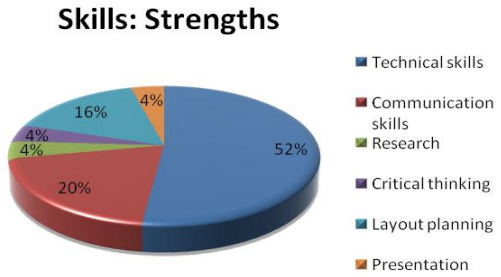


Figure 1.2: Showing perceived strengths of academic training: Skills
Adapted from Verster et al. (2010:8)

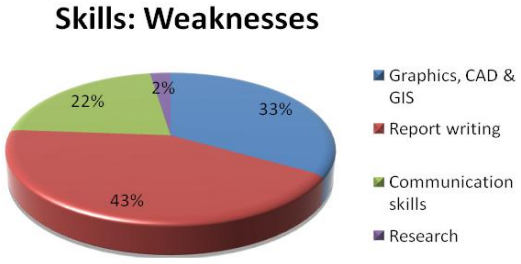


Figure 1.3: Showing perceived weaknesses of academic training: Skills
Adapted from Verster et al. (2010:9)

In other words, the research concluded that CPUT planning graduates were well trained in the technical skills while they lacked in the so called "soft skills" such as critical thinking, communication, etc.

In summary, the argument of this research is that the CPUT planning curriculum is still equipping students with high levels of technical skills. Organisations are no longer solely interested in the "hard technical skills"; "soft skills" are just as important (Ward, 2004). The "missing skills" that planning graduates need are known as enterprise skills. Enterprise skills are developed through enterprise education.

1.2 Enterprise education

1.2.1 What is enterprise education?

Enterprise education can be categorised in two ways, as outlined by Caird (1990):
1. Education for enterprise: aims to educate students to start-up businesses and run projects; there is a close link between enterprise and business.
2. Education through enterprise**:** aims to teach life skills through enterprise activities. This means that students are not only taught knowledge and skills, but they are taught how to apply knowledge and technical skills in real life projects.

The focus of this research is “education through enterprise”. The expectation of enterprise education is application of the taught life skills so that they can be utilised and developed in any career as well as social context. Entrepreneurial education is subject oriented through subjects such as business and economics. It is offered at tertiary level with the aim of producing students who will start their own business and become self-employed. In contrast, enterprise education can be offered at any educational life stage. It is not offered as a specific subject but it can be included into any subject or context. The aim of the process of learning is to develop personal, behavioural and attitudinal qualities of an enterprising person which can be used in the community, home or the workplace.

1.2.2 The objective of enterprise education

The core aim of enterprise education is to stimulate economic growth by bridging the gap between education, the work place and the economy. The education system seems to have been left behind in participating in economic growth and the changes in the work environment. Enterprise education is one of many initiatives that try to mend the broken link between education, the work place and the economy.

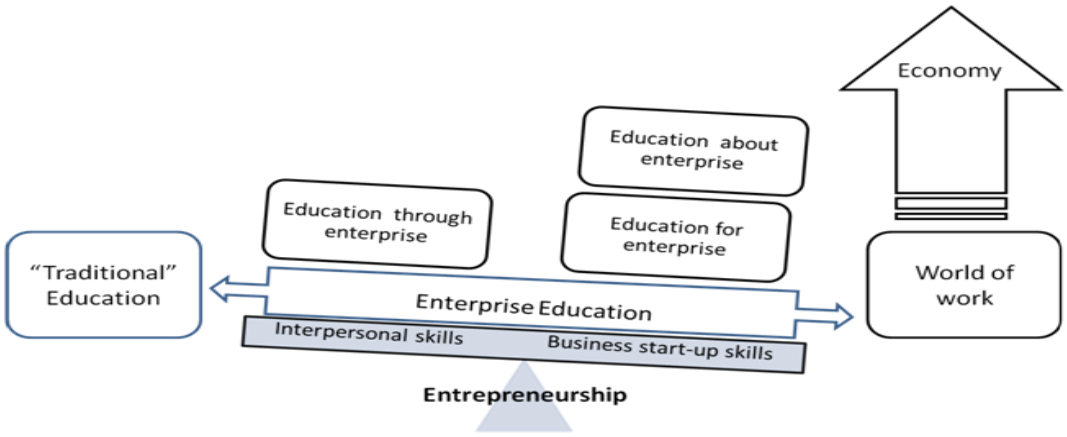


Figure 1.4: Showing entrepreneurship as the basis of enterprise education which forms the link between traditional education, the world of work and economic growth.
Source: Sithagu (2014)

1.2.3 Teaching through an enterprise approach

The science of teaching through an enterprise approach has certain key elements as stated by Jones and Iredale (2010). They explain that enterprise education:

- Can be contextualised into any profession, subject, and curriculum and throughout the different phases of education.
- Should not be taught as a subject but should be a learning process. It can be interwoven into subjects or into similar learning pedagogies such as experiential learning, action learning and creative learning.

Johnson (1988) and Birdthistle et al. (2007) further explain the key elements of teaching through an enterprise approach. It is:

- Student-centred: in conventional education the teacher is the centre of attention, the teacher is the dominant figure in the classroom. An enterprise approach in the classroom allows the focus of attention to be the students and for the students to display their leadership skills.
- Collaborative: the teacher and the learners learn from each other. Learner participation and learning from each other is encouraged as opposed to learner competition.
- Experiential: the essence of an enterprise approach in the classroom is to translate theory into practice; learning by doing, not learning by studying but rather learning by problem solving.

- Flexible: conventional education is structured and rigid, it has specific goals. Enterprise education has an element of fluidity; both teacher and learner should be trusted and have the freedom to make mistakes and learn from those mistakes.
- Negotiated: this means that the teacher is not the dominant and the only decision maker in the classroom; class activities and contents are negotiated with pupils. Learners and teachers debate and exchange information.

1.3 Statement of the Research problem

The aim of this research is to explore the potential nature of an enterprise approach (that appears to be absent or deficient) in the current town planning curriculum of the Cape Peninsula University of Technology (CPUT). The statement of the research problem is: the town planning curriculum of CPUT does not motivate nor support graduates to be enterprising planners.

1.4 Aim of the research, sub-questions and objectives

The aim of this research is to investigate enterprise skills that are relevant to town planning graduates. A secondary aim is to investigate the existence of enterprise skills development in the town planning curriculum of CPUT. Therefore, the research questions are:

1. Which enterprise skills are relevant to town planning graduates?
2. Is there an existence of enterprise skills development in the CPUT town and regional planning curriculum?

Table 1.1: Research problem, sub-questions and objectives

Background to research problem	**There is an absence or deficiency of enterprise skills development in the town and regional planning curriculum of CPUT.**			
Research Problem	**The CPUT town and regional planning curriculum does not motivate nor support graduates to be enterprising planners.**			
Research question 1	**Which enterprise skills are relevant to town planning graduates?**	**Research sub-question**	**Research methods**	**Objectives**
		1. What are the opinions of employers on CPUT (town and regional planning) graduates' enterprise skills?	Questionnaires distributed to employers of CPUT (town and regional planning) graduates in the Western Cape.	To obtain perceptions of employers on CPUT (town and regional planning) graduate enterprise skills.
		2. Which enterprise skills are in demand in the workplace?	Questionnaires distributed to employers of CPUT (town and regional planning) graduates in the Western Cape. .	To obtain opinions from employers about the relevant enterprise skills graduates need in the work place.
Research question 2	**Is there an existence of enterprise skills development in the CPUT town and regional planning curriculum?**	3. What evidence is there in your teaching styles that develops enterprise skills?	Questionnaires and interviews conducted, targeting lecturers of CPUT (town and regional planning) graduates.	To investigate the existence of enterprise skills development in the curriculum of the Town and Regional Department of CPUT.

1.5 Research design and methodology

The chosen philosophical worldview is pragmatism (Creswell, 2009). This was seen as the appropriate worldview that relates to the research. The most significant reason is that pragmatism allows the researcher to use multiple research methods to answer the research question.

Pragmatism relates well with the chosen research methodology which is mixed method research. This methodology allows the use of both quantitative and qualitative research methods in the same research project. The quantitative research method will be used to answer the first research question which is: which enterprise skills are relevant to planning graduates? The qualitative research method will be used to answer the second research question which is: is there an existence of enterprise skills development in the CPUT town and regional planning curriculum?

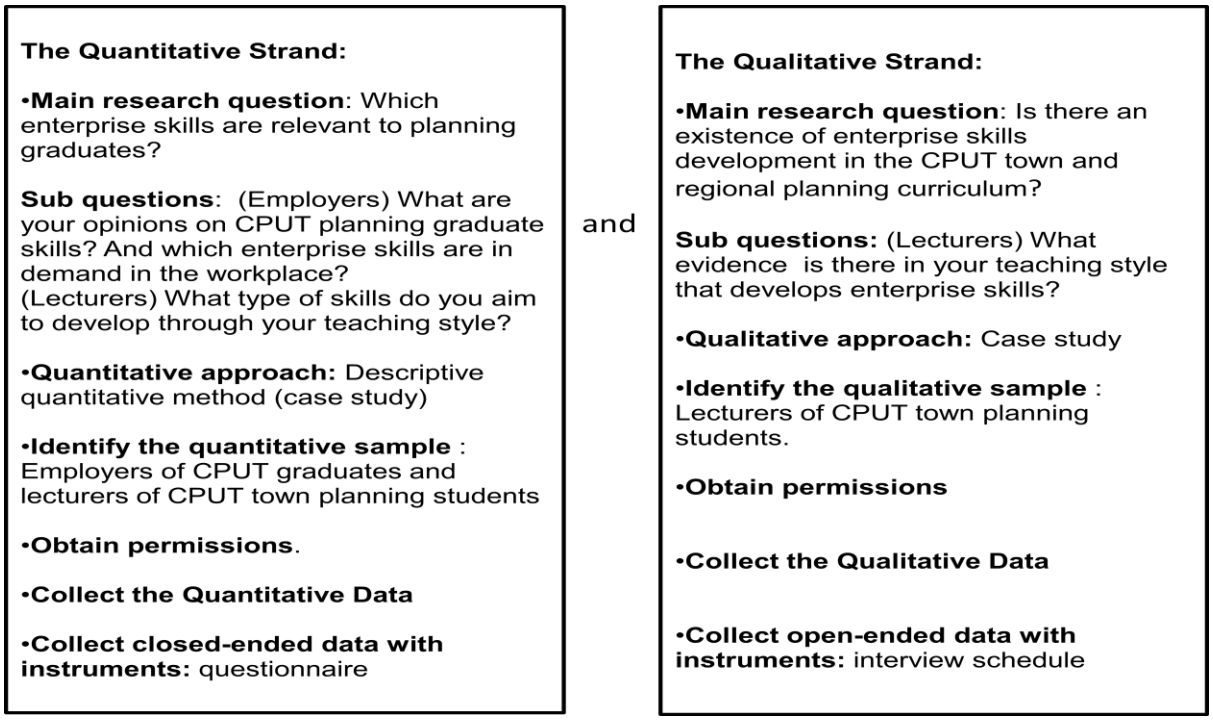


Figure 1.5: Showing procedures for implementing a Convergent Parallel Design in the context of this research

Source: Sithagu (2014)

The overall aim of the two strands is to discover the enterprise skills relevant to CPUT graduates: this will be done by investigating the perception of employers and lecturers. The secondary aim is to obtain whether there is indeed an absence or deficiency of enterprise

skills development in the town planning curriculum. Gathering this information will allow for analysis of the two participants, whether they have similar or contradicting views or how the two participant's views complement each other, therefore allowing for a comprehensive, deeper understanding of the research problem.

1.6 Delineation of the Research

The delineation of the research was as follows:

- Employers of CPUT graduates were working in a town planning related field.
- They also mentored or supervised CPUT graduates.
- Only employers in the Western Cape were considered. The selection and number of private and public sector employers were determined by their proximity to the location of the survey, which was Cape Town.
- Lecturers were permanent employees of CPUT and lectured any subject(s) in the national diploma town and regional planning programme.

1.7 Contribution of research

The aim of this research is to inspire dialogue between industry and academia. This dialogue is important in finding ways of improving the planning curriculum. This should trigger a strategic shift in the way that academia deliver their curriculum.

On completion of this research, there will be a clearer understanding of the "soft" skills that employers regard as essential skills for graduates, as well as how graduates perform in industry. In essence the department of town and regional planning can therefore judge themselves through the general perception of what employers think of their graduates.

An analysis of the teaching styles of CPUT town and regional planning lecturers has never been conducted. This will be an opportunity for lecturers to review their teaching styles and learn from each other.

1.8 Conclusion

The research problem/statement is that the planning curriculum does not motivate nor support planning graduates to be enterprising. Confirmation of this statement was highlighted by the structure of the curriculum and departmental research. Both of which indicated that planning graduates are equipped with professional knowledge and technical skills, with little “soft skills” or enterprising skills that enable the application of the learnt knowledge and skills in real life situations and the work place.

The objective of this research is to:

- Determine enterprise skills that are relevant to planning graduates.
- Determine the existence of enterprise skills development in the CPUT town and regional planning curriculum.

There was a brief explanation of the principles and objectives of enterprise education, followed by the research design which, is in the form of a mixed method research. One set of the questionnaire was targeted at the employers of CPUT graduates with the aim of discovering the perception of employers of CPUT graduates as well as the enterprise skills needed in the workplace. The second set of the questionnaire was targeted at the lecturers of CPUT town planning students with the aim of investigating the perception of lecturers on the type of enterprise skills they aim to develop through their teaching styles. The qualitative strand was in the form of structured interviews. A set of interviews was targeted at the lecturers of town planning students with the aim of investigating the presence or absence of enterprise skills development in the national diploma planning curriculum.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The literature review is divided into two parts. The first part of the literature review is divided into three sections. The first section is a review on the ontology of enterprise education, the second section is a review on the pedagogy of enterprise education and the final section is a review on the assessment methods of teaching through an enterprise approach. The aim of all three sections is to have a holistic understanding of enterprise education, more specifically education through an enterprise approach.

The second part of the literature review focuses on the relationship between planning education and planning practitioners. Furthermore, there is a discussion of the implications of the latter relationship on the planning education system. Next, is a discussion of the skills for planning graduates, particularly the additional interpersonal attributes that should be coupled with the technical skills. The aim of the latter is to establish the enterprise skills that are relevant to planning graduates.

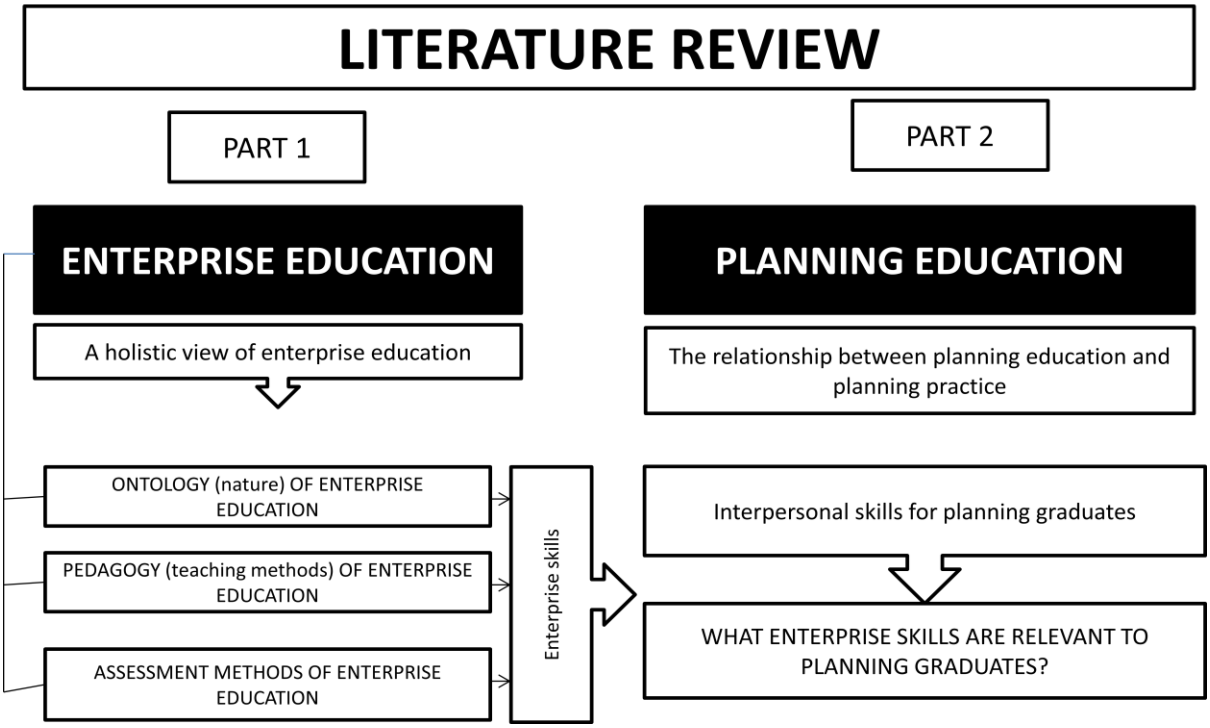


Figure 2.1: Framework of the literature review

Source: Sithagu (2014)

2.2 Literature review (part 1): Enterprise Education

There seems to be three types of authors; authors who write about the ontology of enterprise education, authors who write about the pedagogy of enterprise education and authors who concentrate on the assessment of enterprise education. Below is a diagram that explains the three views of enterprise education and their underlying theoretical concepts:

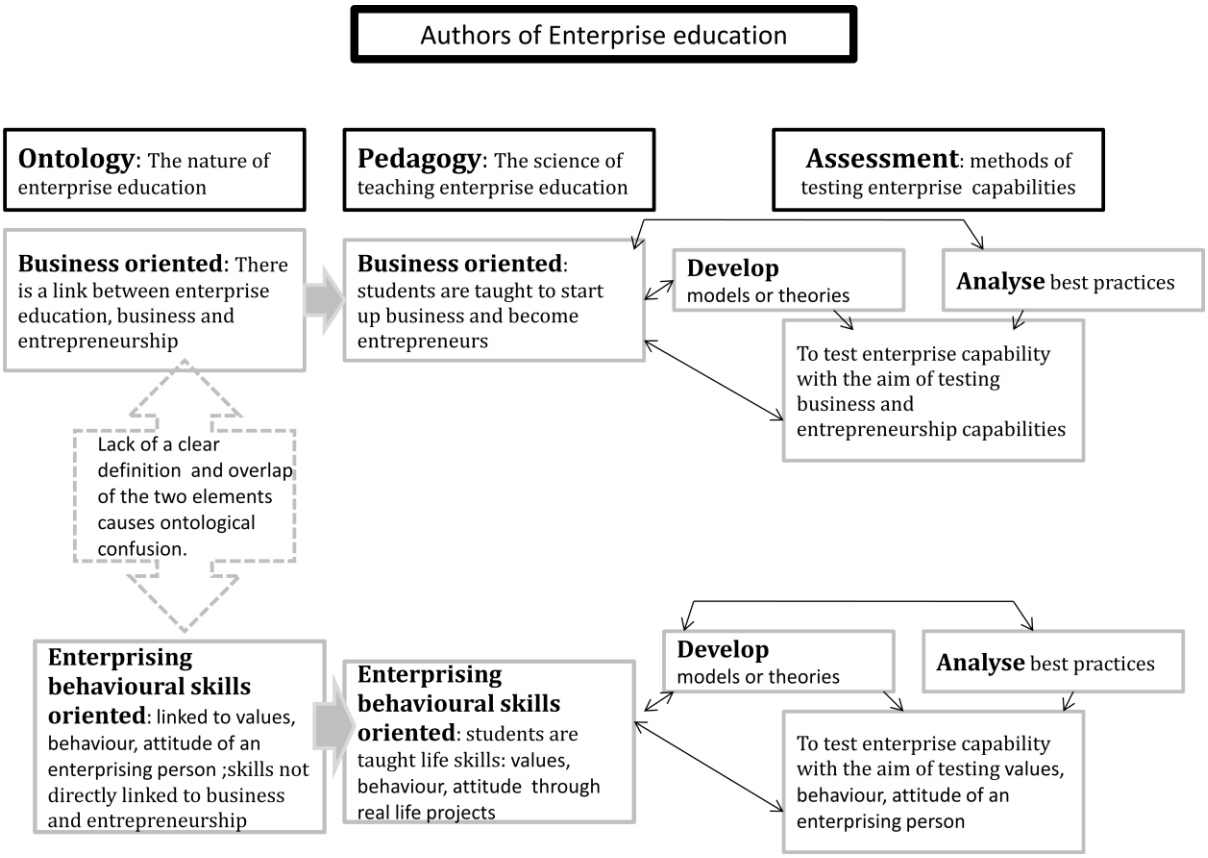


Figure 2.2: Three areas of speciality on enterprise education
Adapted from (Draycott & Rae: 2011)

There are two focus areas of enterprise education:

1. Business focus: the aim is to teach students business competencies with the intention to start-up businesses.
2. Enterprising behavioural skills focus: the aim is to enable the development of values, attitudes, skills and behaviour which they can use in the professional setting, (outside the context of business) through explorations (Draycott & Rae, 2011).

2.3 The ontology (nature) of enterprise education

The term “enterprise” presents much confusion and (un-factual) assumptions to the ordinary citizen, as it does to the authors and researchers of enterprise. In the midst of all the confusion there are some widely accepted phenomenon’s about the term “enterprise”, and they are as follows;

- There is no precise or agreed upon definition for enterprise. The lack of definition and clarity is due to the lack of distinction between the terms “enterprise, entrepreneurship and small business”. These terms are loosely used and may appear synonymous; however, this is not the case (Gibb, 1987).
- Enterprise cannot be explored without reflecting on entrepreneurship. An entrepreneur and an enterprising person may have identical attributes; however, the difference is the contexts and the objectives of using those attributes. An entrepreneur uses his entrepreneurial attributes in a business context and the objective is to make a profit. An enterprising person uses entrepreneurial attributes in any context and the objective is not to make profit but to fulfil a particular need such as citizenship (Gibb, 1987; Caird, 1990).

2.3.1 How does enterprise and education fit together?

The earliest connections between enterprise and education first emerged in Britain in the early 1970’s and 1980’s. The belief was that education was not producing students for work, the result being that students were largely incapable of adapting to the working environment. Educational institutions were expected to produce students who would be entrepreneurs. Enterprise education was seen as the link between education and the economy. The unclear definition and confusion of enterprise education emerged as more schools and institutions adopted enterprise education, some adopted and broadened the development of interpersonal characteristics for other reasons; such as career development (Draycott & Rae, 2011).

2.3.2 The need for enterprise education

The rise of enterprise education was driven by the industrial transformation from one industrial revolution to the other. The eighteenth and nineteenth century experienced the first and the second industrial revolution. It was a period of inventions, machinery and manufacturing. Education became important, because of the belief system that education can provide you with a job and a secure path to retirement (Ward, 2004).

The twenty first century is experiencing the third industrial revolution. It is the age of information technology and telecommunication, where the creation of the economy and wealth is ideas, knowledge and innovation. Education in the second industrial revolution was an enabler to job security. Education in the current technological revolution is not an enabler to job security; it is the learned skills and experiences that can be added to your portfolio. Organisations are no longer solely interested in the “hard technical skills”; “soft skills” are just as important. Employers are seeking graduates with attributes, capabilities, qualities and values of an entrepreneur. In other words employers are seeking enterprising employees (Ward, 2004).

2.3.3 The different forms of enterprise education

Ritchie (1991) identified four viewpoints of enterprise education. In his view there is the Believer, Sceptic, Subject and Analyst of enterprise education. The Believer is supportive, has faith and is a prime mover of enterprise education. The Sceptic defies enterprise education in theory and in practice. The Subject is the supporter of enterprise education but relies more on practice and experience than theory. The Analysts appears to disapprove enterprise education, however they support it when it is backed by research and sound reason.

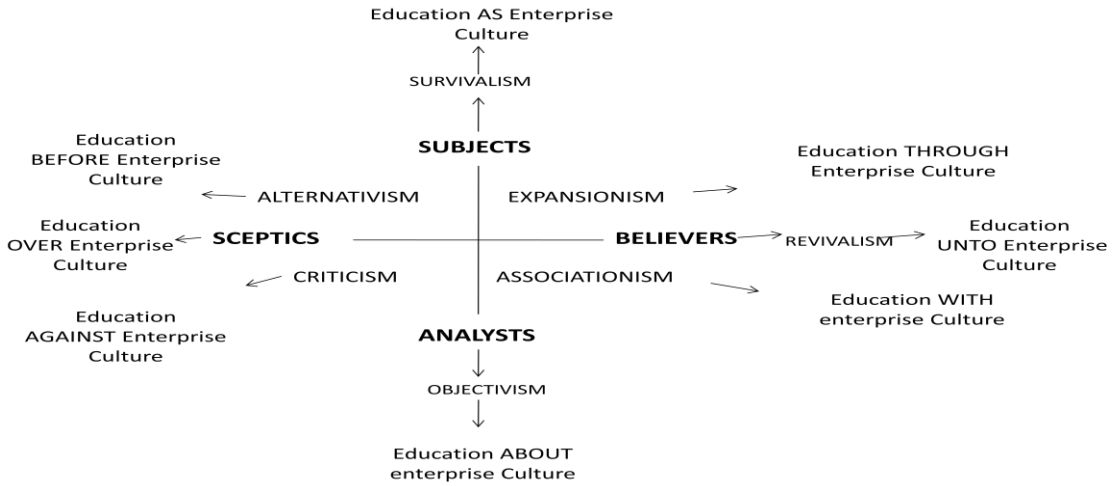


Figure 2.3: The different viewpoints of enterprise education.
Adapted from Ritchie (1991:322)

The aim of this research is to explore “education through enterprise”.

2.3.4 The objective of enterprise education

Jones and Iredale (2010) highlight the objectives of enterprise education by highlighting the distinguishing factors between entrepreneurship education and enterprise education: the differences are as follows:

Table 2.1: The difference between the objectives of entrepreneurship and enterprise education.

The objectives of entrepreneurship education is to teach students:	**The objectives of enterprise education to is teach students:**
How to start-up and manage a business.	Knowledge of how a business works.
Technical, behavioural skills and entrepreneurial skills of how to run a business.	Development of personal, behavioural skills and attributes for use (outside the context of business) in any context and throughout the life course.
Self-employment.	Self-employment as an optional venture.
To become entrepreneurs and make profit.	To become enterprising individuals who value citizenship and civic responsibility.

2.4 The pedagogy of enterprise education: the science of teaching through an enterprise approach

2.4.1 Principles of teaching through an enterprise approach

Clifford (1988) explains that the approach of conventional education is content driven, the teacher is the centre of attention, the teacher acts as the expert, the pupils role is passive, lessons are programmed, topics are imposed upon learners and students are forbidden to make mistakes. On the other hand, an enterprise approach is process driven, the pupil is the centre of attention, the teacher is the facilitator, there is active learning, lessons are negotiated and flexible, and students learn from their mistakes.

Jones and Iredale (2010), state that there are two ways in which enterprise can be taught:

1. Enterprise can be taught as a philosophy and an approach to teaching and learning.
2. Knowledge and skills in the classroom can be contextualised and translated into enterprise pedagogy.

The science of teaching through an enterprise approach has certain key elements as stated by Jones and Iredale (2010); they have been discussed in Chapter 1 on page 8.

2.4.2 The challenges of teaching through an enterprise approach

There is inefficient awareness and insight into enterprise education. That directly translates into resistance from the community, academia and students themselves who, understandably, are not used to this kind of approach (Johnson, 1988).

A more extreme case of resistance is from Shacklock et al. (2000) who argue that the presumed assumption that enterprise education will result in higher work productivity will result in economic success is false. They argue that there is no linear relationships between the three latter elements since all three represent complex relationships with each other. Most important of all is that the links between education, work and the economy are unproven. They further state that the economic predicament of a country cannot be solely blamed on the education system. Furthermore, enterprise is a "shadowy" term and has become a "code word" for educational revival while it is largely unexamined. They further state that the drivers of enterprise education are hypocrites since they too are trying to layout standards and procedures of teaching enterprise. Finally, they state that an enterprise approach in teaching has always existed in the classroom, the only difference is introducing "enterprise" as a metaphor in education.

Teaching through an enterprise approach is time consuming for both learner and educator and there may not be enough time or space in the timetable. Educators have to undergo training and a psychological shift from a bureaucratic teaching style to facilitator and collaborative teaching. There is little research on the effectiveness and impact on students who have gone through an enterprise approach (Johnson, 1988).

Financial sustainability in delivering enterprise teaching and activities may pose as a challenge. An institution that produces a steady income through enterprise activities is more financially stable than an institution that is dependent on funding from an external source (Pittay & Hannon, 2008).

2.5 Assessments of enterprise education: methods of testing enterprise capabilities

2.5.1 Planning to assess enterprise capabilities

Firstly, institutions must be able to provide a clear statement of the purpose and the main goal for assessing enterprise capabilities. Some institutions may want to provide a recognized qualification, others may just want to make students aware of their enterprise capabilities or improve their enterprise capabilities. Whatever the purpose, it should be clarified. Clarifying the purpose of assessing enterprise capabilities will guide the sort of enterprise capabilities the institutions wants to focus on. The second phase is deciding what enterprise capabilities are going to be developed and assessed in order to feed the purpose. Thirdly, the institution needs to decide on the tools and resources for assessment. The fourth phase is deciding how enterprise capabilities will be assessed (Spielhofer & Lynch, 2008).

2.5.2 Issues facing assessment methods

Enterprise teaching methods are not comparable to the conventional teaching system. The framework of the teaching methods is based on student learning, learning by doing and eventually the outcome would be doing. If the two models of education (conventional and enterprise education) differ in their principles, teaching techniques and outcomes; they (surely) must differ in their assessment methods. Tromans (1989) compares the assessment methods by stating that the conventional education assessment model is a “testing model, authoritarian, non-diagnostic, centralized, bureaucracy-led, with a focus on product and the results easy to publish”. The enterprise education assessment model is “democratic, diagnostic, school-based and professional-led, with a focus on process and the results/outcomes hard to publish”. He further states that the one model focuses on the learning process, while the other focuses on the product.

Rowntree (1987) argues further, by stating that the product of conventional methods of assessment is the grading system. Teachers use their power to judge the capability of students by permanently enshrining grades on the academic records of students. Furthermore, the professional world judges the capability of students using the academic records. There is more to a student than his/her academic record. There may be strengths and weaknesses that are not portrayed in the academic record. Students are wrongfully motivated in this way; there is a culture of valuing the approval from an authority than valuing the process of learning and the capabilities learnt through learning. How can educators ensure that students value the process of learning?

2.5.3 Forms of assessment methods as means of developing enterprise capabilities

Students value the process of learning if they are given the control and the responsibility for their own learning and eventually their own assessments. A student-centered approach is meaningless if the assessment models are contradictory to being student-centeredness. Self, peer and collaborative assessment is a means of developing enterprise capabilities such as problem-solving, critical thinking and teamwork capabilities (Somervell, 1993).

a) Self-assessment is another word for self-evaluation. The student has the responsibility of critically evaluating what he/she has learnt, his/her strengths, weaknesses and shortcomings of his/her capabilities as specified by the desired learning outcomes. The self-assessment process is solely dependent upon the student; the teachers' duty is monitoring and facilitating the process. The outcome of self-assessment is critical thinking, self-analysis, self- reflection and diagnosis of the needs as specified by the learning outcomes.

b) Peer-group assessment is when other students take part in the monitoring, judgment, or analysis of the learning process. This allows students to learn from each other; which may be deeper than learning from a single source. The outcome of peer-group assessment is team-participation, listening to what others have to say about you; this then feeds on to self-assessment.

c) Collaborative assessment is when teacher and student negotiate the assessment process. Both individuals decide on the objectives of the learning process and the learning capabilities to be achieved. The outcome of collaborative assessment is a democratic assessment approach.

2.6 Enterprise skills: a literature review

This section is a chronological review of prominent authors who have discussed enterprise skills. The purpose of this section is to highlight the similarities, overlaps as well as the diversities in the schools of thought on enterprise skills.

Gibb (1987) is one of the earliest authors of enterprise education. He developed models for enterprise pedagogy, assessment and outcomes of enterprise education. He listed the enterprise attributes as follows: "initiative, strong persuasive powers, moderate rather than risk-taking ability, flexibility, creativity, independence/autonomy, problem-solving ability, need

for achievement, imagination, high belief in control of one's own destiny, leadership, hardwork" (Gibb, 1987:6).

Caird (1992) refers to "enterprise competencies". She defines the latter as a "set of knowledge, skill and personality variables which relates to successful behaviour in a designated field" (Caird, 1992:6). The point of reference of developing enterprise competencies is by identifying four major aspects; knowledge, performance, skill and psychological variables.

Below is a list of enterprise competencies she has identified:

- "Personality variables- intuition, achievement, motivation, entrepreneurial drive, resourcefulness, leadership, autonomy, initiative, creativity, innovation/invention, imagination, ambition, confidence;
- Communication skills- negotiation, persuasion, communication skills;
- Managerial Skills- groupwork skills, problem-solving, ability to achieve results, business and resource management, specification and evaluation of performance objectives, task management skill, organizing, decision-making, monitoring, evaluation, working towards targets within resource constraints, ability to create and exploit opportunities;
- Analytical skills- numeracy skills, data presentation skills, critical skills and analytical skills;
- Career Skills- self-awareness and assessment, career planning techniques, transferrable skills, skill application in a work environment, responsibility for own learning and development, self-directed learning, decision making responsibility, presentation skills, skill relevant to an enterprise context;
- Knowledge- computer literacy, information technology, entrepreneurship, knowledge about business (challenge/rewards);
- Attitudes"- flexible/versatile attitude, powers of perception and observation, sensitivity to needs and consequences" (as cited by Caird, 1992:8-9).

Foreman-Peck (1993) argues that the role of higher education should not only be associated with acquiring a qualification and acquiring professional knowledge. He states that "knowledge, theory, reflection and application are inseparable" (Foreman-Peck, 1993:108). A graduate should have knowledge, creativity, be innovative and flexible in order to fit into the changing dynamics of the working environment. Therefore the following enterprise skills are needed:

- “oral, visual and written communication, numeracy, computing skills, creative and critical thinking, problem-solving, decision-making, self-evaluation, teamwork, leadership;
- have had experience of employer environments, taking responsibility for their own learning and development, business and resource management;
- have acquired increased confidence, awareness of the challenge and rewards of the business environment, greater initiative” (Foremen-Peck, 1993:109-110).

Whiteley (1995) links enterprise skills with transferrable skills and sees them as one and the same. So instead of referring to enterprise skills he refers to transferable skills which are: “problem-solving, presentation and negotiating skills, written communication, numeracy and computer literacy, working with others, self-awareness and confidence, initiative and creativity, assessing work and achieving results” (Whitely, 1995:6).

Van Schoor (2000) argues that a combination of “soft skills”, experience and theoretical knowledge are needed to be effective employees. The current higher education system does not teach or enable graduates to acquire “soft skills”. His study divided “soft skills” into skills, values and attitudes into three domains; cognitive domain, behavioural domain and affective domain. Cognitive skills are mental, technical and problem solving abilities; these allow development of your field of specialisation. Behavioural skills allows one to use his behaviour in order to achieve interpersonal and leadership success. Affective skills are motivational skills.

Cognitive domain is divided into eight skills, attitudes and behaviours, namely:

- Communication-communication skills, writing skills, presentation skills and listening skills.
- Computer skills-computer literacy.
- Problem solving- analytical ability, practical ability, common sense, logic, enquiring mind and intelligence.
- Business skills- entrepreneurial skills and understanding of corporate culture.
- Creativity-lateral thinking, innovation and creativity.
- Learning ability-willingness and ability to learn.
- Technical knowledge.

Behavioural domain is divided into five skills, attitudes and behaviours, namely:

- Time management.
- Interpersonal relations-team player, negotiation skills, patience and understanding.
- Leadership skills-decision making, motivation, change agent, strategic thinking.

- Management skills- planning, organisational ability, conflict management, management skills and supervision management.
- Lifestyle-presentation, respect and personality.

Affective domain is divided into five skills, attitudes and behaviours, namely:

- Integrity-honesty and ethics.
- Initiative- enthusiasm, positive attitude, self motivation, drive, self starter and energy.
- Commitment-responsibility, reliability, punctuality, hardwork, loyalty, diligence, accuracy and discipline. Growth and development-assertiveness, flexibility, adaptability and goals.
- Confidence (Van Schoor, 2000:41-46).

Ward (2004) concludes that graduates need more than their qualification, they need "skills and qualities that will enable them to function well as productive citizens of the new economy" (Ward, 2004:104). Employers are looking for employees with entrepreneurial attributes and emotional intelligence as opposed to the hard technical skills, and she listed them as follows: "emotional intelligence, people that can be developed, people that get along with others, professional appearance, creative and innovative- not robots; and resilience, good literacy and numeracy skills, self-control, self-management and discipline, possibility thinking, ability to build successful relationships, work ethic, persistence and resilience, learning from mistakes; and practical problem solving" (Ward, 2004:108).

Rae (2007) argues that enterprise education should be connected with employability and career development. He states that although employability, and career development programmes may be offered in higher education, they are offered as separate entities from curriculum programmes. Therefore, students are not likely to see the connection between employability, career development and academic knowledge. He suggests that the latter should be incorporated into degree programmes. He has introduced five strands into which this can occur, namely:

- Personal development- assisting students to set personal goals through self-assessment and reflection and applying this to setting "career plans, curriculum vitae and job applications" (Rae, 2007:613).
- Applied learning- this involves applying the learnt knowledge into practice through work-based learning.

Skills development- enterprise and employability skills should form part of the curriculum programme and it should include the following:

- Personal: personal organization and time management; self-confidence and self efficacy; personal budgeting and financial literacy; finding opportunities and taking initiative to act on opportunities; creative thinking and problem solving; being able to take decisions and accept risks in conditions of uncertainty; planning, setting goals and persevering to achieve goals; and working independently; taking responsibility for achieving results.
- People: self presentation and a range of verbal and written communication skills; interpersonal skills of relationship building, negotiation, persuasion and influencing, leadership skills in a range of situations; team working effectively to achieve results with others; and participating in social and industry or professional networks.

  Tasks: project management; computer literacy and IT skills; numerical, analytical and quantitative skills; being able to adapt and work flexibly in different contexts; and taking responsibility for completing work to quality standard (Rae, 2007:614-615).

Work-based learning- students should be given the opportunity to gain experience of the world of work through short-term or full year work placements, part time, volunteering, freelancing, self-employment, etc.

Career management- there should be ongoing career development activities within the curriculum and this may include preparing CV's, job searching techniques and interviews, self presentation, exposure to professionals and professional networks.

Draycott and Rae (2011) have investigated 30 organisations that produced frameworks for enterprise education. These organisations had competency frameworks in the form of lists of enterprise skills. The enterprise skills listed were as follows: "Adapting to change, analysing and evaluating, communicating, decision making, enterprise awareness, financial, business and economic understanding, generating ideas and innovation, leadership, managing money and resources, negotiating and compromising, planning and organizing, setting targets and goals, solving problems, taking calculated risks, teamwork and using initiatives" (Draycott & Rae, 2011:144).

2.7 Conclusion

The first section dealt with the ontology of enterprise education. From this section, it is clear that the nature of enterprise education is not a straight forward concept. There are two major ideologies of enterprise education. The one ideology is that the objective of enterprise education is to produce students who will be entrepreneurs with the focus of owning businesses. The other ideology is that the objective of enterprise education is to produce

students who are enterprising, with a focus on developing attitudes, values and behavior (of an entrepreneur) that can be used outside the context of business.

The second section of the literature review dealt with the pedagogy of enterprise education. The framework that underpins teaching through an enterprise approach is student-centered, process driven, collaborative, experiential, negotiated and flexible teaching methods.

Many authors have endless lists of enterprise capabilities, however there is a general agreement of the following capabilities: problem-solving, risk management, creativity, communication and presentation skills, teamwork, decision-making, leadership and innovation.

The secret to the success of enterprise education is having a clear purpose and outcome. The most important lesson that has been learnt thus far is that enterprise education can be molded, contextualized and manipulated into any context and curriculum and that is the most powerful factor about it.

CHAPTER TWO (PART2)
LITERATURE REVIEW

2.8 Introduction

The second part of the literature review focuses on the relationship between planning education and planning practitioners. Furthermore, there is a discussion of the implications of the latter relationship on the planning education system. Next, is a discussion of the skills for planning graduates, particularly the additional interpersonal attributes that should be coupled with the technical skills. The aim of the latter is to establish the enterprise skills that are relevant to planning graduates.

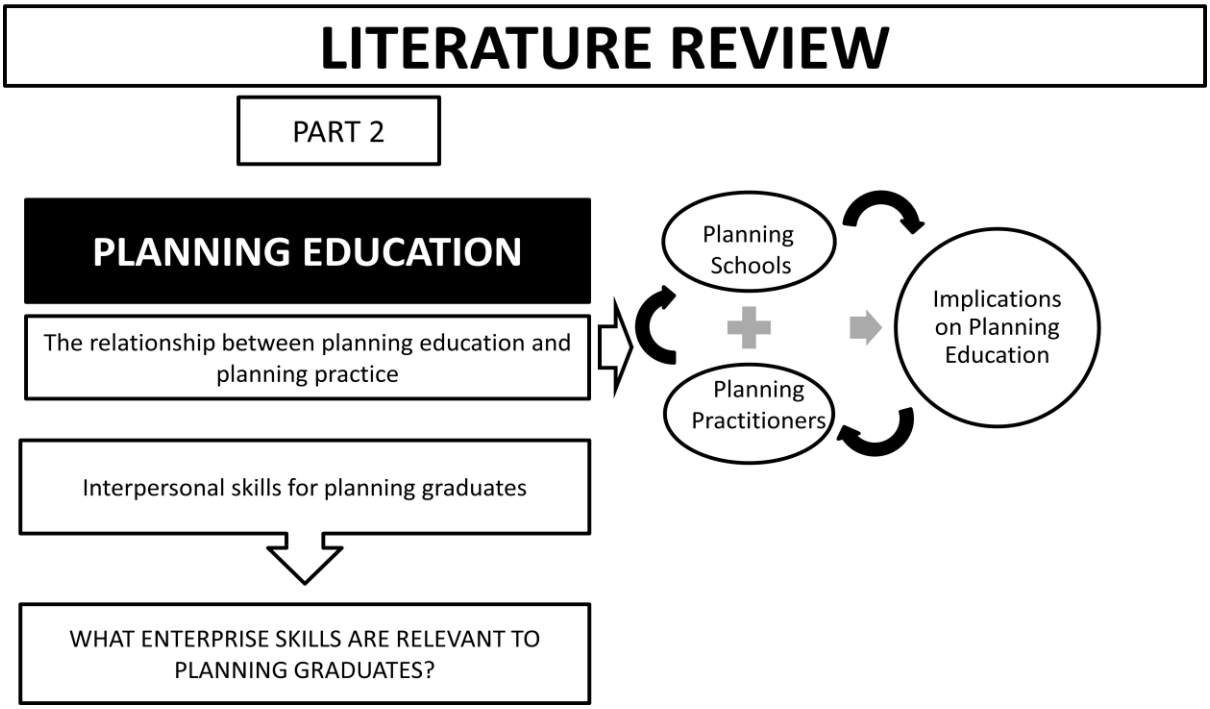


Figure 2.4: The framework of the literature review

Source: Sithagu (2014)

2.9 The relationship between planning education and planning practice

Edwards and Bates (2011), state that the relationship between planning schools and planning practitioners has been strenuous for more than three decades. The rift between the latter is based on two main differing schools of thoughts; the concerns are mainly about what students should know and what skills are necessary for practice. Primarily, planning schools strive to teach students planning theory, concepts and skills, while planning practitioners feel that students should learn practical skills of the day to day planning processes. According to

Ozawa and Seltzer (1999) even students have argued for a more relevant (to the planning practice) core curriculum.

Traditional education focuses on what students should know rather than on how students should use what they know to solve problems. The teacher feeds students with information, consequently; students passively receive this information and are overwhelmed by it. The result is that learning is reduced to “memorization and repetition” (Shephered & Cosgriff, 1998`).

Furthermore, Baum (1997) states that educators rarely talk about teaching methods, even more so, they rarely talk about teaching methods to each other. Most educators are researchers, often working alone. Universities give incentives to those lecturers and departments who publish their research. Ironically, educators spend their time promoting their academic culture instead of teaching students to work in the professional culture.

Lynch (1982) identified three basic skills for planners in practice. First, the ability to realise and acknowledge the complex relationships between people, places, events and institutions that manage them. Second; knowledge of planning theory, technical skills and physical design. Finally, communication skills (oral, written and graphics). Lusk and Kantrowitz (1990) state that planning education has successfully delivered the first two basic skills identified, however, students are not prepared for the communication demands that they will experience in practice.

While these two worlds of planning may assumedly seem to be in a collaborative state, the literature presents otherwise. This has consequences for the product of planning schools, which are planning graduates, who have to convert the knowledge and skills learnt from planning schools into actions in the planning practice. The nature in which a graduate takes action in the planning practice cannot be entirely blamed on planning schools, however, planning schools are largely responsible for the foundational knowledge and skills that a graduate would display in the planning practice. Therefore, the activities of planning graduates in planning practice mirror a reflection of the knowledge and skills acquired during the years of being in a planning school.

2.9.1 Planning schools

Within the planning academic circle there are further differing views; there are three prominent views. Some academic authors believe that there should be an emphasis on the

studio approach, while others view social sciences as important and finally those who believe that urban design should feature as a core subject in the planning curriculum.

The main author who believes in the studio approach is Friedmann (1996). He states that planning students should have an understanding of the history of planning and the interrelations of socio-spatial processes of the urban habitat. The practical skills that students should be taught are quantitative knowledge, spatial analysis and Geographical Information System (GIS), communication skills, negotiation and mediation, and professional ethics.

The main author who believes in an emphasis on social sciences is Baum (1997). He believes that planning schools should teach students to conduct research, communicate their findings using a range of interpersonal skills and intervene or implement planning solutions through real life problem solving techniques. He argues that traditional planning education gives planners a false sense of reality. Planning educators construct well defined problems instead of exposing students to the complex realities of practice; therefore planners enter practice expecting to conduct research but are unable to communicate their knowledge.

Likewise, Dalton (2001), Innes (1997), and Ozawa and Seltzer (1999) believe that working with data and research is important; however, it is even more important to effectively communicate that data and research in normal societal conversations with the community and other professions. To the planner; data or information is identified, gathered and analysed to form knowledge. However, knowledge does not stand in isolation from social constructs; furthermore, knowledge has meaning when it is socially constructed. This meaningful knowledge is transmitted through social interactions. In this instance, the planner's responsibility is to effectively transfer this knowledge through communication. When a planner takes on this role he/she can be seen as a "… broker, mobilizer, facilitator, mediator, and educator…"

The above-mentioned authors agree that students should develop a range of interpersonal skills such as communication, mediation, team work, negotiation and facilitation skills in order to deal with the complex dynamics of planning processes. Other authors who believe in the communicative element in delivering planning education include Campbell (2002), Maza (1995) and Hermalata et al. (1992).

Campbell (2002) first start by stating that planning is not a system but an idea of value."…planning is about making choices, with and for others, about what makes good places" (Campbell, 2002:272). The choice that a planner makes is informed by the academic knowledge and skills acquired, experience and the value system that completes his/her being. Therefore values are attached to actions and "…actions cannot be value-free" (Campbell, 2002:274). The actions of a planner are directly linked to his/her communication methods.

Furthermore, Healey (1992) states that "…the planner is more than a skilled and technical expert". The latter statement is supported by Mazza (1995) who states that in order for planners to maintain their expert role, they must be able to converse their planning knowledge and technical skills in societal conversions. Mazza (1995) further states that the key dimension to any planning activity is the ability to communicate it effectively and that planning activities always involve an element of negotiation and mediation.

Finally, Hermalata et al. (1992) argue that planning academics rely or delegate the role of teaching communication skills to other departments or faculties. They argue that teaching planning techniques can be integrated with communication skills. The integration of communication skills with planning techniques can be taught through action learning where students learn problem definition, information gathering and analytical techniques concurrently with communication skills.

The main author who believes that urban design should feature as a core subject is Carter (1993). He believes that physical and urban design should feature as a primary subject in the planning curriculum, and that management and intervention of planning problems can be done through physical design.

There are differing views within the academic circle which have consequences for planning practice, since planning graduates are influenced by the focus chosen by the planning schools. Planning practitioners have also boldly stated their views on the curriculum of planning schools.

2.9.2 Planning practitioners

Planning practitioners mainly argue that planning schools should focus more on teaching practical skills so that planning programmes are relevant to the skills demand of industry. Planning practice may pose three distinct challenges. First, a student will only know the

value of his/her knowledge through action in any particular situation. Second, theoretical knowledge is easier to convey, but how one conveys that knowledge in a societal and political context is much harder, especially conveying the knowledge to those who already know it. Finally, the planning practice may require one to be responsive to immediate situations, therefore, requiring one to use appropriate knowledge while acting or thinking on the job. " School assignments are designed for students to work alone, they have a time limit and consists of carefully constructed unrealistic problems. The world of practise is the exact opposite; planners hardly work alone, planning processes are real and mostly occur in a continuous fashion. "Practice is learned by practising" Baum (1997:17).

There is a huge difference in the thinking processes of planning educators and planning practitioners; this has implications for planning students. Planning educators are researchers. They are able to observe (through surveys and experiments) complex situations and formalise it into well-constructed theories. "Researchers think in the third person and past tense" (Baum, 1997: 24). On the other hand, practitioners think in the present. They are immediate in their decision making processes, simply because they are directly involved in projects and aim to be successful. In essence, practitioners and planning educators are different mentally and emotionally. Planning educators talk in abstract ways while practitioners talk by telling stories. This has implications for students since planning educators "teach students to observe from a distance" (Baum, 1997: 24), theorise and generalise complex situations. When students enter practice they find themselves in a world of conflict and complex situations that may be beyond one's control. It may be an emotional roller coaster since the educational institutions they come from have deliberately protected them from these realities.

Many practitioners acknowledge the significance of planning theory and concepts offered by planning schools, however, they argue that there is an imbalance in the teaching of theory and practical skills; more theory is being taught as opposed to practical skills. Some of the authors who support this view are Seltzer and Ozawa (2002), Dalton (2007) and Hoch (2011).

Seltzer and Ozawa (2002) state that planning schools present minimum emphasis on communication, negotiation, ethics and critical thinking.

While Dalton's (2007) survey states that a wide range of planning practitioners are involved in "non-traditional" activities such as report writing, public speaking or presentations and holding meetings; all of which are a form of communication. Hoch's (2011) survey of

planning practitioners supports the latter view. He found that 60% to 80% of planning practitioners prepare reports, conduct meetings, make recommendations, hold public presentations, negotiate, collect and analyse data.

On the other hand, Bailey and Walker (2001) conducted a survey of employer perceptions of graduate skills. The general perception of employers was that planning schools were producing graduates with reasonable knowledge and skills. Employers further stated that they were not expecting fully trained graduates, instead they argued for a more balanced understanding of planning knowledge and skills. However, they emphasised a focus on personal skills such as "oral communication and written communication; interpersonal skills; team working, customer orientation; time management; facilitating meetings; negotiation; and creative and lateral thinking" (Bailey & Walker, 2001:74).

Poxon (2002) conducted a similar survey (in the UK) to Hoch (2011). He found that practitioners valued graduates with transferrable skills that could be used in the workplace, such as "communication, self-development, information technology, spatial awareness, information gathering and evaluation, and policy formulation" (Poxon, 2002:572). In his survey, practitioners argued that graduates lacked the ability to convert their knowledge to action.

In summary, planning practitioners are clear on their visions of the ideal core curriculum. They emphasise a focus on skills development that is relevant to the daily processes of the planning work place, while acknowledging the importance of planning knowledge for a better holistic understanding of the profession. However, the request for planning schools to become relevant to planning practice cannot be left ignored; this has implications or adds pressure for planning schools to respond. What does this mean for planning education?

2.9.3 Implications for planning education

Academics value the importance of practical and communication skills, however, they state that it is difficult to teach and implement. Students struggle to absorb both substantive knowledge and theory, and simultaneously implement and reflect on what they have learnt. Furthermore, academics argue that teaching interpersonal skills is almost unattainable due to the scope of work students have to cover and the diverse educational backgrounds that students come from.

In contrast, practitioners argue that planning theory is important, however, communication skills should be interwoven with every theory subject. Bailey and Walker (2001) stand in the middle of the arguments between planning academics and planning practitioners. They agree that it is the duty of planning schools to equip students with intellectual capacity; however planning schools should also equip students with transferrable skills that will be useful to graduates even outside their profession.

Planning schools should make use of the opportunities that are granted to them by first acknowledging the experience that practitioners can bring into the curriculum. Baum further states that "there is no single best curriculum" (Baum, 1997:185). However, he has a few recommendations. Firstly, the planning curriculum should be a mixture of "…research, interaction and intervention" (Baum, 1997:185). This means that the curriculum should strive to strike a balance between theory and skills. The delivery of theory and skills should be conducted in an interactive approach. Planning education should not only teach problems but should also strive to develop strategies of interventions. Secondly, planning programs should require internships. This is an opportunity for students to test what they know with what is in practice. It is an opportunity for students to become aware of the dynamics of industry. It is an opportunity for students to become reflective through interaction with others; something that the curriculum cannot do alone. Thirdly, studio projects should be done in the context of real life problems, with real life practitioners. Studio work should encourage team work, interdisciplinary collaborations, develop technique and intervention methods. Fourthly, teaching methods should be in a range of interactive and experiential ways through simulations, role plays and case studies. Fifth; experiential learning should continue from the first semester to the final year. Finally, planning firms and planning schools should foster long-term relationships. This can be done by having practitioners as student's supervisors and mentors. In essence, practitioners should be absorbed in the school culture, curriculum development and teaching methods.

All the above-mentioned recommendations are not new, however they are challenging to implement. One of the challenges is change. Changing the curriculum structure is not an easy task and may take some time to be fully implemented. The second challenge is changing the academic and institutional culture. Academics may feel that they are losing control over their own profession; on the other hand it is difficult for change to happen if there is no holistic institutional will and support (Baum, 1997).

In summary, planning schools and planning practitioners (both) acknowledge the significance and the existence of the other. Practically, one cannot survive without the other.

Although there are differing debates about who should be doing what, it is clear that a consensus should be attempted for the sake of the students. There are some authors who have attempted to bridge the gap between planning schools and planning practitioners. All the above-mentioned recommendations have their pros and cons; the real test is an attempt to implement them.

2.10 A Literature review of planning skills

2.10.1 Defining “skills” in this context

There are different definitions and terms given to the word “skill”, however, most of these terms and meanings are the same or overlapping. The following discussion is to give an overview of the different terms and meaning of “skill”, following will be an extraction of the skills that are not relevant to this research. There is an insertion of the different skills that are relevant to this research and finally, discussions on why the chosen set of skills are relevant in the context of this research.

There are three sets of skills; generic skills, vocational skills and personal attributes. Generic skills are general skills which can be used across different professions, key skills are “communication, problem-solving, team work…”.Vocational skills are occupational skills, and these are unique technical skills relevant for the performance of duties in each profession. Personal attributes may not be necessarily termed as skills but as personal characteristics that help employees perform better at their duties; these skills cannot be taught but can be developed (DFES, 2000).

Transferrable skills are skills and abilities that are applicable in more than one context. The latter term may be further labelled as “core skills, generic skills, core competencies, personal skills and personal competencies”. Although these terms may appear to be different, they have a similar underlying concept. These are skills that allow employees to be flexible and adaptable to the changing environment of the work place, these skills are namely: communication, team work, problem-solving, and numeracy and information technology skills (Kemp & Seagraves, 1995).

Employability skills are those skills that are usually specified by employers who are seeking discipline-related skills. These set of skills can also be termed as core skills, key skills or

generic attributes. These skills can range from basic to detailed discipline-related skills (Kemp & Seagraves, 1995).

Van Schoor (2000) divides skills into three domains; cognitive, behavioural and affective skills. The central themes of these skills are what Van Schoor terms as “soft skills”. These are different from technical skills (which are discipline-related skills); soft skills are personal attributes, values and attitudes that should be used in conjunction with technical skills.

According to the different meanings of “skill“ as outlined in the paragraphs above; this research is not focusing on vocational, technical or employability skills. In other words, this research is not focusing on discipline-related skills. This research is focusing on:

- Generic skills and transferable skills, because these skills can be used in different professions and contexts.
- Behavioural and affective skills because these are value driven. These skills refer to personal attributes, values and attitude; these are important particularly to planners.

2.10.2 A worldview of planning skills

The following is a literature review of planning skills as discussed by various authors. The aim is to show the similarities between enterprise skills discussed by authors of enterprise education and planning skills discussed by authors of planning education.

Kitchen (2007) starts by recognising the diverse synonyms connected to the term "skills”. The planning skills that are relevant to this research are what he calls personal skills, which are: communication skills, attitudes, values and ethics, reflective skills, continuous personal professional development and being an effective member of a planning team. His personal skills are comparable to enterprise skills. Kitchen (2007) states that although planners possess distinct technical skills they also have personalities, prejudice, preconceptions and life experiences that influence their behaviour and decision making processes in their profession. All of these additional attributes adds a soft layer to the technical skills that planners have and may influence the kind of planners they become. However, there are personal skills that planners may use to become effective planners. Kitchen does not refer to these skills as enterprise skills but as personal skills, however, it is important to note the similarities between the latter skills. Personal skills are divided into four groups, namely:

- Communication skills- which are oral skills, listening skills, writing and the ability to produce graphics.
- Attitudes, values and ethics- Planners are not value-free or value-neutral. Planners take their values, attitudes and ethics to work. A planner's value, attitude and ethics come to be tested in the planning processes when "things go wrong" due to corruption, deceit and sometimes even silence.
- Reflective skills and continuous personal professional development- these refer to the ability to learn from one's own and other's mistakes, and past experiences. Although situations may be different in context, the learning experience is similar to any other situation. Therefore, planners need to commit to life-long learning.
- Being an effective member of a planning team- Planners rarely work alone, therefore, they need to develop team or group skills. There is constant communication between a range of diverse professionals, communities and stakeholders.

Other authors have discussed planning skills that have similar attributes to enterprise skills and each will be discussed below.

The Royal Town Planning Institute published a policy statement and general guidelines for academic institutions. These guidelines were the view of the professional body about what planning schools should be teaching planning students and the competencies they should acquire at school, and they are as follows:

Competence skills in: problem definition, research skills and data selection, quantitative analysis, aesthetic dimensions and design awareness, strategic and synoptic dimensions and implications, synthesis and application of knowledge to practice, collaborative problem-solving, written, oral and graphic communication, information technology and awareness of the value dimensions of planning work and the ethical responsibility of the planner (The Royal Town planning institute, 1996 as cited by Kitchen, 2007).

The Discipline Network of Town Planning (Daniels, 1996) refers to transferrable skills which are very similar to enterprise skills. The network published an annual report that had survey results of employer perception on the transferrable skills that planning graduates should have, and they are as follows:

	Per cent
Report-Writing	*96.1*
Written communication	*96.1*
Problem- solving	*84.4*
Time management	*81.8*

Group working	*80.5*
Problem analysis	*80.5*
Negotiating skills	*68.8* (Daniels, 1996:8)

Oc et al. (1997) conducted a survey in which practitioners and academics gave their view on what skills planners should have and their level of importance. Academics and practitioners were asked to rank the planning skills. 1 represented the highest rank and 9 represented the lowest ranked skill, and they are as follows:

	Academics	*Practitioners*
1.Analytical and research skills		
Problem definition/ solving	*1*	*1*
Synthesis and application of knowledge	*2*	*3*
Strategic thinking	*3*	*2*
Conceptualization	*4*	*4*
Qualitative analysis	*5*	*5*
Ability to read maps	*7*	*6*
Data collection	*8*	*8*
2.Communication and professional skills		
Reasoning and negotiation	*1*	*1*
Collaborative problem-solving	*2*	*2*
Written communication	*3*	*3*
Management and leadership	*4*	*4*
Oral communication	*5*	*5*
Design/ graphic communication	*6*	*6*
Information technology	*7*	*9*
Aesthetic awareness	*8*	*7*
Time management	*9*	*8* (Oc et al., 1997:8)

Guzzetta and Bollens (2003) conducted a survey that compared planning skills with other professions, public sector and private sector planning skills as well as future skills deemed necessary. Although these skills were not termed enterprise skills they have significant similarities to the concept of enterprise skills. The findings were as follows and appear in the most rated skill to the least rated skill:

Planning skills compared with other professions' skills include:

- *Communication skills, report writing, familiarity with laws, ordinances and policy, effective presentation, management, understanding public/client needs, Writing for the public, quantitative analysis, Technical skills* (Guzzetta & Bollens, 2003:100).

Public sector planning skills and private sector planning skills include:

Skills more important to public-sector planners:

- *Report writing, familiarity with laws, ordinances and policy, effective presentation, writing for the public (Guzzetta & Bollens, 2003:100).*

Skills deemed important for both private and public sector planners:

- *Communication, management, understanding public, quantitative analysis, technical skills* (Guzzetta & Bollens, 2003:102).

Future skills deemed as important to career development include:

- *Leadership, organisational development, advanced policy analysis, negotiation/mediation,*
- *verbal/written communication, electronic/ Web-based communication, other (miscellaneous)* (Guzzetta & Bollens, 2003:103).

Frank (2007) is one of the few authors who saw a need to include enterprise education in the planning curriculum and has listed enterprise skills that are important to planners. He argues that planning education has ignored enterprise education in their academic programmes. This is attributed to the concept that planners do not readily see themselves as enterprising. A traditional planner is perceived to be a person in the public domain who seeks to promote public justice, basic service delivery, urban development and management, etc. Planners do not see themselves as profit driven, risk-taking or robust like an entrepreneur. However, Frank makes the argument that there are certain personal characteristics that are found in entrepreneurs that planners can make use of in their daily work activities, and they are as follows: "mediation and advocacy, mission targeting, alliance building and networking, recognising the importance of stakeholders, creativity and imagination, problem solving, analysis and definition, critical thinking, team working and interdisciplinary thinking" (Frank, 2007:644).

2.10.3 Planning skills in the South African context

The contextual background of planning education in South Africa has been discussed on page 2.

Planning skills in the context of South Africa cannot be discussed without reference to the changes that the planning profession had undergone over the past few decades. Prior 1994, planners were concerned with town planning, that is, development control, layout planning and managing town planning schemes. Therefore planning was a system of plan-making and development control. The planning profession at that time was heavily influenced and headed by engineers, which meant that planning was highly technical. There were 864 municipalities, which meant that planners looked after small areas at a time (Ovens & Associates, 2007).

Post 1994 there were new demarcations of municipal boundaries from 864 to 284 municipalities. This meant that municipal authority was spread over larger areas and included un-serviced and under-serviced areas. This gave rise to new challenges to planning. Planners were not merely faced with regulatory and development control but had to incorporate strategic, integrated, forward and regional planning. Furthermore, planning shifted from being an outcome based profession to a profession which focused on planning processes. These planning processes included community participation and engagement, consultation and transparency. In essence the role of municipalities shifted from control to integrated planning development. This shift in the role of municipalities demanded planners with a different set of skills and they are as follows:

- *Analytical thinking to guide and create the development agenda for the municipality*
- *Research*
- *Computer utilisation*
- *Policy formulation*
- *Management to ensure that performance standards remains adequate and that responsibilities are adhered to with budget limits and capacity constraints*
- *Adaptability during changes to meet the goals*
- *Problem solving*
- *Stakeholder identification and management*
- *Formal presentation/ public speaking*
- *Report drafting with respect to development planning applications*
- *Management of development planning objections and preparation of legal arguments in this regard*

COMMUNICATION

- *Providing or obtaining information requiring difficult explanation*
- *Public appearances and debating*

CREATIVITY

- *Facilitate development of vision for municipality*
- *Creativity is required to develop completely new methods/understanding* (Ovens & Associates, 2007:14-15).

The South African Council of Planners is currently in the process of drafting general competencies and standards for South African planners. There are three forms of competencies: generic competencies, core competencies and elective or specialist competencies. Generic competencies are attributes that all planners should have and they are as follows: “Critical thinking, interpersonal competencies, communications, leadership, professionalism and ethical behaviour” (Ovens & Associates, 2007: 20)

The role of a planner has drastically changed from prior 1994 to post 1994. There are more issues that concern planners now than there were in the past; issues such as the eradication of poverty and inequality, environmental management, economic development and community participation. However, planners are ill-equipped to deal with such issues since they are still educated using the traditional planning processes of development control. Planners today are required to manage geographically larger areas. New planning processes such as community participation, integrated development planning are some of the challenges that planners have not been prepared for during their academic year. The integrated development process requires planners to have communication skills which will be used to promote community participation and engagement. In addition, the integrated development process requires planners to have management skills and financial management skills. Planners today are required to strike a balance between short term planning processes such as development control and long term planning processes that ensures sustainability of a city (Ovens & Associates, 2007).

2.11 Conclusion

There is a tug of war between planning schools and planning practitioners. The main source of the rift between planning schools and planning practitioners is the legitimacy of planning education; whether it is relevant for practice. Planning schools aim to equip students with holistic theoretical knowledge and skills. While planning practitioners call for an emphasis on practical skills relevant to the day to day planning processes.

Planning educators are labelled as researchers who analyse from a distance and turn complex situations into abstract and generalised concepts. Practitioners are directly involved in projects and are required to be immediate reactors to situations. Instead of generalising, practitioners appreciate the uniqueness of each situation. Ironically, planning educators and

planning practitioners have different professions; they act and think in different ways, however they share one common entity: the students. Students enter the world of practice unprepared for the complex realities of industry and consequently have to learn to deal with industry. In that case, what is the role of planning education if students have to learn from practice? Some authors have stated that the role of planning education is not to fully equip students with all the tools for industry. It is practically unattainable to teach students theory, practical skills and communication methods relevant for planning (due to the large scope of work, the diverse educational backgrounds of students and the difficulty of synthesising both theory and reflective skills). The authors conclude that industry has the equal role of training students what they have not learnt.

Planning practitioners have a clear vision of an ideal core curriculum. They argue for more emphasis on the teaching of practical skills in order to respond to the skills demand of industry. Although they acknowledge the value of theoretical knowledge, they argue that most of the theory is irrelevant in the planning practice. Industry surveys have shown that planners take up most of their time conducting “non-traditional” planning work which demands a communicative approach. In essence, employers are seeking planners that show a range of communication abilities. They (practitioners) also call for a more realistic planning curriculum. The only way students are going to be prepared for practice is if they practice what is in the world of practice.

This list in the table below was derived from the literature of enterprise education, as well as the literature of planning education. The researcher identified the most common and prominent skills from both sets of literatures. Furthermore, the listed planning skills have been categorised using Van Schoor’s (2000) method of categorising “soft skills”. There is the cognitive domain, the behavioural domain, and the affective domain.

Table 2.2 Skills divided into cognitive, behavioural and affective skills

Cognitive skills	**Behaviourial skills**	**Affective skills**
Analytical skills	Self belief	Independence
Computer skills	To have initiative	Acting resourcefully
Decision making	The ability to work in a team	Being innovative
Critical thinking	Leadership skills	Confidence
Awareness of the business environment	Planning & organising	Self awareness
The ability to work with numbers	Management skills	Self assessment

and calculations		
The ability to communicate with others	Time management	The ability to use imagination
Problem-solving skills	Understanding client needs	
The ability to learn by themselves	Customer awareness & feedback	
Report writing	The ability to adapt to change	
Negotiation	Recognising the importance of stakeholders	
Public speaking	Networking	
Deabting	Self reflection	
Presentation skills		
Creativity		

The overall aim of the parts; chapter, i.e. part 1 and part 2 was to link the two disciplines of enterprise education and the (town) planning education. The linkage can be drawn from the discussion of the enterprise skills and the planning skills. There are distinct similarities between enterprise skills identified by authors of enterprise education and planning skills identified by authors of planning education. The table represents the skills that authors of planning education regard as essential “soft skills” for planners, while they also represent essential enterprise skills in enterprise education. In other words, planners do recognise the importance of enterprise skills, even though they may not explicitly refer to them as enterprise skills.

CHAPTER THREE
RESEARCH DESIGN, METHODOLOGY AND DELINEATION OF THE RESEARCH

3.1 Introduction

This chapter follows the framework as illustrated by the diagram below. The framework was guided by Dawson (2009), Kumar (2011), Morse and Richards (2002), Creswell (2009), Creswell and Clark (2011).

The chapter has the following sequence: firstly, there is a discussion of the chosen philosophical worldview. The philosophical worldview chosen is pragmatism. There is a basic explanation of the concepts of pragmatism and how it has shaped the approach to the research.

Secondly, is a review of the research problem, research question and purpose of the research.

Thirdly, is a discussion and justification of the chosen research methodology. The chosen research methodology is mixed method research. A definition and explanation of the basic concepts of mixed method research is provided. Following is a justification of the chosen strategy. Finally, there is a discussion of the advantages and challenges of mixed method research.

Fourthly, the last few sections include the sampling methods, data collection methods and instrumentation.

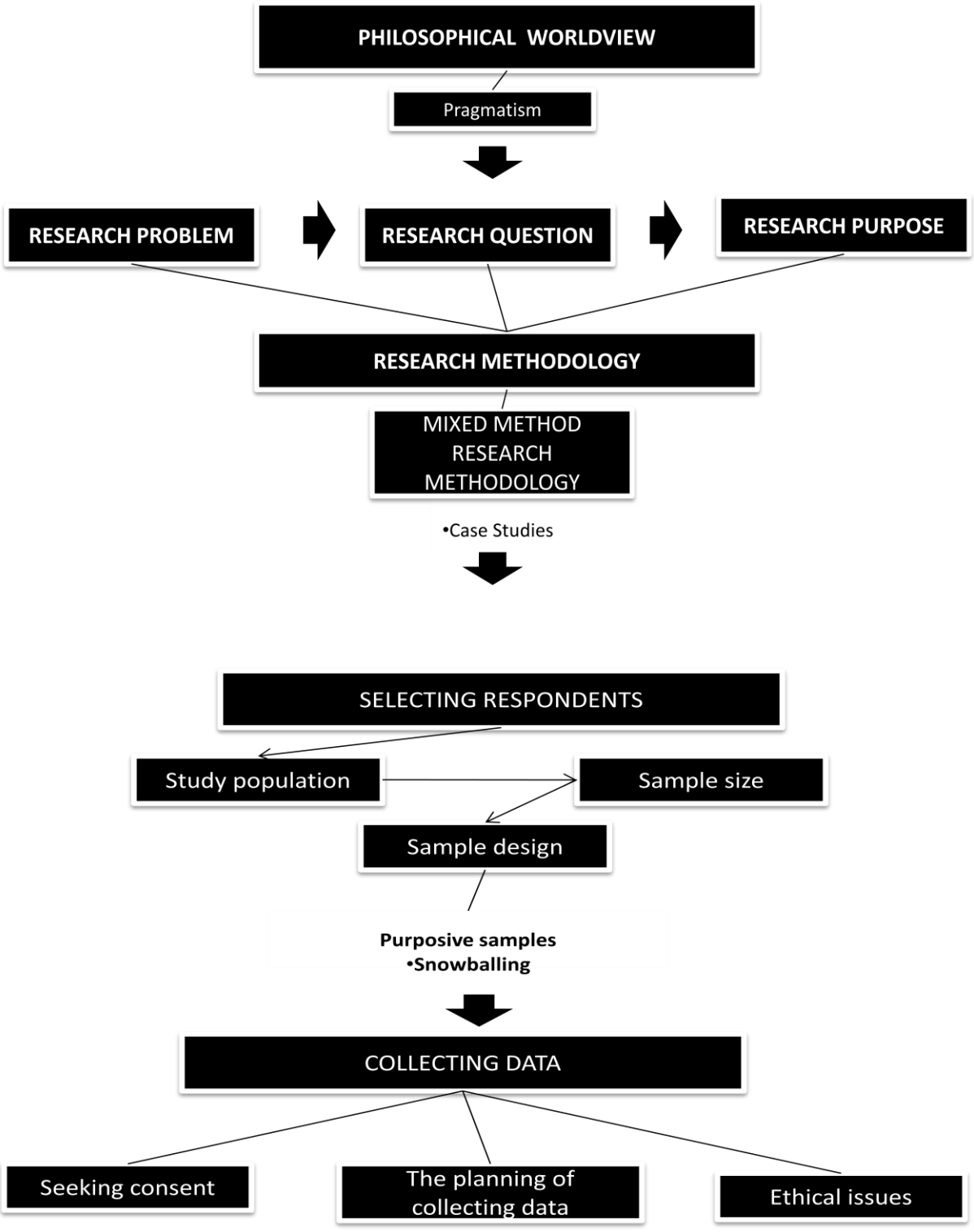


Figure 3.1: The framework for chapter three.

Source: Sithagu (2014)

3.2 Philosophical Worldview

The following paragraphs give a brief explanation of the types of philosophical worldviews that exist. Following is a discussion of the characteristics of the chosen philosophical worldview and finally, there is an explanation of why the researcher chose the specific worldview.

Each researcher brings along a set of beliefs into their research; these beliefs assist the researcher in viewing the world in a certain way. A researcher's orientation to the world is termed "worldview" (Creswell, 2009:6). There are four types of worldviews in research, namely postpositivism, constructivism, advocacy/participatory and pragmatism. The table below gives a brief summary of the characteristics of each worldview.

Table 3.1: Different types of philosophical worldviews (Cresswell, 2009).

Worldview	**Characteristics**
Postpositivism	• Researchers are interested in the causes and outcomes of phenomena. • The research is guided by a theory. The process entails using the theory as a framework, collecting data and testing the theory. The theory is then supported or rejected, which will ultimately entail in the modification of the theory. • It is likely to be used by quantitative researchers since it uses observation and measured by numerics.
Constructivism	• Researchers interpret the world through experiences and meanings of people towards objects and things. Therefore, the researcher relies on participant's view of the world. This means that the research takes place in the context of the participant. • The research does not depend on a theory; the researcher develops his/her own theory. • It is most likely to be used by qualitative researchers since it involves open-ended questioning.
Advocacy/participatory	• Researchers believe in the empowerment of the marginalised. This entails the integration of research with politics or political agendas. • Research is driven by a theory. • The overall aim of the researcher is to instil change in the world by addressing issues of injustice.
Pragmatism	• Researchers are interested in the process of phenomena; how things work and the consequences thereof. Researchers ask "what" and "how". • Researchers use multiple research methods, data collection and analysis to understand the "what" and "how" of a phenomena. • The research may or may not include a theory. • Research acknowledges historical, social and other contextual elements that the participant is in.

The chosen philosophical worldview that applies to this research is pragmatism. This research corresponds with the philosophy of pragmatism as it is interested in finding out which enterprise skills are relevant to planning graduates and whether the teaching styles of lecturers encourage the development of enterprise skills. In other words, this research is interested in the process of developing graduates to be enterprising planners.

The aim of the next section is to highlight the link between the research problem, research question and the research purpose and how they guide the choice of the research methodology and research method.

3.3 Review of the Research problem, Research Question and the Research Purpose

Morse and Richards (2002) discuss the congruence between research purpose, research question, research methodology and research method. They believe that there is a link between the latter elements. First the researcher identifies a problem. From the research problem, he/she establishes a research question. This will then translate into the research purpose. How the researcher considers addressing the research question will guide him/her in selecting the research methodology and research methods. Therefore this section follows the authors' line of thinking.

Chapter one dealt with the research purpose, research problem and research question (refer to table 1.1). How did the research problem, research question and purpose of the research influence the type of research methodology and research method? There were two research questions in this research. An attempt to answer the first research question was done through the quantitative research method. The second research question was done through the qualitative research method. The following section explains why the chosen research methodology was appropriate for this research.

3.4 Research Methodology

First, there is an explanation or definition of mixed method research. Second, a discussion of the advantages and challenges of using mixed method research. Finally, a discussion on the reasons for choosing mixed method research.

3.4.1 Definition of mixed method research

Creswell and Clark (2011) discussed mixed method research as a fairly new phenomenon in research compared to quantitative research (which is the oldest type of research) and qualitative research (which followed later). While quantitative and qualitative researches have their own disadvantages when used alone, mixed method research attempts to incorporate the strengths of both research strategies. In other words, mixed method research is a combination of quantitative and qualitative research.

Greene et al. (1989:256) have stated the definition of mixed method as: "…we defined mixed method as those that include at least one quantitative research method (designed to collect numbers) and one qualitative method (designed to collect words), where neither type of method is inherently linked to any particular inquiry paradigm." However, the definition of mixed method research has evolved to incorporate not only research method, but also research methodology, philosophy and research design. In other words mixed method research includes the entire research process." This has led to Creswell and Clark (2007:5) who define mixed method research as:

…a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and mixture of qualitative and quantitative approaches in many phases of the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone.

3.4.2 Advantages and challenges of using mixed method research

It is argued that quantitative research is ineffective in understanding the context, thoughts and feelings of participants, while qualitative research is ineffective due to the biased nature of the researcher's interpretations. Therefore, a combination of quantitative and qualitative research ensures that both deficiencies are dealt with. Mixed method research has an element of flexibility in the collection and analysis of data. Researchers are free to use multiple research methods, techniques and procedures in order to answer their research questions and understand or explain their research problem. In addition, mixed method research allows a combination of philosophical worldviews or paradigms. Quantitative and qualitative research have fixed research paradigms that function differently from each other, however, mixed method research is seen as the bridge between quantitative and qualitative

research by answering what neither approaches cannot answer alone (Creswell & Clark, 2011).

The most significant challenges of mixed method research are time and resources. Mixed method research occupies twice the amount of time. Since more time is spent in the research process more resources have to be incorporated in order to satisfy the criteria for both qualitative and quantitative research (Creswell & Clark, 2011).

3.4.3 Reasons for using mixed method research

Choosing a mixed method approach should be guided by the research problem. There are six ways in which a research problem can influence the choice of mixed method research and they are as follows:

- One data source is insufficient.
- There may be a need to explain initial results with another method.
- The research question may be initially unknown; therefore it may be necessary to first conduct a qualitative study to determine questions and variables, thereafter conduct a quantitative study.
- The researcher may feel the need to enhance one research method with another.
- A theory may require more than one research method.
- The research objective may require multiple research methods (Creswell & Clark, 2011).

Greene et al. (1989) and Bryman (2006) have discussed reasons for using mixed method research. In the context of this research, the reasons for conducting mixed method research are:

- Diversity of views and different research questions: the quantitative research method attempted to determine the enterprise skills relevant for planning graduates. Employers of CPUT graduates were asked for their opinion of the relevant enterprise skills that CPUT planning graduates should have. Additionally, CPUT planning lecturers were asked to list enterprise skills that they aim to develop. The qualitative research method attempted to answer the second research question, which was; is there an existence of enterprise skills development? The latter focused on the teaching styles of lecturers.

  By conducting a mixed method research, the results of the quantitative methods showed a connection or disconnect to the results of the qualitative methods. In other words, do the skills that lecturers thought they were developing match with the

opinions of employers? In essence the results of the qualitative research provided meaning for the results of the quantitative method.

- Process: the quantitative method provided a list of enterprise skills that employers and lecturers perceived as relevant skills for graduates, while the qualitative method provided a more in-depth analysis of the process, i.e. the teaching style through which enterprise skills development takes place or not take place.
- Triangulation**:** as mentioned earlier, the results of the qualitative method either confirmed or differed with the quantitative method, by doing so, there was triangulation of research methods.

3.5 Mixed Method Design

This section discusses the different mixed method designs that exist. Following is a discussion of the chosen mixed method design, the reasons for choosing the design, the purpose of the design, procedures of implementing the design, the advantages and challenges of the design.

There are six mixed method research designs as discussed by Creswell and Clark (2011), namely, convergent parallel design, explanatory sequential design, exploratory sequential design, embedded design, transformative design and the multiphase design. There is a brief discussion of the chosen design.

Convergent parallel design is when the researcher conducts quantitative and qualitative strands at the same time, weighs and prioritises both research strands equally, conducts independent analysis and mixes the findings of research strands during the interpretation stage.

This research utilized the convergent parallel design. The purpose of the convergent parallel design was to use different research methods for the same research topic. Both qualitative and quantitative methods occurred concurrently. They were independent of each other, they had the same level of priority, and their procedures occurred in their traditional form. However, one research method was used to complement the other. Additionally, convergent design was used for contrasting, comparing, corroboration and validation purposes. The overall purpose of the design was to gain a more comprehensive understanding of the research problem by using both qualitative and quantitative research methods. In other

words, convergent parallel design used the best of both worlds (quantitative and qualitative methods).

The convergent parallel design was chosen for the following reasons:

- There were two different research questions which were independent of each other.
- There were two research participants that were independent of each other and were investigated simultaneously.

The procedures for implementing a convergent parallel design are outlined in the diagram below.

The convergent parallel design is advantageous to first-time mixed method researchers in that it is efficient and fairly simple because data collection and analyses are conducted concurrently and separately for both qualitative and quantitative methods.

One of the challenges of using convergent parallel design is the level of priority given to each research method. Each method has equal priority; this means that the researcher has to be competent in both fields of research. This can pose as a challenge if the researcher is more comfortable with only one research method. The best thing to do in this case is to establish a research team with individuals who are experts in the different research methods; however, this will ultimately increase the cost of the research. Having different sample sizes for each research method may have consequences in merging the two data sets. It may be difficult to analyse and synthesise two differing data sets.

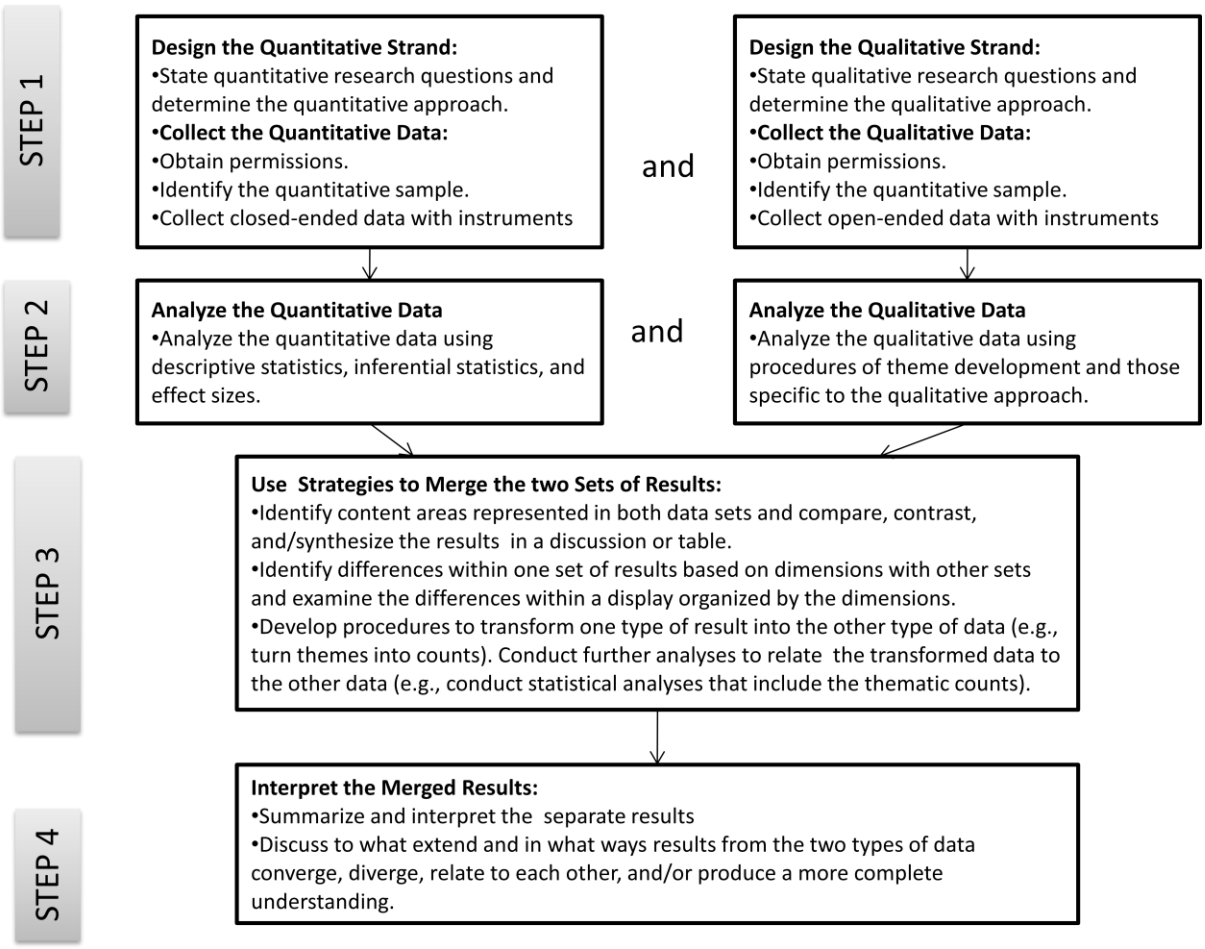


Figure 3.2: The procedures for implementing a Convergent Parallel Design

Adapted from Creswell and Clark (2011:69)

3.6 Quantitative Strand and Qualitative Strand

A strand is the basic process of posing a research question, collecting data and analysing the data (Creswell & Clark, 2011).

The next section is an explanation and breakdown of the steps and processes of the convergent parallel design as shown in the diagram above. First is an explanation and definition of the quantitative method. Followed by a discussion of the chosen type of quantitative method, the purpose and the reasons for choosing this method. Following is the sampling process, data collection process, validity and reliability issues. The same sequence of discussion is done for the qualitative strand.

3.6.1 Quantitative Strand

Quantitative research is a form of enquiry that makes a generalisation about a large population. It does this by enquiring closed-ended questions through its research instrument, thereafter turning the data into numerical information that can be analysed through statistical procedures (Creswell, 2009). The characteristics of quantitative research are as follows (Struwig & Stead, 2001):

- The primary role of quantitative research is to test a hypothesis.
- Quantitative research measures variables. A variable is a "characteristic or attribute of an individual organisation that can be measured or observed and that varies among the people or organisation being studied" (Creswell, 2009:48).
- Quantitative research focuses on the cause and effect of the variables. There are three forms of cause and effect variables, namely: independent variable, dependant variable and intervening or mediating variable. Independent variables cause the outcomes of a phenomenon. Dependent variables are caused by independent variables, therefore, the results of a phenomenon is influenced by the independent variable. Intervening or mediating variable intervenes in the effects of dependant and independent variable (Creswell, 2009).
- Quantitative research is interested in the generalisation of its findings; hence it focuses on large sample sizes.
- The overall purpose of quantitative research is the ability of the research method to be replicated in different contexts.
- Quantitative research requires its findings to be expressed in numbers.

There are four forms of enquiry in quantitative methods, namely, exploratory research, descriptive research, experimental and quasi-experimental research.

Exploratory research involves investigating a problem in which little is known about. The purpose of this type of research is to create questions and hypothesis for future investigations. There is a great deal of information gathering from a small sample. Information gathering can take three forms: data from secondary sources, selected cases and a survey.

Descriptive research attempts to describe a phenomenon. The method of enquiry for this method can be conducted through case studies and statistical methods.

Experimental research involves addressing research questions about causality; to what extent do the independent variables have influence over the dependant variables. Quasi-

experimental is similar to true experimental research; however, the only difference is that samples are not randomly selected (Struwig & Stead, 2001).

The type of quantitative research that this research undertook was descriptive research which took the form of a case study. What made the quantitative research a case study? The uniqueness of the quantitative strand stemmed from the population that participated in the research. There were two population types that participated in the quantitative research: employers of CPUT graduates and lecturers at the CPUT planning school. Each of the two participants was unique.

What made the employers unique? According to Verster's et al. (2010) study; the largest employer of CPUT graduates in the Western Cape was the Cape Metro Council and provincial government; 45% of graduates were employed in local authority, 38% in the private sector and 17% were employed in the national and provincial government. Employers also noted that technikon graduates had more tangible skills such as GIS and CAD than their university counterparts, therefore many employers still appointed technicians for technical work, while university graduates were appointed in the domain of policy making (Watson et al., 2001). In essence, what made this case unique was the fact that almost half of CPUT graduates were employed in the Western Cape. Additionally, many employers still appointed graduates for their well-known practical skills compared to graduates from traditional universities.

What made the lecturers of the CPUT planning school unique? It was the unique teaching style of each lecturer. There were two other universities of technologies in South Africa offering the same planning qualification with very similar subjects. However, the teaching styles of these lecturers cannot be identical. Each lecturer brought their own personal styles and learned skills in the classroom, and that's what sets him/her apart from the other.

The purpose of a case study research method is to obtain opinions from employers of CPUT planning graduates about the relevant enterprise skills graduates needed for the workplace. In essence, the purpose of the case study was to investigate the trends in the workplace that required graduates to acquire enterprising skills. This portrayed the type of enterprise skills that planning graduates should have in the workplace. Secondary to this was an investigation into the presence or absence of enterprise skills in the CPUT planning curriculum. This was done by interrogating town planning lecturers at the Department of Town and Regional Planning. The aim was to gather the perception of lecturers of the relevant enterprise skills that students would need for the workplace.

The advantages of conducting case study research in the context of this project were two-fold. One, it focused on employers in the Western Cape as well as lecturers of CPUT. This made it financially and practically feasible because of the reduction in the population size. Additionally, it focused the research on a specific group which enabled the researcher to obtain richer data.

3.6.2 Sampling Process

Sampling followed the process as suggested by Creswell and Clark (2011) and Institute for Planning and Research University of Port Elizabeth (n.d).

- Step 1- Identification of the site to be studied.
- Step 2- Identification of the study population.
- Step 3- Determination of the sample size
- Step 4- Specification of the sampling frame.
- Step 5- Identification of the sampling unit.
- Step 6- Identification of the sampling method.
- Step 7- Specify the sampling plan.

Table 3.2: The quantitative sampling plan.

Type of Research	Quantitative research
Type of quantitative research	Descriptive research: case study method
Aim of case study	• To obtain opinions from employers of CPUT graduates about the relevant enterprise skills graduates need in the work place. • To obtain the opinions of employers of the skills in demand for graduates in the workplace. • To obtain opinions from lecturers of the CPUT planning school of the type of enterprise skills they develop.
The study site	Western Cape and CPUT Department of Town and Regional Planning
Study Population	Employers or supervisors of CPUT graduates and lecturers at the Department of Town and Regional Planning.
The sampling frame	Was determined by past departmental research conducted and networks in the Department of Town and Regional Planning.

Sample size	Employer sample size was determined by the snowballing process as the research progressed. The sample size for lecturers was six.
Sample design	Snowball sampling. The unit sample of Verster's et al. (2010) study was used to kick start the snowballing process. All participants of the latter study were contacted by telephone and emailed to participate in this research. Each participant was asked to provide contact details of their employers. Additionally the department was asked to provide contact details of employers (that employed CPUT graduates) that formed part of the department's networks, sponsors or partners, etc. Ultimately, when one participant was contacted, they were asked to provide contact details of any other potential participant. Since the sample size for lecturers was small (only six), all lecturers were contacted by email or telephone.
Sampling plan	**Stage 1**: Obtained permission to use the sample unit from Verster's et al. (2010) study and contact details of the department's industry partners, kept at the Department of Town and Regional Planning and recorded all the names of the employers of CPUT graduates. **Stage 2**: Employed a research assistant who assisted with the following stages: **Stage 3**: Started the snowballing process as discussed earlier. **Stage 4**: Drafted a comprehensive list of all potential research participants. **Stage 5**: Obtained permission from the study population by distributing a letter stating the purpose of the research and the required permission for the individual to be part of the research. The letter was distributed by email and respondents were given the option to take part or not take part in the research. **Stage 5**: Follow- up calls were made to those employers and lecturers who did not respond. **Stage 6**: Drafted a comprehensive list of all participants that took part in the research.

3.6.3 Obtaining permission

The study population was granted the opportunity to take part or not to take part in the process of data collection. A letter was distributed by email to the study population.

3.6.4 Data Collection

Data collection process can occur in two ways: data from primary sources and data from secondary sources. Data from primary sources is data that has never been found before while a secondary data source is data that already exist. Kumar (2011) has illustrated the various data collection methods in which primary and secondary data sources can be captured using the diagram below.

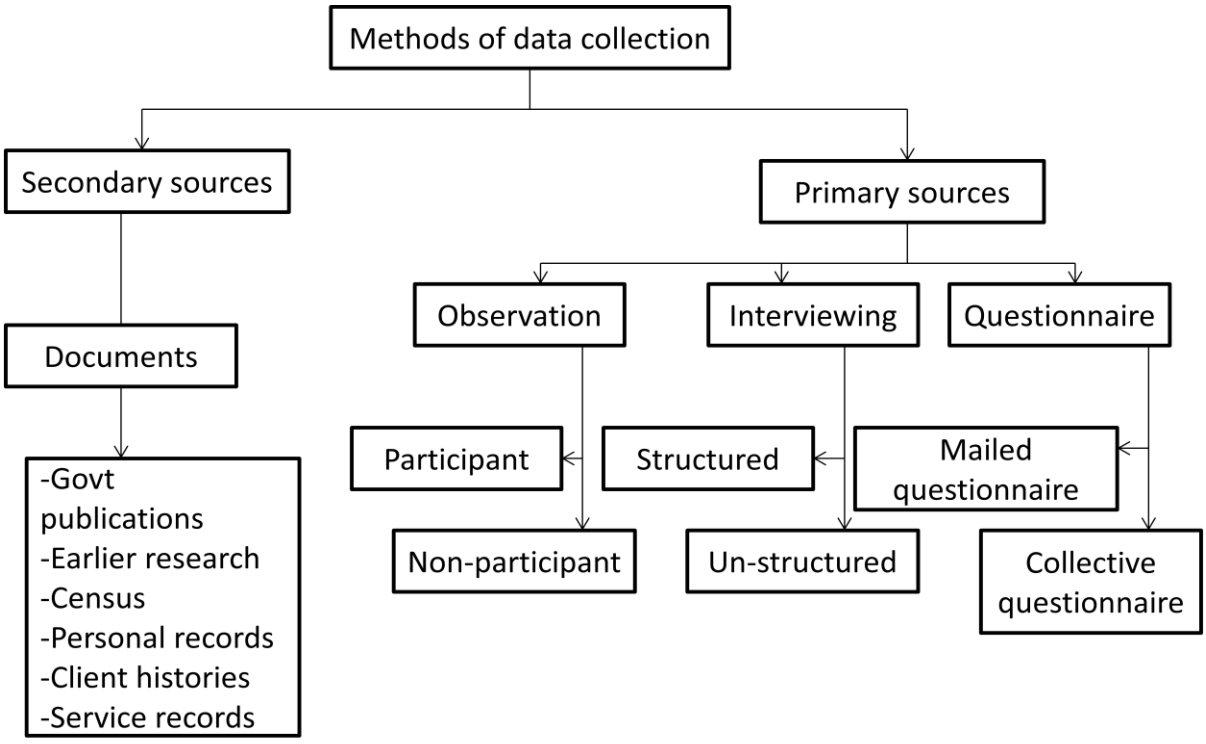


Figure 3.3: Data collection methods

Adapted from Kumar (2011:139)

In the context of this research, the data collection methods were from secondary data sources and primary data sources. The secondary data sources were data found in the literature review. The literature review in chapter 2 part 1 discussed enterprise skills listed by

prominent authors. Chapter 2 part 2 discussed relevant skills in the context of planning and in the context of South African planning. These two data sets were merged to form a list of enterprise skills (refer to table 2.2) that formed part of the variables in the quantitative research instrument. The merged enterprise skills captured in chapter 2 part 1 and part 2 were used as a list of enterprise skills that the research participants had to choose from during the data collection process. The reason being that those listed enterprise skills from the literature review were viewed as legitimate since they were obtained from scholars and authors of enterprise education and planning education. The diagram below is a modification of Kumar's (2011:139) diagram. The diagram below represents the data collection process in the context of this research.

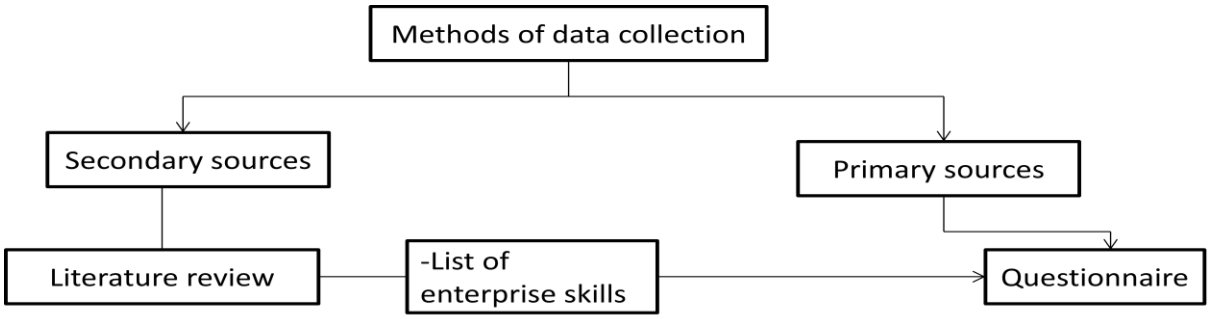


Figure 3.4: Data collection methods in the context of this research

Source: Sithagu (2014)

3.6.5 Instrumentation

In order to construct a research instrument Kumar (2011) suggests the following steps:
Step 1: clearly outline the research objectives, research questions or hypothesis that will need to be tested.
Step 2: List all the questions that will need to be answered and link each question to the research objective and research question.
Step3: List the information required to answer all the questions listed in step 2.
Step: Construct questions that will assist in obtaining the required information.

The table below followed the above-mentioned steps with the aim of constructing questions for the questionnaire. In addition, it also shows the link between the objective of the survey and the research questions. The construction of the questionnaire was developed with the guidance of the following authors: Dawson (2009), Kumar (2011). Refer to appendix A for a sample of the employer questionnaire and appendix B for the lecturer questionnaire.

Table 3.3: The link between survey objective and research questions: employers' questions

Objective of the case study	**Main Research question: What enterprise skills are relevant to planning graduates?**	**Information needed to answer the research questions**	**Questions**	**Type of question**
To obtain opinions from employers of CPUT graduates about the relevant enterprise skills graduates need in the work place.	What are your opinions of CPUT graduate skills?	1. The skills that graduates possess on entering the job.	1. What skills do planning graduates have on entering the job? (Employers will have to choose from the enterprise skills listed in the literature review)	Closed question
		2. The strengths of CPUT graduates (in relation to their skills).	2. What are the strengths of CPUT graduates? (Employers will have to choose from the enterprise skills listed in the literature review)	Closed question
		3. The weaknesses of CPUT graduates in relation to their skills).	3. What are the weaknesses of CPUT graduates? (Employers will have to choose from the enterprise skills listed in the literature review)	Closed question
To obtain the opinions of employers of the skills in demand for graduates in the workplace.	What skills are in demand in the workplace for planning graduates?	The most important skills that graduates should have in the workplace	4. Rate the level of importance for each skill as it is regarded in your organisation? Please rate them as HIGH, MEDIUM, and LOW.(Employers will have to	Closed question

			choose from the enterprise skills listed in the literature review)	

Table 3.4: The link between survey objective and research questions: lecturer's questions

Objective of the case study	**Main Research question: What enterprise skills are relevant to planning graduates?**	**Information needed to answer the research questions**	**Questions**	**Type of question**
To investigate the presence of teaching through an enterprise approach in the Town and Regional Planning national diploma programme	What type of skills do you aim to develop through your teaching style?	Skills developed .	1. What type of skills do you aim to develop through your teaching style (for each subject)? (lecturers will have to choose from the enterprise skills listed from the literature review)	Closed question

3.6.6 Ethical issues

In the context of this research the following ethical issues have been taken into consideration as guided by Creswell (2009):

- The research proposal was approved by the CPUT ethics committee.
- In the sample design phase, permission was requested from the Department of Town and Regional Planning office to have the contact details of the employers.
- A consent form was distributed to the sample population in order to gain permission for research participation. In the consent form, participants have been notified that the information they provide and their personal details will not be disclosed to anyone else without their permission.

3.7 Qualitative Strand

3.7.1 A broad explanation of Qualitative Research

Qualitative research is a form of inquiry which aims to explore and understand the meanings that individuals give to things or objects. While quantitative research aims to make a generalisation of a large population, qualitative research aims to get in-depth understanding of a phenomenon using a small group of people (Creswell, 2009). Struwig and Stead (2001) describe some of the characteristics of qualitative research as follows:

- Qualitative research is concerned with understanding a phenomenon through the eyes or perspective of the participant.
- Qualitative research acknowledges that participants do not live in a vacuum. Human behaviour is influenced by the context and historical background of an individual, therefore a comprehensive analysis of the macro and micro contexts are necessary.
- Qualitative research acknowledges that past events have an influence on present events, which may influence a participant's behaviour; therefore, an understanding of the process of change is necessary.
- Qualitative research is flexible and may use multiple theories. In order for a researcher to understand the research problem and answer the research questions, he/she may deem it necessary to use different research methods and theories.

There are multiple approaches to qualitative research. Some of the most well known approaches are (Creswell, 2009):

- Ethnography is a strategy of inquiry in which a researcher investigates a cultural group within its natural setting over a prolonged period of time.
- Grounded theory is a strategy of inquiry in which the researcher formulates a theory grounded in the views of the participants.
- Case study is a strategy of inquiry in which a researcher investigates a program, event, activity, individual(s) within a specific timeframe.
- Phenomenology is a strategy of inquiry in which a researcher aims to understand lived human experiences.
- Narrative research is a strategy of inquiry in which a researcher studies the lives of one or two individuals and provides an in-depth narrative inquiry.

3.7.2. Case study Research

This research made use of the case study approach (the reasons for choosing this research method are given later). A case is a certain instance and/or a case may be a particular situation or problem. The particular instance, situation or problem may take the form of a person, organisation, and country within a unique context. This means that the entity of the case is part of a whole but special in some or other way. A study of a case is simply an in-depth investigation into the unique entity that may occur in a unique context. Therefore a case study is a "…systematic and in-depth investigation of a particular instance in its context in order to generate knowledge" (Rule & John, 2011: 4).

The purpose of a case study is to provide a deep understanding of a particular instance, situation or problem within its unique context. Each case is unique, however its uniqueness may be influenced by external factors and its uniqueness may influence the external environment. It is therefore important for a case study to acknowledge the complex relations of the wider context. Bearing this in mind, a case study may be used to make generalisations about a wider context with similar cases. Case studies can also be used to test a theory and develop a theory (Rule & John, 2011).

There are different kinds of case studies with different purposes, namely (Rule & John, 2011):

- Exploratory case study: seeks to investigate phenomenon that has never been investigated and there might not be an existing theory.

- Descriptive case study: seeks to convey a deep description of a phenomenon.
- Historical case study: seeks to explain, describe or evaluate a historical phenomenon.
- Explanatory case study: seeks to explain how and why an event or situation has occurred or exists.
- Evaluative case study: seeks to assess a phenomenon.

This research took the form of an exploratory case study with two aims:

- To discover the perception of employers of CPUT graduates in order to ascertain whether they think that CPUT graduates have enterprise skills.
- To investigate the existence of enterprise skills in the curriculum of the Town and Regional Planning Department of CPUT.

a) What made this case a case study?

What makes a case study is its uniqueness; it may be unique in its context and still belong to the general world of things. A case study will have four elements; a unit of the case study, a process, a product and genre.

The unit of the case is the object which is under investigation. This may take the form of a person, organisation, event, etc. In the context of this research, the unit of the case to be investigated was the CPUT national diploma town and regional planning curriculum. How the curriculum was being taught was under investigation (not what was being taught). The question that needed to be answered was: is there an existence of enterprise skills development in the CPUT town and regional planning curriculum?

In the context of this research, there is a contextual background of all the elements that make this case study unique, and they are discussed later.

The product of the case study in this case is a master's dissertation. The genre of the case study is the form in which the product will take shape. In this case, the dissertation (product) described the purpose of the case study and presented its findings and interpretations in a descriptive format (Rule & John, 2011).

So what makes this case unique? The uniqueness of the case was drawn from the purpose of the research: which was to investigate whether the curriculum was being taught through an enterprise approach, therefore the lecturer's teaching styles are what set this case apart. Are the teaching styles adhering to the principles of enterprise education?

b) The contextual background of the case

A case study is carefully selected as a unique identifiable entity; however a case study belongs to a larger environment which may be influential. Therefore, a contextual background has an influence on the case and the case may in turn have influence on the context. There are three types of relationships between case and context. A case can be a microcosm. This is when a case is a minute entity in a bigger context. In this case the context has a larger influential role towards the case. A case can be presented as an outlier. In this case, the specific case is part of a larger context however its response to the influence of the (larger) contextual background is contradictory. A case can be presented as a catalyst. In this case, the specific case has more influence on the context, and its influence is a catalyst for other events to occur. However, all these relationships between case and context may not always occur in isolation to each other. In other words, one case may have multiple relationships with its context. In most cases the context or circumstances surrounding a particular case can be described as a mat that has been interwoven in order to form a specific structure. Just as a mat forms a specific structure, it takes up space. The same can be said about a particular context. A context can be presented as a spatial concept. It can also be described in the form of time "before, during and after the case" (Rule & John, 2011:40). Additionally, a particular context may have hidden factors that could assist in understanding the situation. Therefore, the researcher may need to dig deeper. In summary, a context can be understood spatially, in terms of time as well as depth. All of these factors interact with each other in complex ways to form a particular context (Rule & John, 2011).

In the context of this research, it was therefore necessary to describe the context of this particular case, as well as try to understand the factors that contribute to the formation of this particular context. The diagram below assists in understanding this particular context.

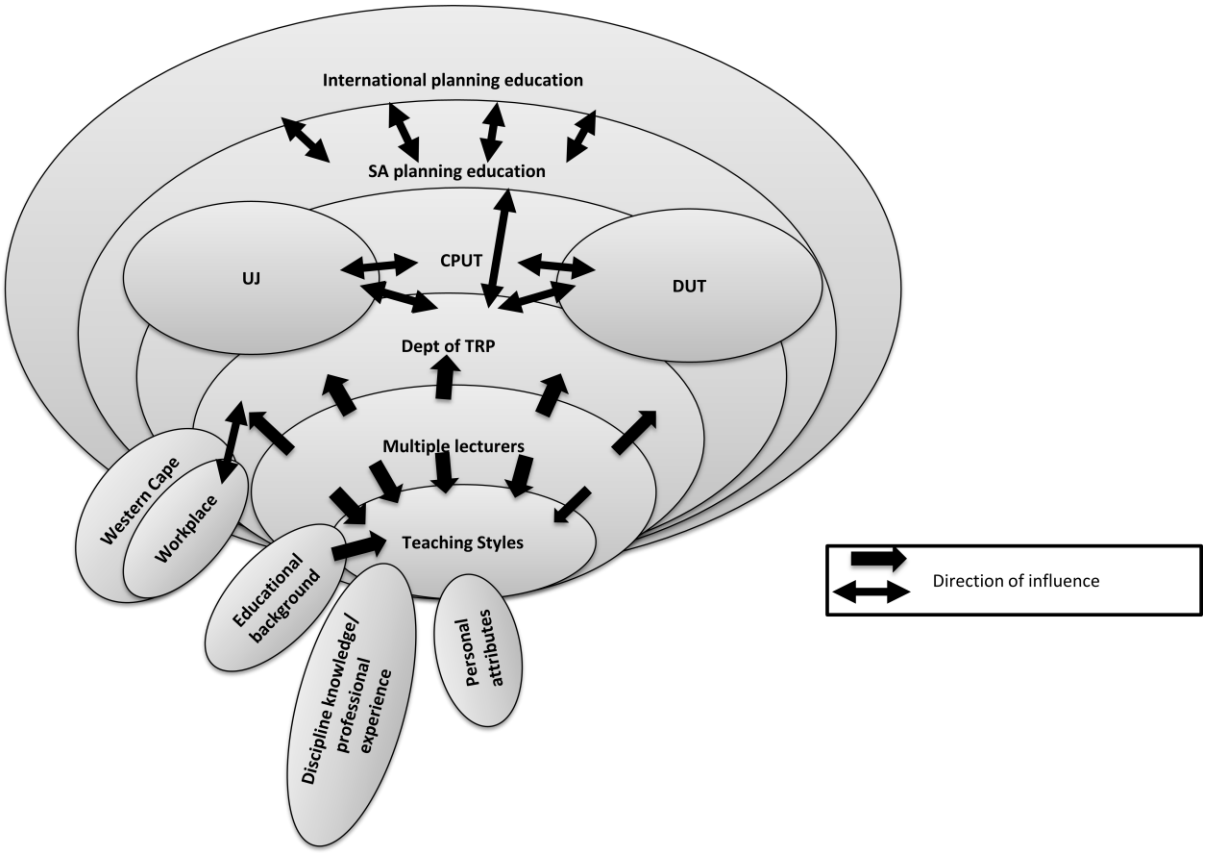


Figure 3.5: Contextual background of the case study

Source: Sithagu (2014)

The description of the context followed the structure as outlined by figure 3.5 above: first is a description of the international planning education context and how it has influenced the South African planning education. Second is a description of how South African planning schools have responded to international contexts as well as the South African planning context. Third, is a description of the three universities of technologies, how they have transformed and influenced each other. Fourth is a description of the unique context of the Department of Town and Regional Planning and its relationship with the Western Cape planning workplace. Finally, a description of the teaching styles of the multiple lectures that teach planning students at CPUT.

Odendaal (2011), Watson & Odendal (2012), and Maserumela (2005) have described the influence of international planning schools on Africa and South Africa, as well as the South African planning education system; refer to page 2 chapter 1. The contextual background of the Town and Regional Planning Department of CPUT has been discussed on page 5 chapter 1.

c) The workplace environment

The largest employer of planning graduates is the public sector, particularly in provincial and local government. The public sector planning environment has since changed from development control to a more developmental approach since 1994 (Todes & Harrison, 2004). During the early stages of democracy there were major restructuring of government departments to more independent departments that would have specific goals and outcomes in terms of planning. This was coupled with changes in apartheid laws and the promulgation of new laws which brought about new approaches and principles in planning. Therefore, planners in the public sector needed to adapt to these new approaches. In the early 2000's there was a focus on implementation and inter-sectoral inclusiveness, economic developments, project management and forward planning. There were establishments of more focused departments and there was shifting of employees. These meant that planners were now required to have multiple skills. Planners had to have analytical skills, technical skills, be conscious to political, economic and public sector systems, management skills, project management, knowledge of legislation and policies, drafting of policies, forward planning, etc. (Watson et al., 2001).

In the early stages of 1994, the private sector experienced a boom in contractual work offered by government. The private sector did large scale development projects, but the main focus was in housing delivery. However, the volatility of the market during those times caused the private sector market to downsize into smaller firms. In the early 2000's the economy started improving, which meant more work for the private sector. However, there was a decline in the employment of professional planners; private sectors employed technicians and graduates (Watson et al., 2001). The private sector has seen a decline in traditional planning such as layout design and land use management. Many related disciplines (such as architecture, environmental management and land surveying) have found their way in planning. These disciplines are merging to the extent where the planner's role is blurred. Firms are merging with other specialised firms (which may not be planning related) to form joint ventures. Currently the public sector still relies on the private sector to conduct planning projects (Harrison et al., 2003).

d) The Western Cape workplace environment

The Western Cape has experienced similar trends in the public sector and the private sector as discussed above. Gauteng is the largest employment region for planners followed by the Western Cape and 10% of planners are employed in the Cape Town metro (Harrison et al.

2003). The Western Cape has two traditional universities and one university of technology (previously known as a technikon). Employers in the Western Cape stated that there is no distinction between work load and duties for technikon and university graduates; employment is based on skills and performance. However, employers also note that technikon graduates have more tangible skills such as GIS and CAD than their university counterparts, therefore many employers still appoint technicians for technical work, while university graduates are appointed in the domain of policy making (Watson et al., 2001).

e) Teaching styles of CPUT planning lecturers

Teaching is transferring knowledge to students through a process of learning and exchange. As the teacher is exchanging knowledge he/she develops activities and designs the learning experience. The development of these learning experiences over time are most likely to form a pattern and that pattern is what is called a teaching style (Titus & Gremler, 2010). There are three dominant teaching styles:

(a) ***a lecture-dominant teaching style****, referred to as "student passive;"*

*(b) a teaching style characterized by heavy two-way communication between student and faculty, labeled "****student communication****;" and*

*(c) a "****student interaction****" teaching style dominated by heavy student involvement in practical, hands-on learning activities* (Titus & Gremler, 2010: 183).

Titus and Gremler (2010), confirm that the teaching style of an individual teacher may be influenced by their own educational background and the philosophies that may have resulted from that background. The teaching style can also be influenced by how and by whom they were taught and drawing on traits of mentors and admired teachers. Therefore the educational background and experiences influence their teaching styles.

Bain (2004) further states that excellent teachers are those that know their disciplines extremely well. They are well versed in past and current issues, controversies in their disciplines to such a point that they are able to develop their own thoughts and voice on subject matters. Their current or past professional experiences adds value to the knowledge of their discipline as they can draw from their own experiences and compare them with other best practices. Therefore, the knowledge of their professional discipline and experiences influence their teaching styles.

Heffernan et al. (2009) points out the importance of personal attributes and that they can influence teaching styles. He has discussed effective personal attributes that are important for lecturers in order to teach effectively. These personal attributes include dynamic delivery, rapport, applied knowledge and clear communication. Dynamic delivery is being able to teach and transfer knowledge in an enthusiastic manner. Enthusiasm may take different forms, it may be in the way that the lecturer speaks, the lecturer may use story telling methods, it may be adding humour or some form of entertainment. Ultimately, it is about showing a level of passion that is visible to students. The second attribute is rapport, which is about maintaining steady relationships with students, maintaining a level of trust and fairness, being friendly, being approachable, and showing concern and empathy to students. Applied knowledge involves the ability for lecturers to transform theories into real life situations or problems. In order to do this, lecturers must be well equipped and up to date with the knowledge of their discipline (Bain, 2004). Clear communication in the classroom is the ability to explain difficult concepts and theories in a clear and simple manner. Not only is it about the lecturer doing the communication but also allowing students to interact with the lecturer and allowing in-depth discussions to occur in the classroom. In essence personal attributes influence teaching style.

Teaching styles are also influenced by the type of content material that a teacher chooses to use, whether it is books, videos, articles, etc. What they choose as content material is largely based on their educational background, philosophies and experiences. The nature of the content material ultimately directs the teaching style, i.e. their teaching behaviour (Titus & Gremler, 2010).

The way in which the teacher perceives his/her role and the role of the student in the learning process influences their teaching style. For example, a teacher that expects students to learn on their own will most probably assume the role of the facilitator, while a teacher who believes that the students role is to quietly listen in the classroom is most likely to be associated with the concept of teacher dominance (Titus & Gremler, 2010).

The nature of the classroom environment can influence teaching styles. For example a teacher who is entertaining is likely to foster a fun classroom environment. Additionally the physical structure of the classroom has an influence on teaching styles. A classroom that is well equipped with the latest technology and furniture is likely to encourage a diverse number of teaching styles. The size of the classroom, orientation, movable furniture, etc., can restrict or add value to teaching styles (Titus & Gremler, 2010).

Titus and Gremler (2010) have developed a teaching style audit framework for lecturers who teach marketing; however the framework is flexible enough to be adopted as a method of assessing teaching styles in this research for town planning lecturers. The objective of the framework is to assess teaching philosophy and style. There are two major components of the framework: assessing the teacher's philosophy and assessing their behaviour.

Assessing the teachers' philosophy can be done by conducting open-ended interviews, acquiring written statements from lecturers and proposing a case study. In the case study, the teacher is asked hypothetical questions or case in which they must solve, therefore the researcher interprets the teachers' philosophy.

Assessing the behaviour of the teacher involves direct observation such as shadowing, i.e. acting as a student while the teacher is teaching and videotaping the teacher while he/she is teaching or the teacher can simulate his teaching. The researcher can enquire to analyse teaching journals, i.e., daily experiences of teaching or analyse the content material of the subjects.

This research adopted some of the elements of the above-mentioned framework. The following elements were used to analyse teaching styles of the town planning lecturers: personal interviews, written statements, shadowing and content analysis, however, the details of the latter are provided at a later stage, since the purpose of this section was to provide a contextual background of the case. The following background information about each lecturer lays the foundation for the analysis, however, in-depth analysis of the lecturer's contexts (as discussed earlier) that influence teaching styles are discussed later once the personal interview, written statements and content analysis have been analysed.

Lecture 1: was the longest serving lecturer, with over 18 years in the department. Her highest qualification was a master of technology (M-tech) degree in town and regional planning. Prior to her employment as a lecturer she worked in the private practice for two years. She had numerous conference publications and currently holds the position of senior lecturer. She lectured 2 specialisation subjects (Transport Planning, Planning Research and Analysis).

Lecturer 2: was the second longest serving lecturer, with over 9 years in the department. He had a Bachelor of Arts (BA) degree in geography and a masters' degree in town and regional planning. He had 9 years' experience in local and provincial government institution and 1 year experience in the private sector. He lectured the core curricula subjects

(Urbanisation, Settlement Planning, Real Estate, Housing Development and Policy Studies, Legal Principles and Planning Law).

Lecturer 3: was a surveyor. He had a Bachelor of technology (B-tech) degree in surveying, a bachelor's degree in spatial planning and a masters' degree in town and regional planning. He had over 20 years of experience in the surveying profession, he worked in the United Kingdom and Namibia, however he has 5 years' experience as a lecturer. He lectured one specialisation subject (Infrastructure and Services Planning) and technology subjects (Computer skills A and B, Advanced CAD 3 and GIS).

Lecturer 4: was a junior lecturer. Her highest qualification was a B-tech in town and regional planning and was completing her M-tech in town and regional planning. Prior to her employment in the department, she worked for provincial government for 1 year. She had four years of experience in lecturing. She had 2 peer reviewed conference papers and 1 conference paper publication. She lectured 2 specialisation subjects (Environmental Studies, Planning and Society) and 2 design subjects (Planning Graphics and Planning design 2).

Lecturer 5: was the departmental technician. His highest qualification was a B-tech in town and regional planning. Prior his employment in the department, he worked for private companies for 3 years and has less than 3 years' experience in lecturing. He lectured 1 design subject (Planning Design 3) and Planning Practice and Project Work (experiential training).

Lecture 6: lectured communication skills. She obtained a B.A. degree (German, English, Italian, Maths, History, History of Art), a B.A. Honours degree (English Language History) and a Senior Teacher's Diploma from the University of Cape Town (1969 – 1973). She held a Diploma in Theology (1974 – 1976), and certificates in Study Methodology, Professional Growth for Teachers (SATA) and Editing. Since 2008, she was involved with CPUT on various campuses: Language & Communication (Dental Technology, Tygerberg campus), Basic Project Management (Multimedia, Bellville campus), Language & Communication across the board in the Applied Design cluster (Cape Town campus). She built up a 1-year Work Preparedness Course in the ICT Academy and a 1-year Professional Business Practice Course for the Foundation Course (both on the Cape Town campus). She was involved in community work and had numerous publications.

Below is a summary of all the contextual backgrounds discussed above and how they influenced each other.

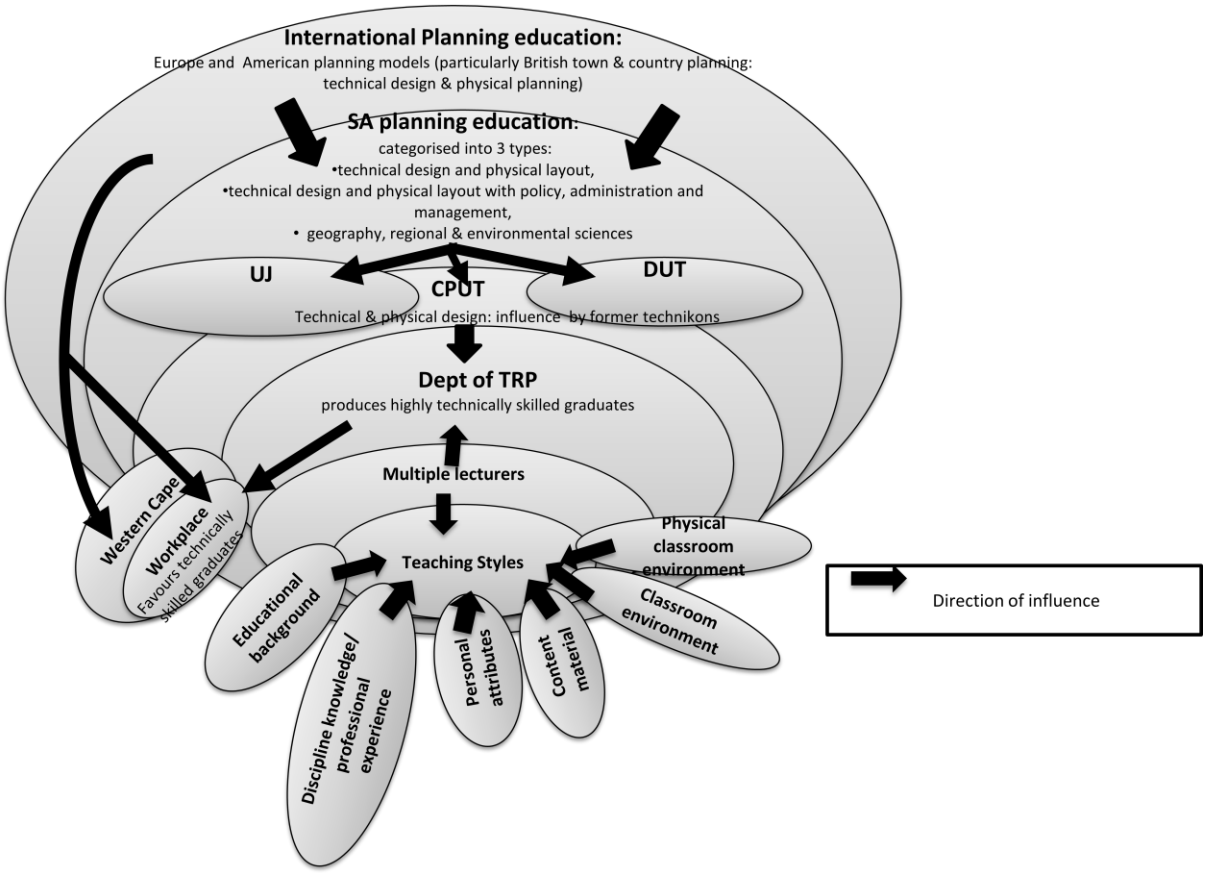


Figure 3.6: A summary of the contextual background of the case study

Source: Sithagu (2014)

3.7.3 Delineation of the case study, key research questions, sub-questions and field questions

In order to simplify the primary focus of this case study, the research will apply the advice given by Rule and John (2011). The authors state that it is important to explicitly state the unit of analysis, the focus of the case study, to mention what the case of the case study is, the spatial context in which the case study will take place, the temporal dimensions of the case, as well as the theme or issues of the case. The table below is an explanation of above-mentioned elements in the context of this research. The primary goal of the case study was to answer one of the key research question which was: is there an existence of enterprise skills development in the CPUT town planning curriculum?

Table 3.5: The delineation of the case study

The title of the case study **The main research question**	Enterprise skills development in the CPUT town planning curriculum Is there an existence of enterprise skills development in the town planning curriculum?
Unit of analysis	• Seasoned academics of the Town and Regional Planning Department of CPUT.
The spatial context of the case study	• Town and Regional Planning Department of CPUT.

The key research question has been stated above, below are the sub-questions that aim to answer the key research question.

Table 3.6: Showing the key research question, sub-questions, data sources, collection methods and instrumentation.

Objective of the case study	• To investigate the existence of enterprise skills in the curriculum of the Town and Regional Planning Department of CPUT.
Key research question	Is there an existence of enterprise skills development in the town planning curriculum?
Sub-question	Lecturers: What evidence is there in your teaching styles that develops enterprise skills?
List of field questions	Lecturers: 1. How can you describe your overall teaching style? 2. What is/ was the core objective of each of the subjects that you teach/ taught? 3. Does your subject(s) encourage team work amongst students? Give reasons for your answer. 4. What techniques do you use to encourage students to learn from each other? 5. What techniques do you use to foster student centeredness? 6. What techniques do you use to encourage "learning by doing" amongst students? 7. Do you give students the opportunity to suggest and make recommendations about your subject content? Give reasons for you answer. 8. Do you give students the opportunity to suggest and make recommendations about your teaching style? Give reasons for your answer. 9. Do you give students the opportunity to suggest and make recommendations about your assessment styles? 10. How do you manage the classroom environment: flexible environment or formal environment? Give your reasons. 11. What kind of values do you teach your students through your subjects?
Data sources	• Lecturers of the Department of Town and Regional Planning (CPUT)
Data collection methods	Structured interviews

Data collection instrument	Voice recorder and interview schedule

3.7.4 Sampling Process

Sampling used the process as discussed by Creswell & Clark (2011) and the Institute for Planning & Research University of Port Elizabeth (n. d).

Table 3.7: The qualitative sampling plan.

Type of Research	Qualitative research
Type of qualitative research	Case study: Exploratory case study research
Aim of case study	To investigate of the existence of enterprise skills in the curriculum of the Town and Regional Planning Department of CPUT.
The study site	Western Cape and CPUT
Study Population	Lecturers at the Department of Town and Regional Planning.
Sample size	The sample size of the lecturers was six lecturers.
Sample design	Purposeful sampling
Sampling plan	**Stage 1**: Employed a research assistant who assisted with the following stages. **Stage 2**: Contacted all six lecturers. Obtained permission from the lecturers by distributing a letter stating the purpose of the case study and the required permission for the individual to be part of the research. The letter was distributed by email and respondents were given the option to grant or not grant permission. **Stage 3**: Follow- up calls were made to those lecturers who had not responded. **Stage 4**: Drafted a comprehensive record which illustrated the exact sample size and sampling unit of those who had granted permission to be part of the case study research.

3.7.5 Obtaining permission

The study population was granted the opportunity to grant or not grant permission to the participants in the process of data collection; permission. A letter was distributed by email to the study population.

3.7.6 Data Collection

Lecturers were contacted to determine suitable dates of conducting the interviews and the physical addresses of their place of work. The researcher conducted the interviews at the lecturers' place of work. Lecturers were asked a list of open-ended questions with the aim of determining enterprise skills development in the curriculum.

The questions that were asked were based on the literature review conducted in the previous chapter, which discussed the principles of teaching through an enterprise approach. The principles were discussed by Johnson (1988) and Birdthistle et al. (2007), refer to page 8.

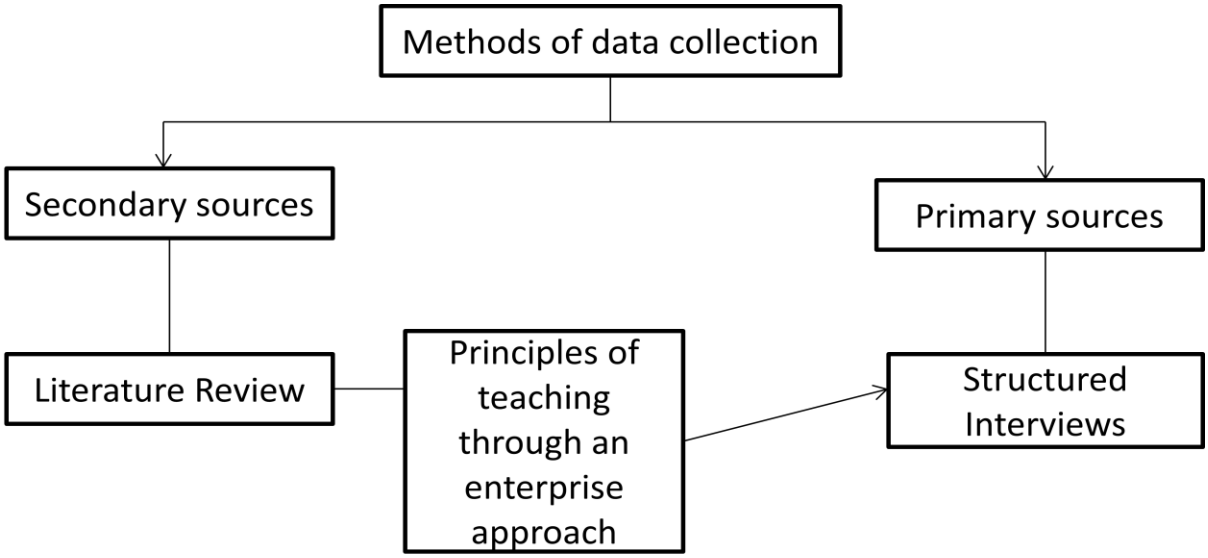


Figure 3.7: Qualitative data collection methods in the context of this research

Source: Sithagu (2014)

3.7.7 Instrumentation

Once again, the instrumentation process followed the suggested steps of Kumar (2011). Below is a table that followed the steps with the aim of constructing questions in the interview schedule. In addition, it also shows the link between the objective of the interview schedule and the research questions. Appendix c is the lecturer interview schedule.

Table 3.8: The link between survey objective and research questions: questions directed at lecturers

Objective of the interview schedule	**Main Research question: What enterprise skills are relevant to planning graduates ?**	**Information needed to answer the research questions and teaching**	**Questions**	**Type of question**
To investigate the presence of teaching through an enterprise approach in the Town and Regional Planning national diploma programme.	What evidence is there in your teaching style that develops enterprise skills?	Objectives of subjects and teaching style.	1. What is/ was the core objective of each of the subjects that you teach/ taught? 2. How can you describe your overall teaching style?	Open-ended question
		Knowledge of teaching through an enterprise approach.	3. Do you have any knowledge of the concept of teaching through an enterprise approach? If so, can you briefly explain?	
		Evidence of teaching through an enterprise approach.	Collaboration: 4. Does your subject(s) encourage collaboration amongst students? Give reasons for your answer.	Open- ended questions

			5. If so (refer to the previous question), what techniques do you use to encourage teamwork amongst students? 6. What are some of the challenges you come across when trying to encourage collaboration amongst students? 7. (Refer to previous question) How do you deal with such challenges? Learning from each other: 8. There is a belief that students learn best when they learn from each other, do you agree with that? Give reasons for your answer. 9. If so (refer to the previous question), what techniques do you use to encourage students to learn from each other? 10. What are some of the challenges you come across when trying to encourage students to learn from each other? 11. (Refer to the previous question) How do you deal with such challenges?	

			Student centeredness: 12. Do you have any knowledge of the concept of “student centeredness"? If so, can you briefly explain? 13. What techniques do you use to foster student centeredness? 14. What are some of the challenges you come across when trying to foster student centeredness? 15. (Refer to the previous question) How do you deal with such challenges? Experiential/ learning by doing: 16. Do you have any knowledge of the concept of “learning by doing"? If so, can you briefly explain? 17. What techniques do you use to encourage "learning by doing" amongst students? 18. What are some of the challenges you come across when trying to encourage "learning by doing" amongst students. 19. (Refer to the previous	Open- ended questions

			question) How do you deal with such challenges? Negotiation: 20. Do you believe that students should be allowed to contribute in curriculum development, teaching methods and assessment methods? Give reasons for your answer. 21. Do you give students the opportunity to suggest and make recommendations about your subject content? Give reasons for you answer. 22. Do you give students the opportunity to suggest and make recommendations about your teaching style? Give reasons for your answer. 23. Do you give students the opportunity to suggest and make recommendations about your assessment styles? Flexibility 24. How do you manage the classroom environment: flexible environment or	Open-ended questions Open-ended question

			formal environment? Give your reasons. Value centeredness: 25. Planning is a value-driven profession: what kind of values do you teach your students through your subjects?	Open-ended question

3.7.8 Ethical issues: the researcher's background and position in the research

The researcher presents a certain amount of bias in this research project. She had certain preconceptions about the results of this project with particular reference to her educational background, university experience as well as personal experiences of the working environment as a graduate. The latter were discussed on page 1.

Her prejudices have been shaped by personal experience, history, academic life and her employment context. However, her role as the researcher was to be objective and present the reality of what the data presented. She has done this by adopting the enumerative inquiry approach that is discussed by Grbich (2007). This approach is an objective account of what the data reveals. The data was analysed through word frequency counts, percentages, rankings, etc, followed by cross analysis of the data to get a meaningful understanding. Furthermore, she linked the results of the data with the most current literature in order to validate the findings.

3.8 Conclusion

The purpose of this chapter was to discuss the research design, methodology and delineation of the research. The first section discussed the overall philosophical worldviews that exist in the world of research. The chosen philosophical worldview was pragmatism. This was seen as the appropriate worldview that relates to the research. The most significant reason is that pragmatism allows the researcher to use multiple research methods to answer the research question.

Mixed method research was used. The convergent parallel design was chosen since it allows both qualitative and quantitative research methods to be conducted at the same time. The quantitative strand was in the form of a questionnaire. One set of the questionnaire was targeted at the employers of CPUT graduates with the aim of discovering the perception of employers of CPUT graduates as well as the enterprise skills needed in the workplace. The second set of the questionnaire was targeted at the lecturers of CPUT town planning students with the aim of investigating the perception of lecturers on the type of enterprise skills they aim to develop through their teaching styles.

The qualitative strand was in the form of structured interviews. The interviews were targeted at the lecturers of town planning students with the aim of investigating the presence or absence of enterprise skills development in the national diploma planning curriculum.

Gathering this information allowed for analysis of the two participants, whether they had similar or contradicting views or how the two participant's views complement each other, therefore allowing for a comprehensive, better understanding of the research problem as well as analysis. Additionally, lecturers were asked about their teaching styles, whether their teaching styles promoted the development of enterprise skills. This provided a clear picture of the skills that lecturers thought they were developing and the skills that graduates demonstrated in the workplace. In essence, were lecturers developing skills that industry needs?

CHAPTER FOUR
DATA ANALYSIS AND PRESENTATION

4.1 Introduction

Following are diagrams showing the framework of the data analysis process for quantitative data and qualitative data in the context of this research as guided by Kumar (2011).

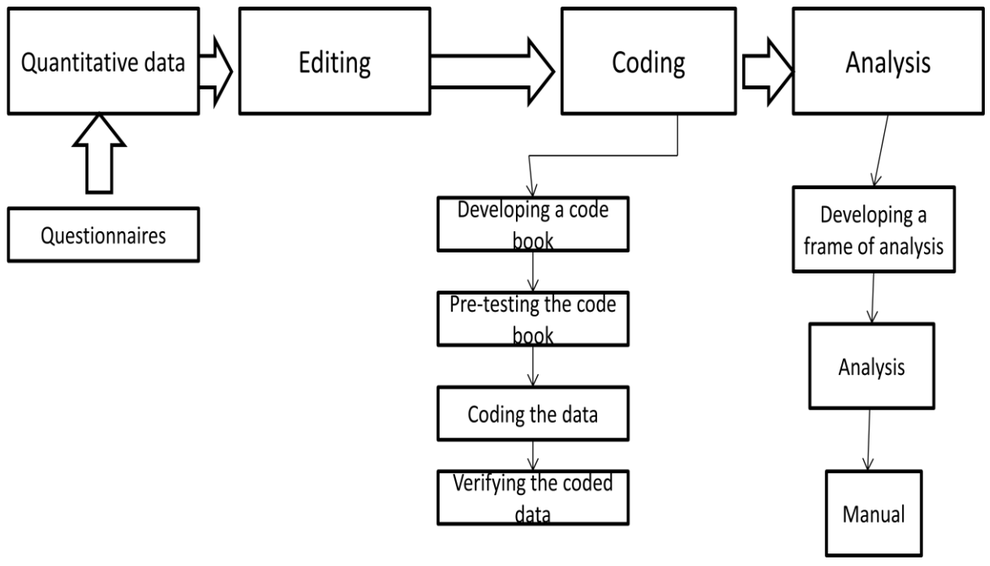


Figure 4.1: Framework for data analysis for quantitative data

Source: Sithagu (2014)

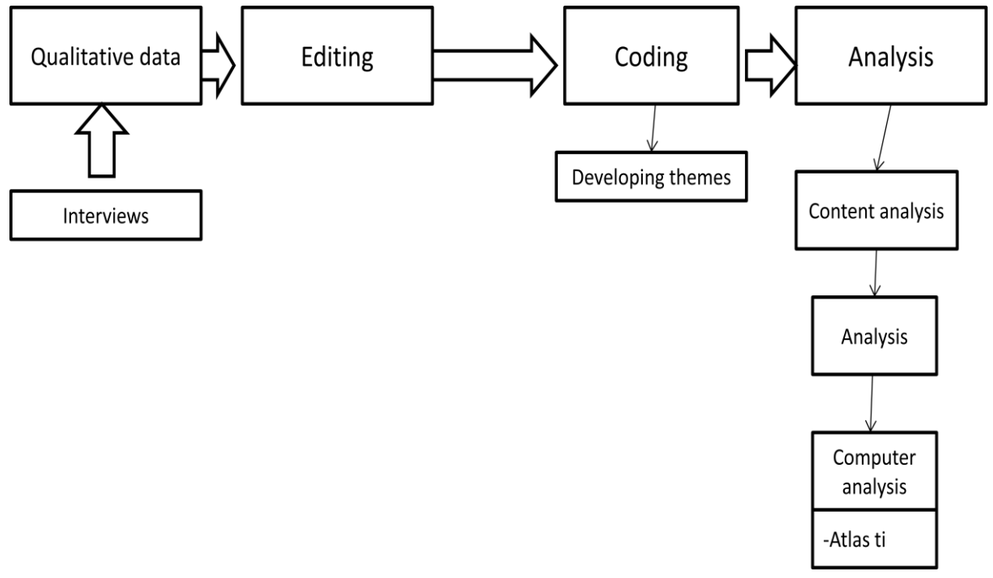


Figure 4.2: Framework for data analysis for qualitative data

Source: Sithagu (2014)

4.2 Quantitative data analysis

The quantitative data was extracted from the questionnaires (refer to appendix A and appendix b) distributed to the employers of CPUT graduates as well as the lecturers of the department of Town and Regional Planning at CPUT. There were one hundred and twenty transcripts that were collected from the employers and seventeen transcripts from the lecturers.

The process of editing was conducted with few errors. The researcher was physically present in the data collection process in order to ensure that minimal errors occurred and made sure that all questions were answered correctly. Additionally, a voice recorder was used as an additional precautionary measure.

4.2.1 Coding

The coding process followed the framework as indicated by figure 4.1. The quantitative data from the employers had four types of code books. Each code book represents question 7,8,9 and 10 (refer to appendix A), which were perceptions of employers on CPUT graduates.
The first code book (refer to appendix D) represents question 7, which consists of distinctive enterprise skills that graduates had acquired on entering (employment) organisations. This code book has 3 types of tables, the first table represents cognitive skills, the second table represents behavioural skills and the third table represents affective skills. All the tables have the same columns:

- column 1 represents enterprise skills,
- column 2 represents the code number attached to column 1,
- column 3 represents the frequency count of each skill, the 4thcolumn represents the percentage of the frequency count attached to column 1,
- column 5 represents the frequency count of government employers, column 6 represents the percentage of the frequency count of government employers or supervisors,
- column 7 represents the frequency count of the private sector employers, column 8 represents the percentage of the frequency of private sector employers.
- Column 9 represents the frequency count of the parastatal sector.

The second code book represents question 8 (refer to appendix E), which are strengths of the graduates. The third code book represents weaknesses of graduates, from question 9 (refer to appendix F). The fourth code book represents the skills in demand in the workplace,

from question 10 (refer to appendix G). All the tables within each code book followed the same structure as discussed above (the first code book).

The quantitative data collected from the lecturer transcripts were extracted from question 4 (refer to appendix B). Question 4 are enterprise skills developed through teaching styles per subject. The code book (refer to appendix H) for the latter question consists of 3 types of tables. The first table captures cognitive skills, the second table captures behavioural skills and the third table captures affective skills. The structure of all the tables is as follows:

- column 1 represents enterprises skills,
- column 2 represents the code number attached to column 1,
- column 3 represents the frequency count of enterprise skills, column 4 represents the percentage of the frequency count of enterprise skills,
- column 5 represents the frequency count of enterprise skills for theory subjects, column 6 represents the percentage of the frequency count of the theory subjects,
- column 7 represents the frequency count of enterprise skills for the technology subjects, column 8 represents the percentage of the frequency count for the technology subjects,
- column 9 represents the frequency count for design subjects, column 10 represents the percentage of the frequency count for design subjects.

4.2.2 Frame of analysis

In the employer data, analysis took the form of a frequency count, which was counting the responses from each question (Dawson, 2009). This enabled the researcher to identify the most frequently occurring response.

It was assumed that government and private sector employers required different skills from graduates. In order to ascertain whether the assumption was true or false, the researcher conducted a frequency count from the private and government employers.
The final phase of the analysis phase was cross-tabulation analysis, i.e. comparing, contrasting and identifying themes between different tables and columns.

In the lecturer data, there were four distinct subject types in the town and regional planning curriculum; theory and specialisation subjects, technology subjects and the design subjects. Each group of subjects had the aim of developing certain skills. Therefore, a frequency count of each group of subjects was conducted. The final phase of the analysis phase was cross-

tabulation analysis, i.e. comparing, contrasting and identifying themes between different tables and columns.

Finally, the researcher merged data from the employers and data from the lecturers with the aim of identifying significant themes, contrasts and similarities between the two data sets.

4.2.3 Presentation of data

The skills were divided according into Van Schoor's (2000) three domains: cognitive, behavioural and affective skills. A discussion of the latter was done in the literature review on page 23. The graphs below give an overview of the lowest to the highest rated cognitive behavioural and affective skills.

a) Perception of employers as graduates entered their organisations

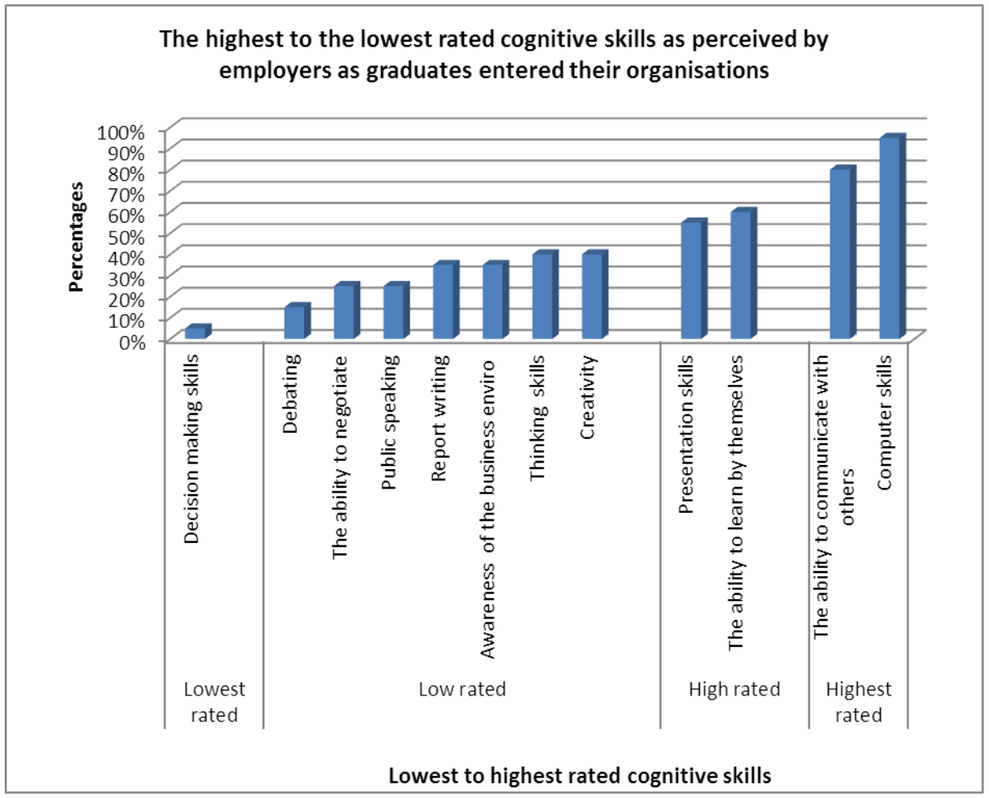


Figure 4.3: The lowest to the highest rated cognitive skills as perceived by employers as graduates entered their organisations

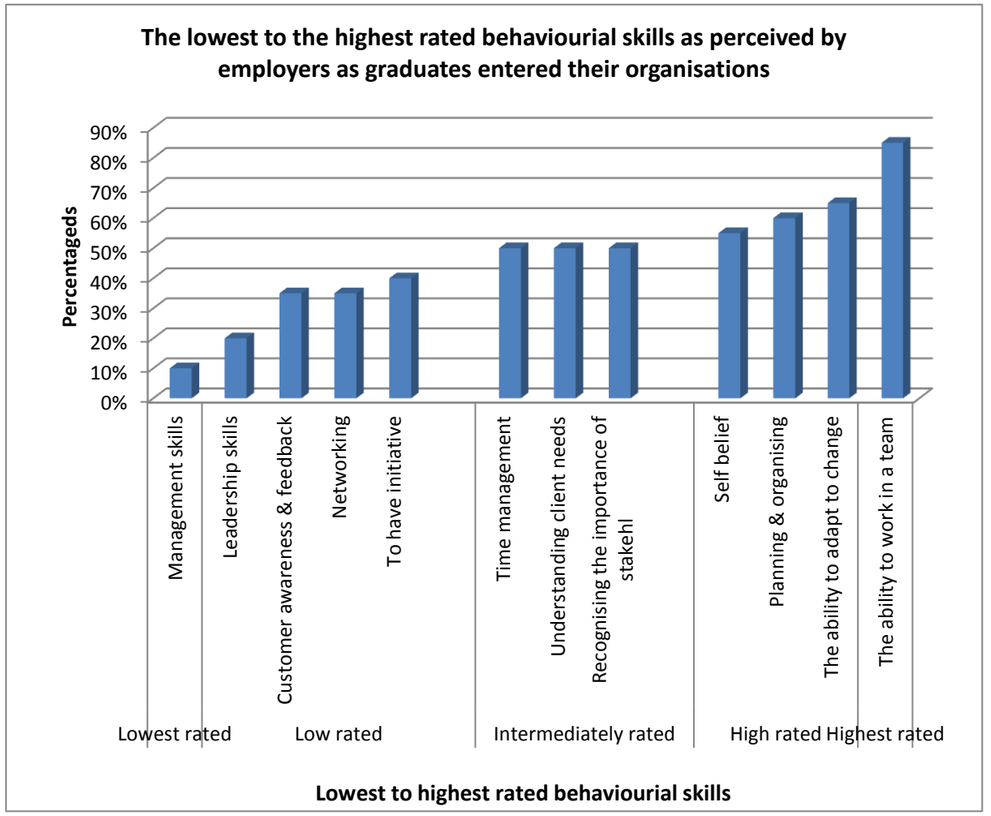


Figure 4.4: The lowest to the highest rated behavioural skills as perceived by employers as graduates entered their organisations

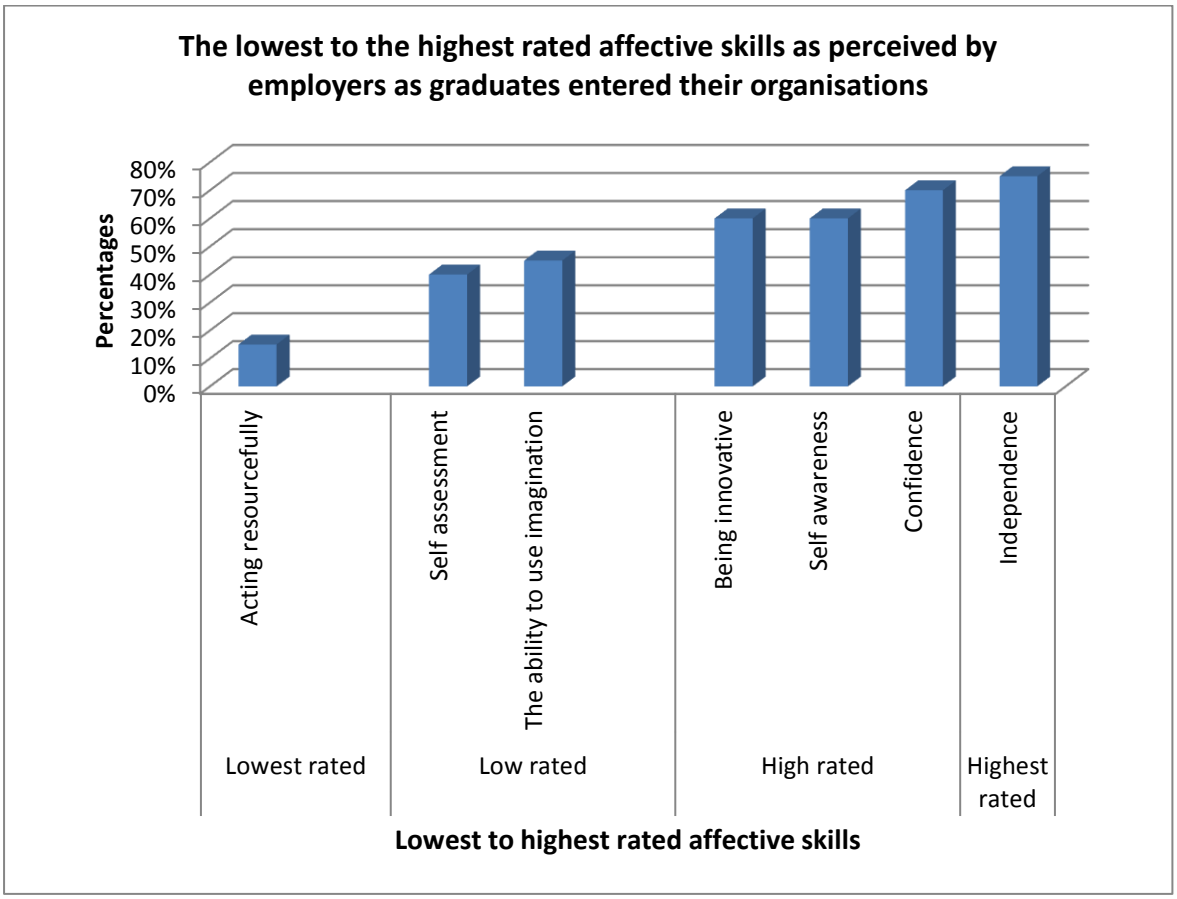


Figure 4.5: The lowest to the highest rated affective skills as perceived by employers as graduates entered their organisations

b) Perceptions of employers on strengths of graduates

While the previous section focused on skills that graduates possessed as they entered employers' organisations i.e. the skills that graduates came with from the planning institution, this section focuses on the period during supervision or training. The emphasis is on the strengths of the graduates during the supervision or training process. The graphs below give an overview of the lowest to the highest rated cognitive, behavioural and affective skills.

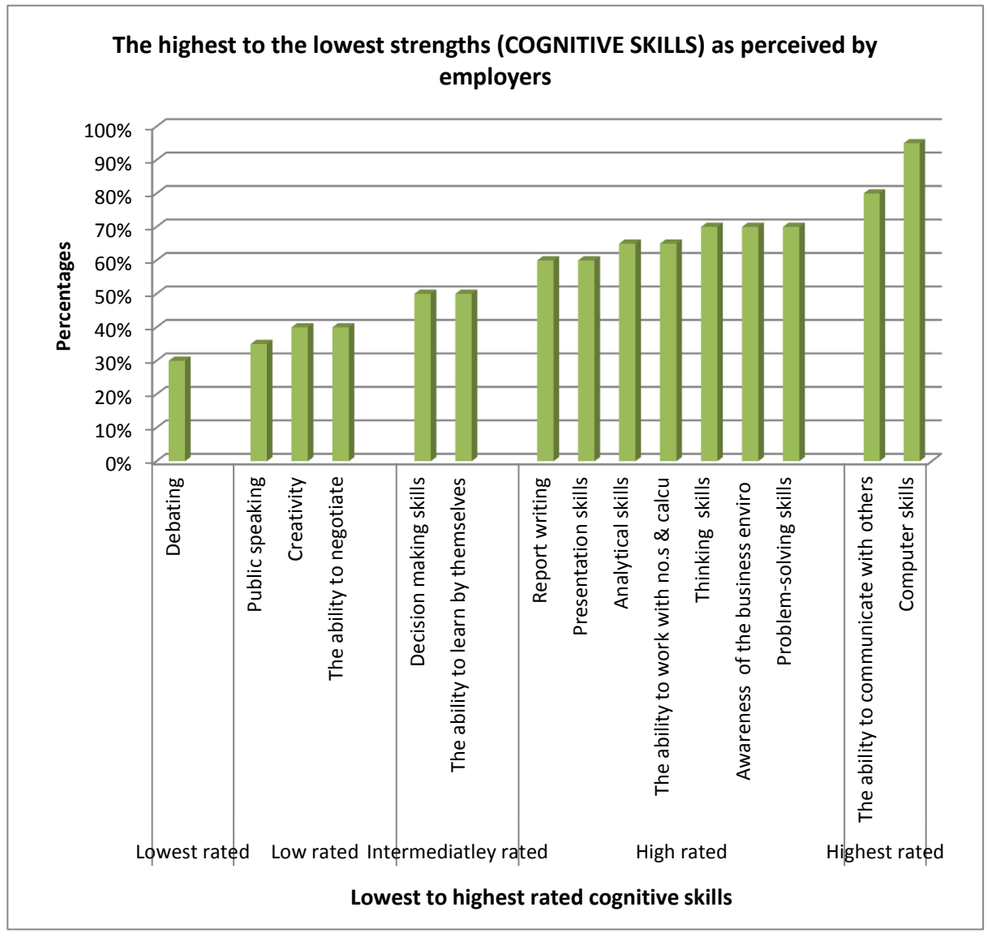


Figure 4.6: The lowest to the highest rated strengths (cognitive skills) as perceived by employers

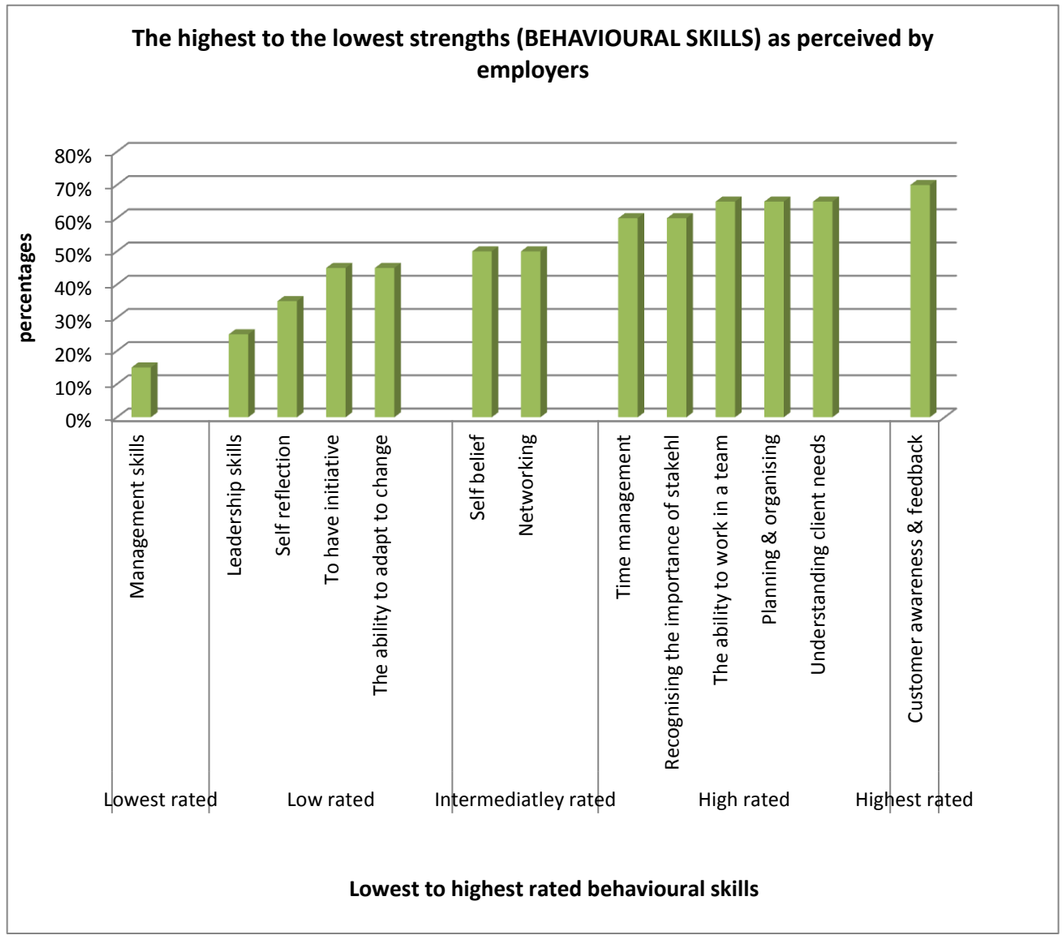


Figure 4.7: The lowest to the highest rated strengths (behavioural skills) as perceived by employers

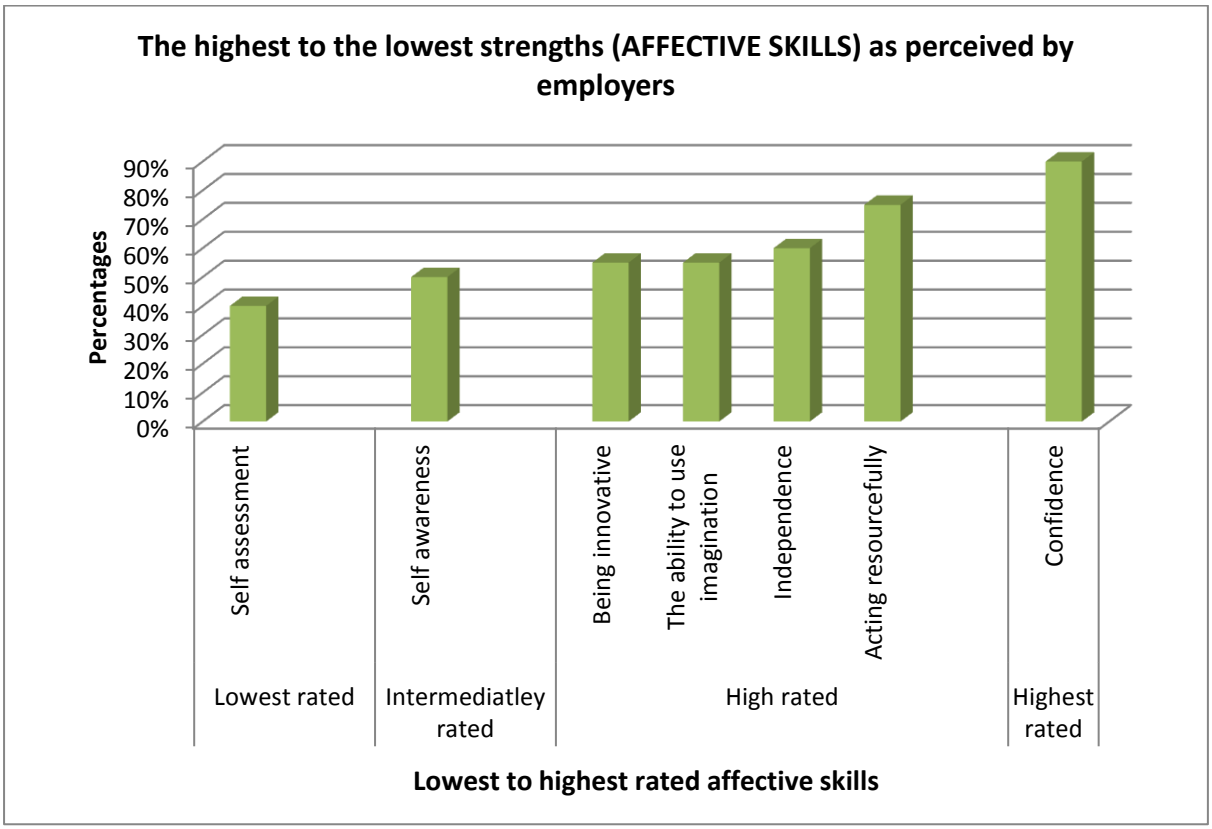


Figure 4.8: The lowest to the highest rated strengths (affective skills) as perceived by employers

c) Perceptions of employers on the weaknesses of graduates

The following graphs demonstrate those skills that graduates seem to be struggling with as perceived by employers. The graphs below give an overview of the lowest to the highest rated cognitive, behavioural and affective skills.

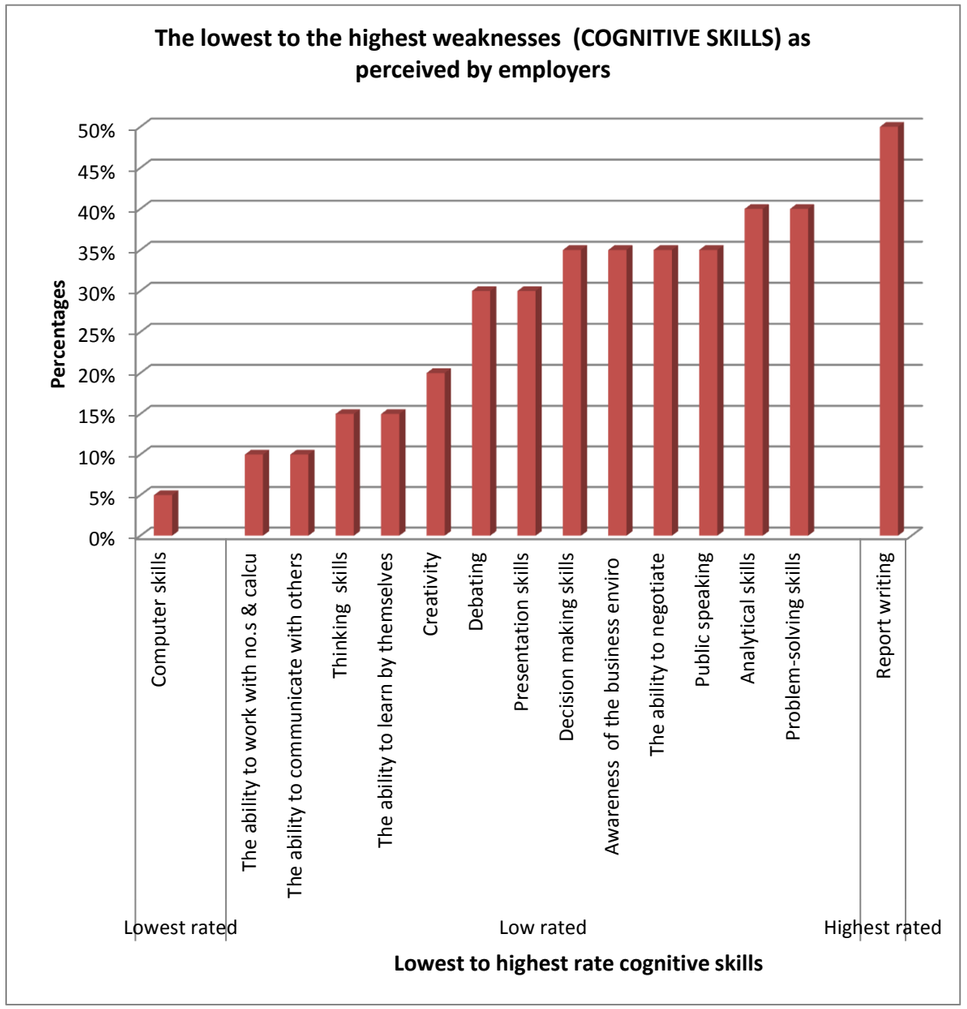


Figure 4.9: The lowest to the highest rated weaknesses (cognitive skills) as perceived by employers

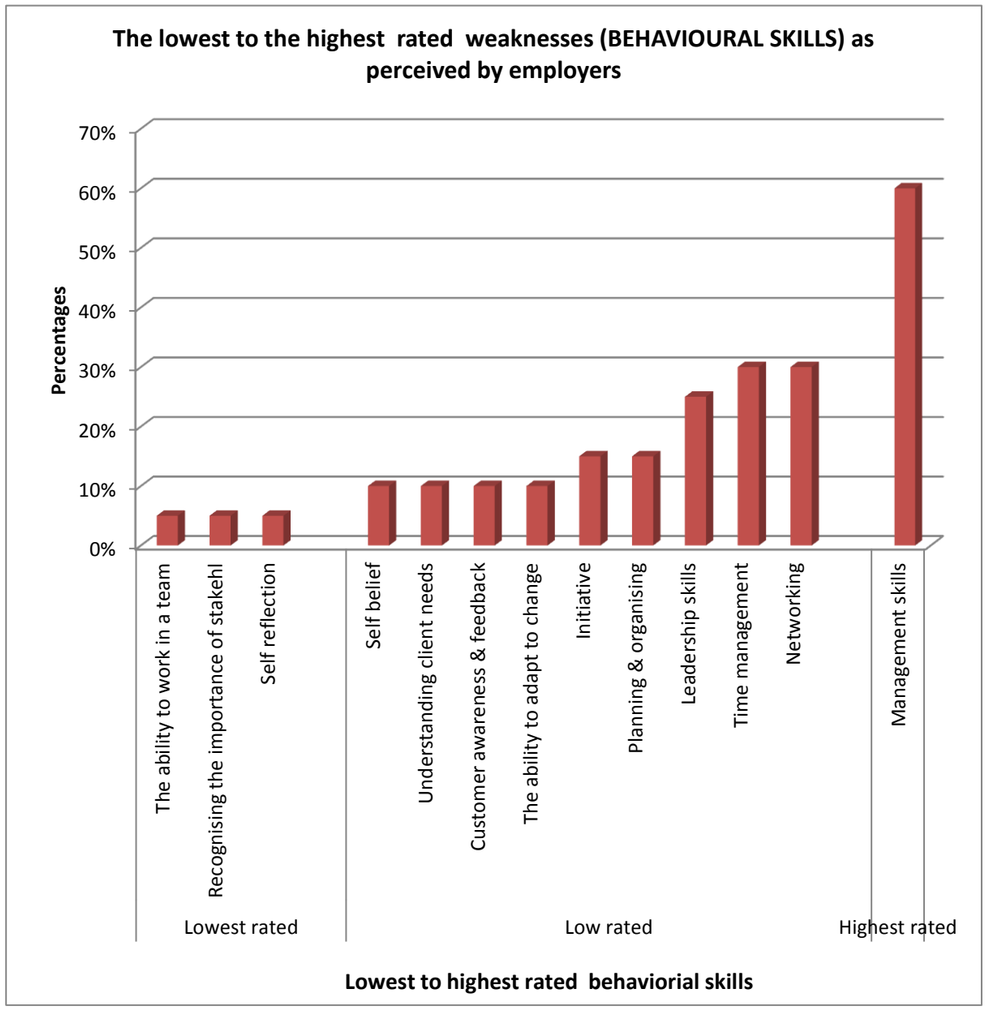


Figure 4.10: The lowest to the highest rated weaknesses (behavioural skills) as perceived by employers

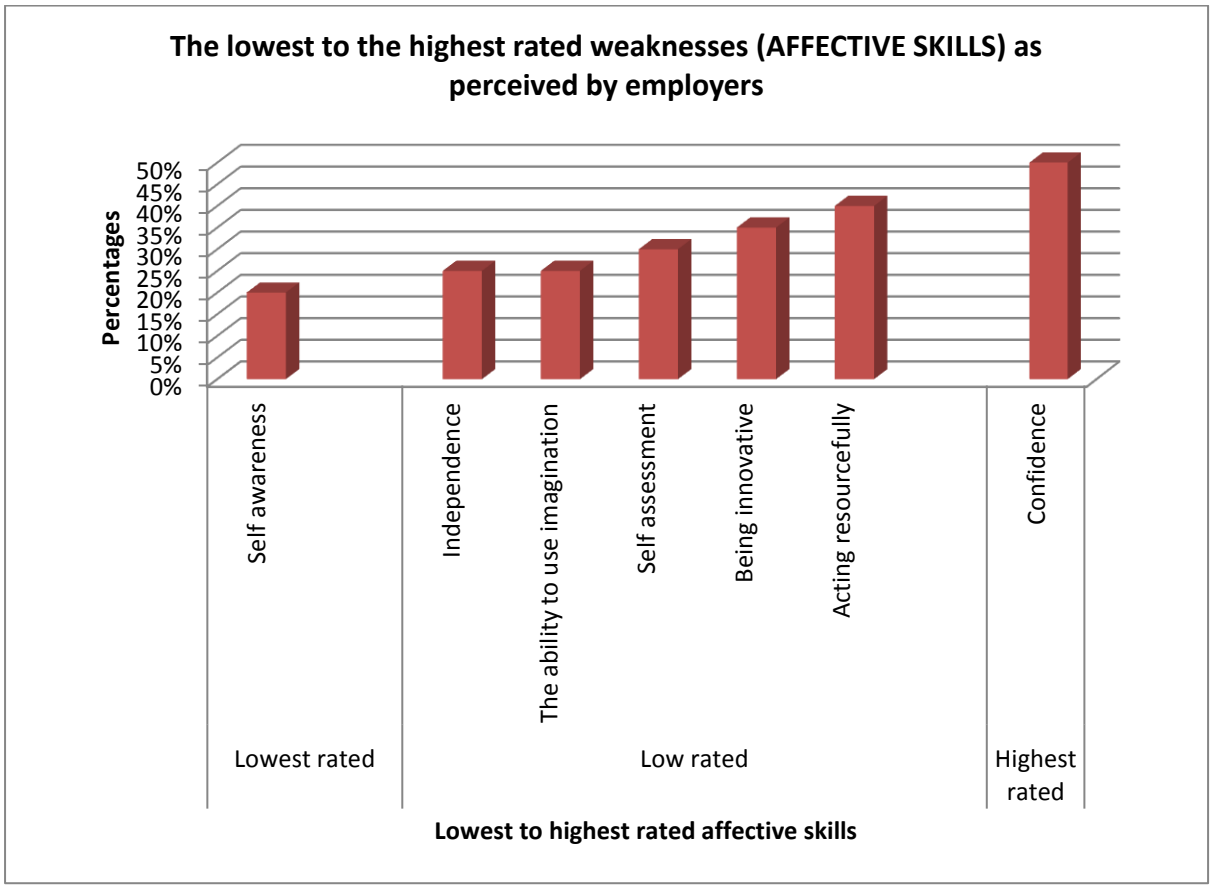


Figure 4.11: The lowest to the highest rated weaknesses (affective skills) as perceived by employers

d) Perceptions of employers on graduate enterprise skills demand in the workplace

Employers were asked to identify the skills in demand in their respective workplaces. The skills were divided (as previously discussed) into cognitive, behavioural and affective skills. The employers were not merely asked to identify the skills but to rate the skills. Each cognitive, behavioural and affective skill could be rated as in high demand, medium demand and low demand. There was an analysis of what government employers have rated as high, medium and low demand skills. Finally, an analysis of what private sector employers' rated as high, medium and low demand skills. An interesting observation was comparing the views of employers on graduate skills and the skills in demand in the workplace, in essence, is the CPUT planning school training students the skills demanded in the workplace?

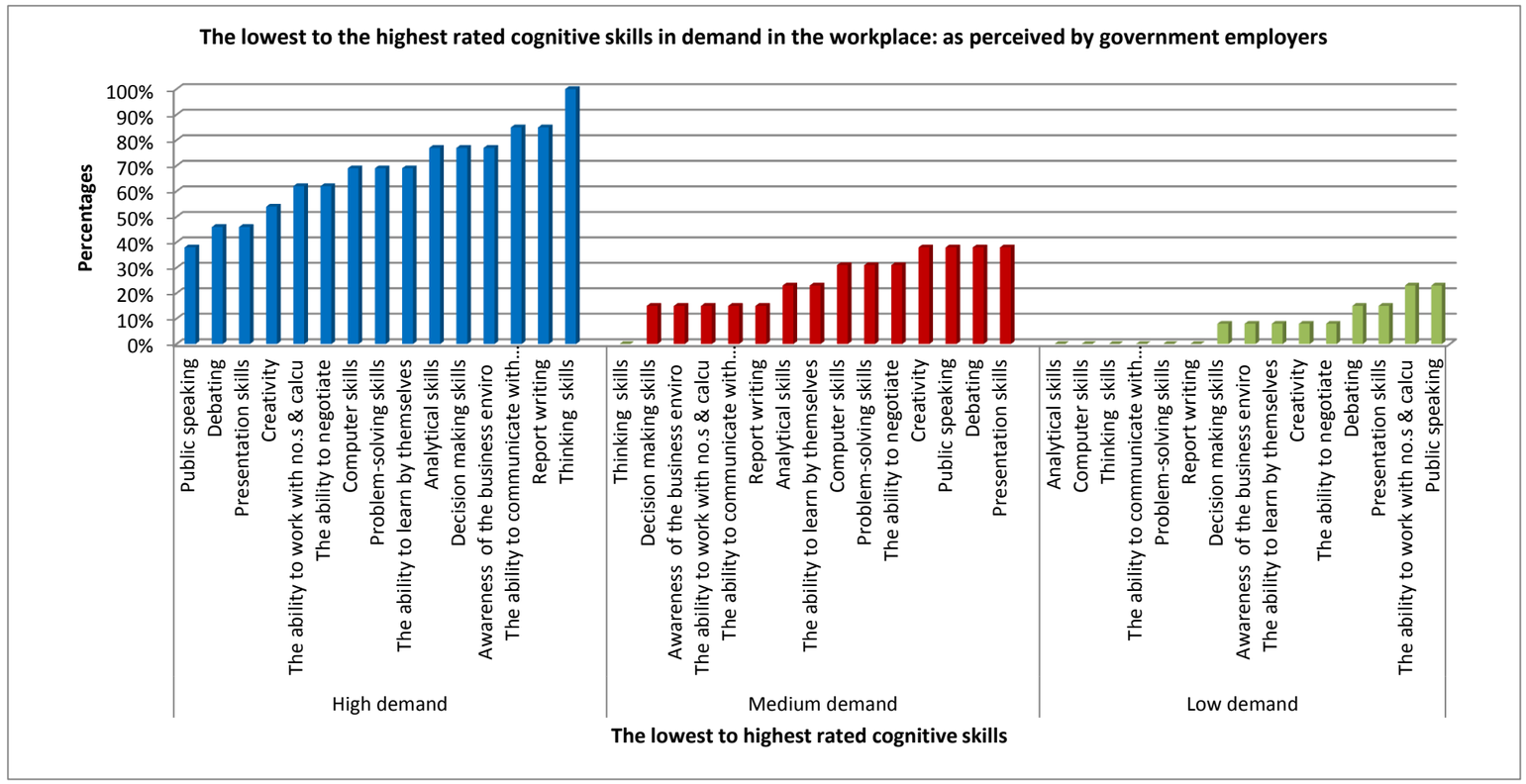


Figure 4.12: The lowest to the highest rated cognitive skills in demand in the workplace as perceived by government employers

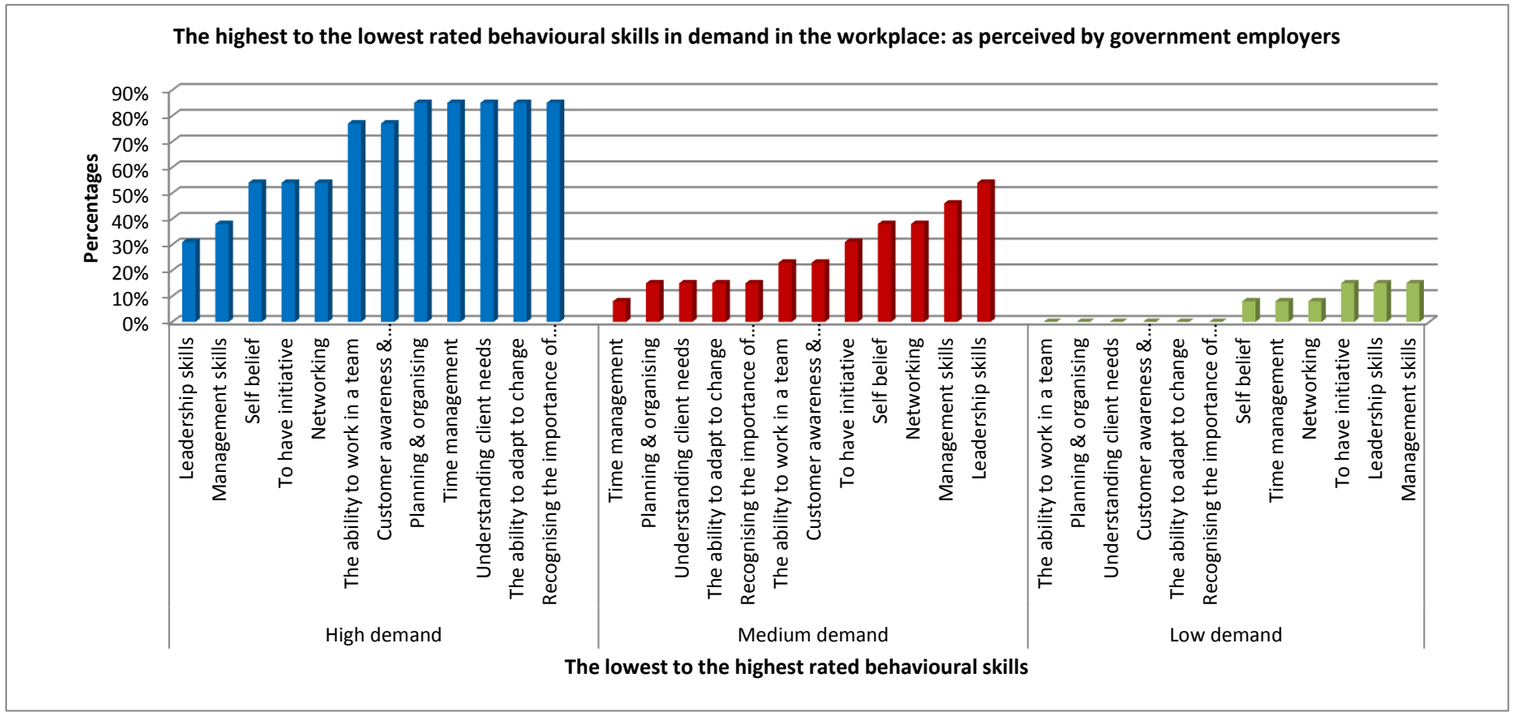


Figure 4.13: The lowest to the highest rated behavioural skills in demand in the workplace as perceived by government employers

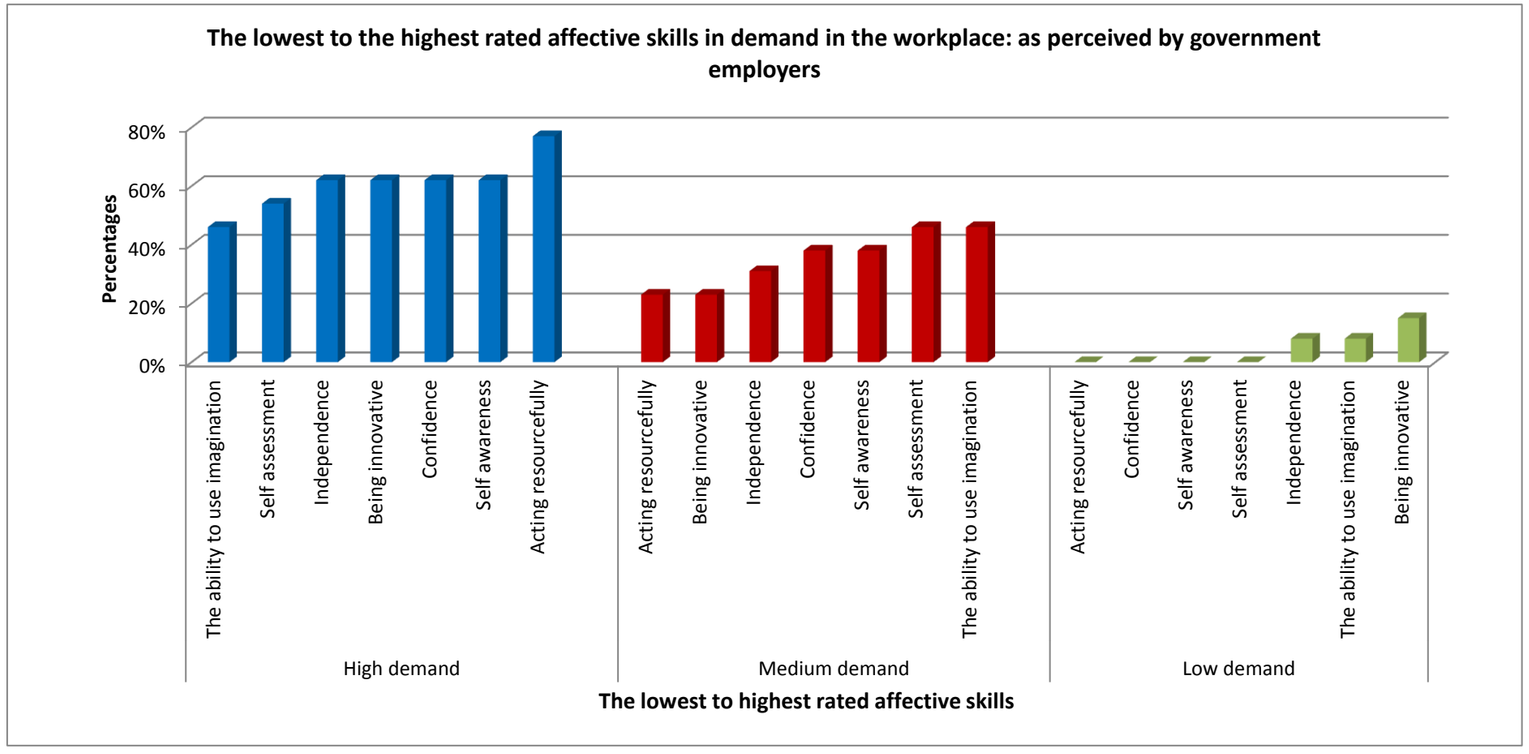


Figure 4.14: The lowest to the highest rated affective skills in demand in the workplace as perceived by government employers

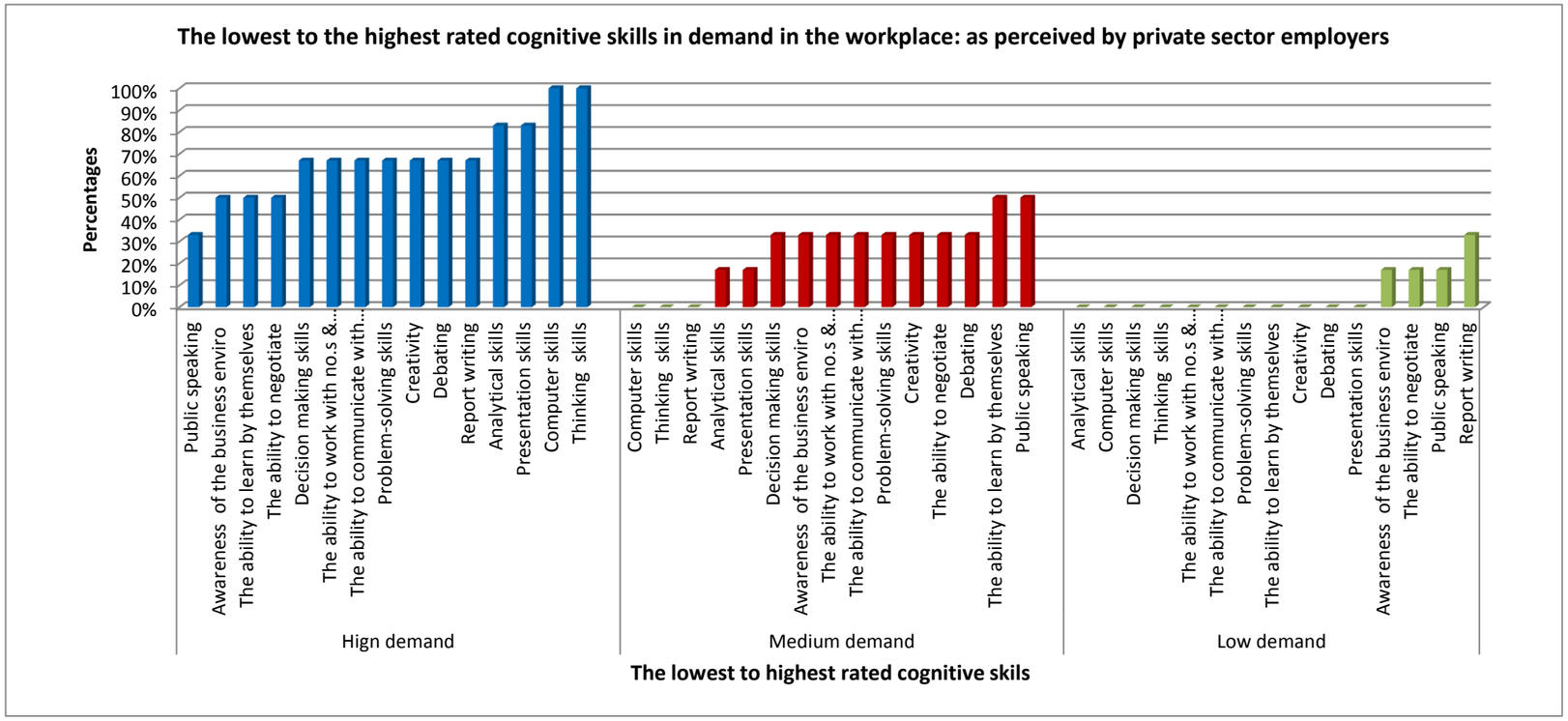


Figure 4.15: The lowest to the highest rated cognitive skills in demand in the workplace as perceived by private sector employers

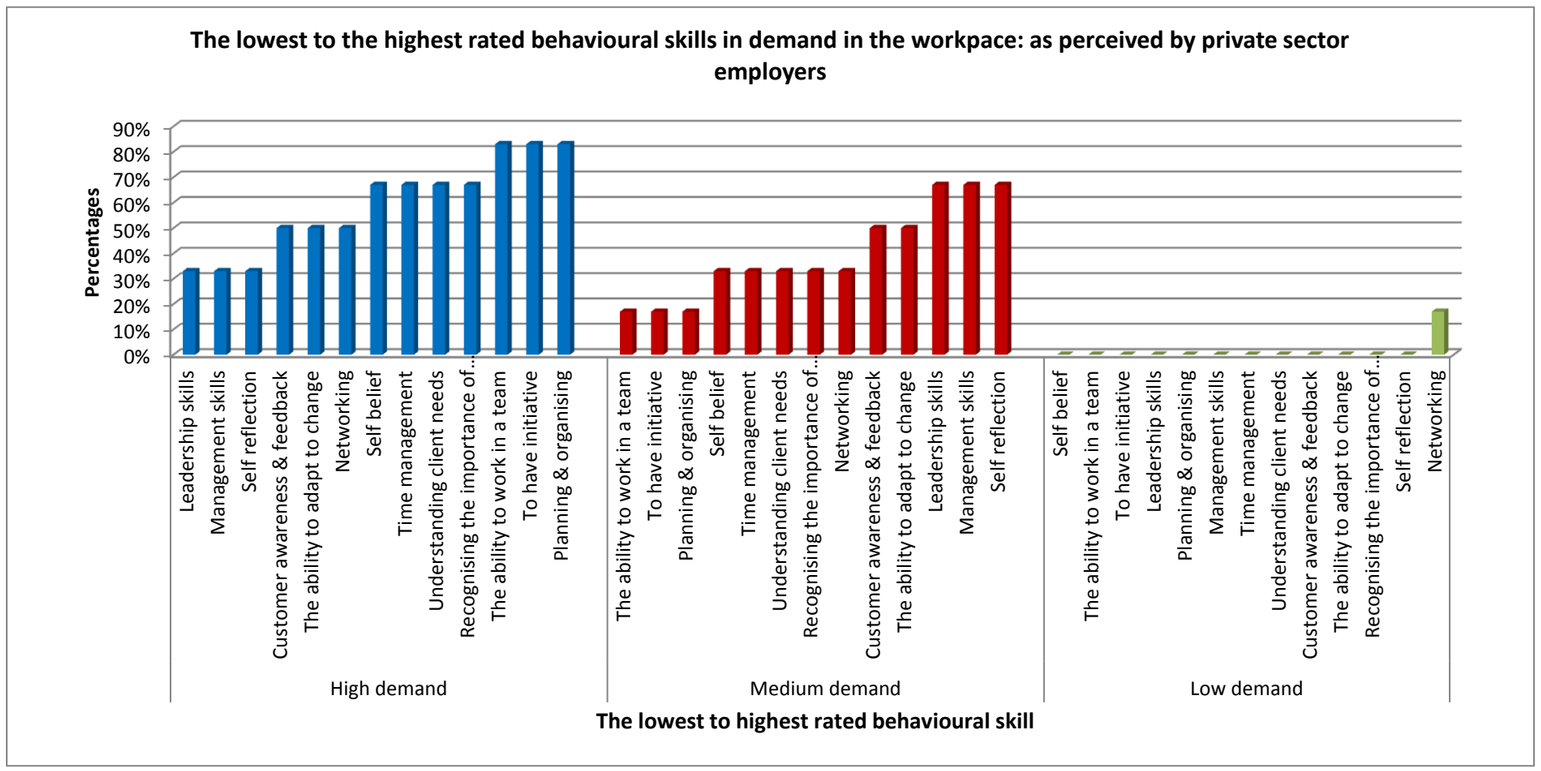


Figure 4.16: The lowest to the highest rated behavioural skills in demand in the workplace as perceived by private sector employers

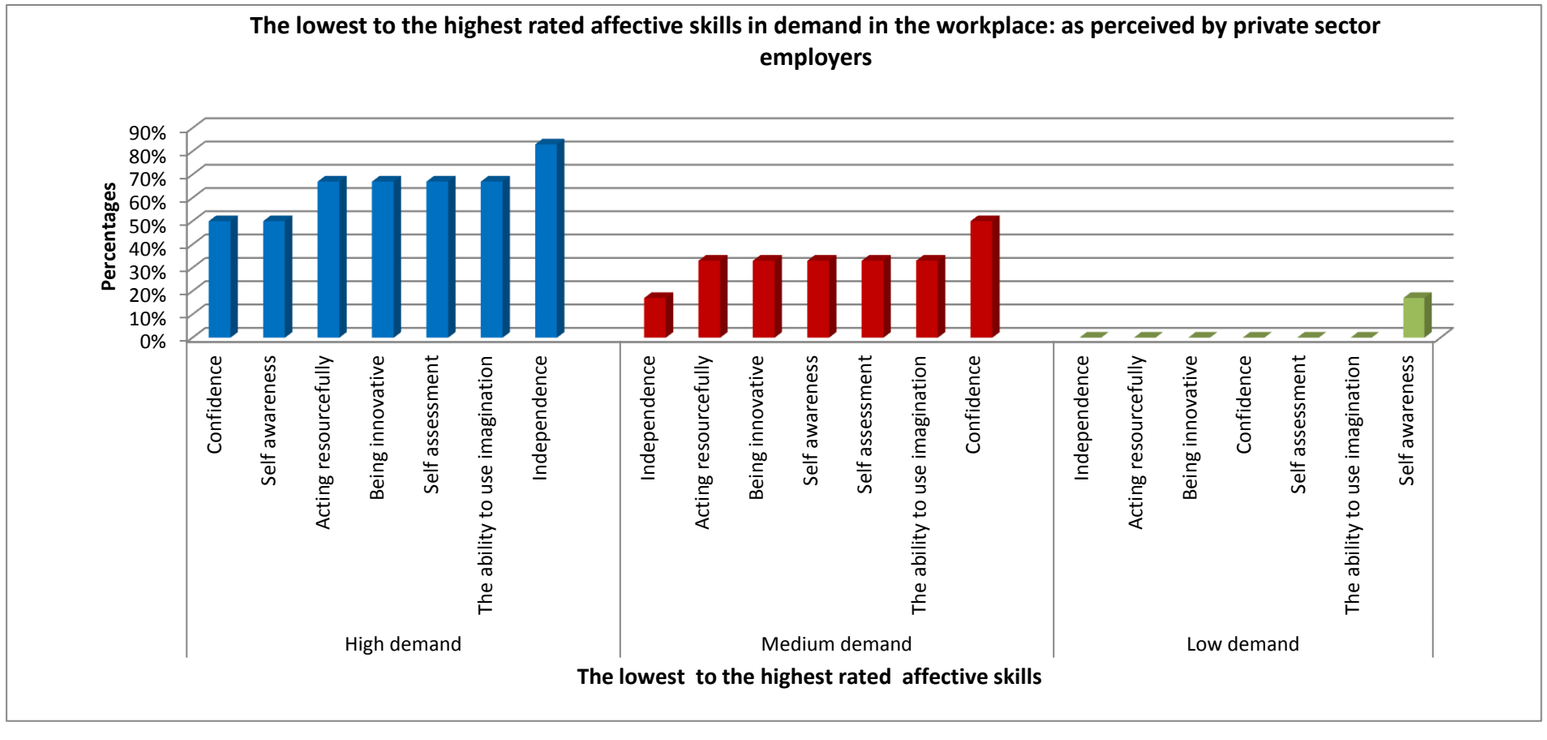


Figure 4.17: The lowest to the highest rated affective skills in demand in the workplace as perceived by private sector employers

4.3 A holistic analysis of the quantitative data

4.3.1 Graduate skills on entering employment organisations

This question was particularly important as it directly spoke to the skills that the CPUT planning curriculum developed. In other words, as a graduate enters an organisation his/her acquired skills represents a mirror reflection of what he/she has been taught at a planning school.

In general, the perception of employers about graduate skills on entering the organisation was positive. All the acquired skills were rated from 50% to 95% and the distributions ranged across cognitive, behavioural and affective skills. The same pattern of distribution for the lower rated skills ranged across cognitive, behavioural and affective skills, they were rated from 5% to 40%. Since the distribution pattern of acquired and least acquired skills ranged across all the three skills, one could not distinguish the most acquired and least acquired skills per group of skills.

The data suggests that there were some prominent skills that graduates had as they entered the workplace. All planning graduates were computer literate; this was the most rated skill. Most of the graduates were able to work in teams, they had the ability to solve problems, they were independent individuals and their confidence levels were seen to be high. The lowest rated skills on entering organisations included acting resourcefully, management skills and decision making skills.

4.3.2 Graduates' strengths

In general, most employers had rated cognitive skills as the highest. These skills ranged from 70% to 95% and they were as follows (from the lowest to the highest): the ability to learn by themselves, awareness of the business environment, thinking skills, the ability to communicate with others and computer skills.

The behavioural skills were the second most rated skills. Most of the rated skills ranged from 50% to 65%. Affective skills were the lowest rated skills, ranging from 40% to 60%.

4.3.3 Graduates' weaknesses

Most ratings were below 50%, the highest rated weakness was rated by 60% of employers. This meant that most employers had confidence in CPUT graduate enterprise skills. The highest rated weakness amongst graduates was management skills. This was in alignment with the data from "on entering" and graduate strengths, which also confirmed that graduates lacked management skills.

4.3.4 Merging the three data sets (perception of employers on graduate skills on entering their organisation, graduate strength and weaknesses)

If the three data sets were to be merged the following conclusions about employer perception could be made (in summary, it can be confirmed that the first research sub-question has been answered, which was: what are the opinions of employers of CPUT graduates on graduate enterprise skills?):

- There was a general agreement amongst a high number of employers that CPUT planning graduates were computer literate, had the ability to communicate with others and were able to work in teams. This was evident as the graduates entered employment organisations and it proved to be their highest strengths. It was further confirmed by a significant low number of employers who perceived the latter skills as weaknesses.
- A high number of employers agreed that there was a general lack of management skills in planning graduates. The lack of management skills was evident in all three data sets. This lack of management skill seemed to have spilled over into other skills that coincide with having managerial skills. Skills such as decision making, acting resourcefully, debating.
- A secondary weakness amongst graduates was report writing skills. Report writing is probably one of the most essential skills that a planner should have in whatever sector of field. The lack of confidence by employers in graduates' writing skills may represent a pool of other insufficiently developed skills. Report writing encompasses the ability to analyse, thinking strategically, the ability to develop an argument as well as the general command of writing skills. Should this weakness be linked to the CPUT curriculum? Certainly, since report writing in the planning profession is as unique as any other type of report writing in another profession. There is the

professional jargon and language that one has to adhere to, the ability to transform your ideas into text, the ability to negotiate and create an argument, etc, amongst other things.

4.4 Analysis (perception of employers on enterprise skills in demand in the workplace)

The following section is an analysis of the perception of employers on the skills demand in the workplace. This was an attempt to answer the second sub-question which was: which enterprise skills are in demand in the workplace? First, there is an analysis of 13 government employer data and finally an analysis of 7 private sector data. There was only one parastatal employer questionnaire and that data was not analysed.

4.4.1 Government employers' perception of the skills in demand in the workplace

Most of government employers regarded cognitive, behavioural and affective skills in high demand in the workplace. However, the data suggested that the government sector requires graduates who displayed the ability to think strategically, the ability to adapt to change, who were time conscious when doing their work, and had the ability to prioritise and plan their task accordingly, whilst displaying an efficient amount of customer service to clients and stakeholders.

There were several types of communication skills that government employers did not regard as imperative to have in the workplace. These skills included public speaking, presentation skills and debating.

Additional skills that were not regarded to be vital skills were self assessment and the ability to use the imagination. Management and leadership skills have been identified as those skills that graduates were not expected to have, in addition to the ability to work with numbers and calculations, being initiative and showing innovation.

The above-mentioned trends suggested some preconceived assumptions about the government working environment;

- That government institutions were service providers and relied on the relationships they had with their stakeholders. This was evident due to the high demand of customer service, communication and time management that graduates had to have.

- That the government sector may not be the most technologically advanced environment. These was suggested by the fact that computer skills was not regarded as one of the most important skills to have.
- That graduates may not be given opportunities that enable them to display their leadership, management, public speaking, debating and presentation skills. Those skills would be expected from senior personnel in government.
- That the government sector was a highly beaurocratic organisation. This was confirmed by the fact that innovation, initiative and the ability to use the imagination were skills that were not seen as vital in such an organisation.

4.4.2 Private sector employers' perception of the skills demand in the workplace

Similar to government employers, private sector employers confirmed that enterprise skills were in high demand in the workplace. In summary, the most demanded enterprise skills by the private sector were: computer skills, thinking skills, the ability to work in a team, planning and organising, and independence. Those skills that were regarded as skills in low demand were; report writing, networking and confidence.

This suggested that the private sector environment was technologically advanced, this was confirmed by their demand for computer skills. Similar to government employers, private sector employers favoured graduates who were time conscious and had the ability to prioritise the tasks. Graduates needed to be team players while still able to work and think independently. However, the data suggested trends that would not be expected in the private sector. The data stated that the private sector did not need graduates with confidence, who were able to write reports and have networking skills. All of the latter three skills were some of the skills that the private sector depends on.

4.4.3 Conclusion

In conclusion, the primary focus of this analysis phase was to obtain answers to the main question: which enterprise skills are relevant to planning graduates? The first sub-question was: what are the opinions of employers of CPUT graduates (town and regional planning) on graduate enterprise skills? The data represented skills on entering the organisation, strengths and weaknesses. The data stated that graduates entered the workplace with computer skills, the ability to communicate with others, the ability to work in a team and

independence. Graduate strengths were computer skills, the ability to communicate with others, customer awareness and feedback, and confidence. Graduates' weaknesses were report writing and management skills.

The second sub-question was; which enterprise skills are in demand in the workplace? The data confirmed that the following skills were in demand: thinking skills, the ability to work in a team, planning and organising, recognising the importance of stakeholders, time management, independence, the ability to adapt to change, acting resourcefully, having initiative and computer skills. It can therefore be concluded that the two sub-questions have been answered.

4.5 An investigation into the existence of enterprise skills development in the CPUT town and regional planning curriculum

4.5.1 The CPUT town and regional planning curriculum

A discussion of the structure of the curriculum was done in chapter 1 page 5. The curriculum is structured around four main competencies, each with their different skills and outcomes. The competencies include core planning subjects, planning design, specialisation courses, technology, communication skills and research. To review the main competencies refer to figure 1.1.

The core planning cluster had the following subjects:

- Urbanisation and Settlement Planning (in the first year), Real Estate, Housing Development and Policy Studies, Legal Principles and Planning Law (in the third year). The core competencies and skills for the latter subjects were for students to understand urbanisation, urban and spatial processes, planning theory, planning processes and planning practice.

The planning design cluster had the following subjects:

- Planning Graphics (in the first year), Planning Design Studio (in the first and third year). The core competencies and skills of the latter subjects were for the students to understand design theory, skills and processes.

The specialisation cluster had the following subjects:

- Environmental Studies (in the first year and third year), Infrastructure and Services Planning (in the first year), Infrastructure and Transport Planning (in the third year). The core competencies and skills of the latter subjects were for students to

understand the interdisciplinary interest areas that impinge and enrich planning theory and practice.

The technology cluster had the following subjects:

- Computer Skills, Computer Aided Design (CAD) (in the first year). Advanced CAD and Geographic Information System (GIS) (in the third year). The core competencies and skills for the latter subjects were for students to use and apply information technology to identify, define, gather and solve planning problems using graphic communication.

The communication and research cluster had the following subjects:

- Communications, and Planning Research and Analysis (in the first year). The core competencies and skills of the latter subjects were for students to have knowledge of planning data collection processes and analysis, as well as effective communication skills.

4.5.2 A review of the purpose of investigating the CPUT town and regional planning curriculum

The investigation of the CPUT planning curriculum was an attempt to answer one of the three sub-questions: is there an existence of enterprise skills development in the CPUT town and regional planning curriculum? In other words, were CPUT planning lecturers developing enterprise skills?

The focus of this section was to test the existence of enterprise skills that lecturers perceived they developed per subject. This was the quantitative strand which took the form of questionnaires. Six full-time lecturers were asked to identify the enterprise skills that they perceived they developed through their teaching approaches per subject. The enterprise skills were grouped into three groups: cognitive, behavioural and affective skills; these were identical to the skills of the previous section.

4.5.3 Presentation of data

Following is a graphic presentation of the subjects investigated.

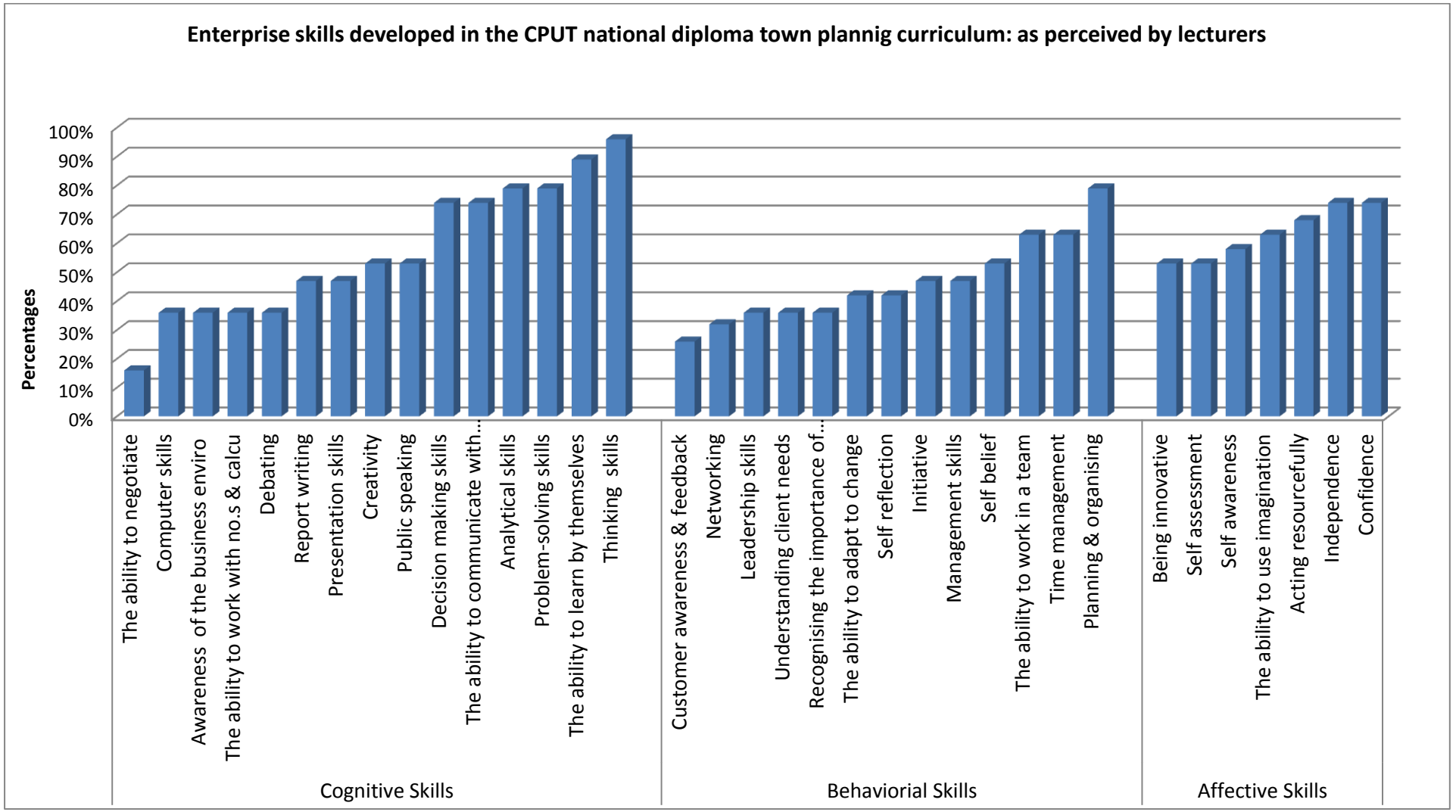


Figure 4.18: Enterprise skills developed in the curriculum as perceived by lecturers

Furthermore, the subjects have been grouped into three groups: theory, technology and design subjects. Theory subjects were those that had a high theoretical content. Technology subjects were those that had a high technology content. Design subjects were those that have high design content.

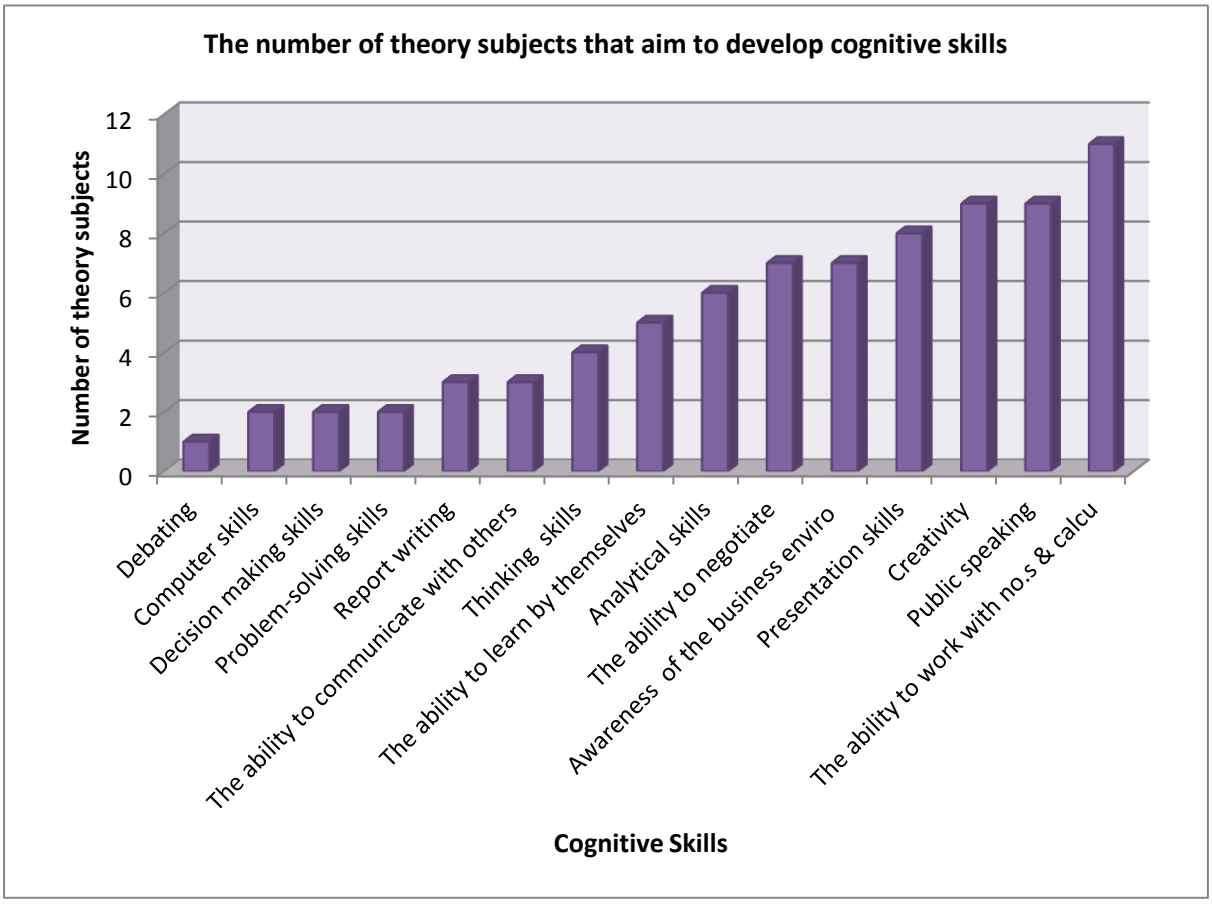


Figure 4.19: The number of theory subjects that aim to develop cognitive skills

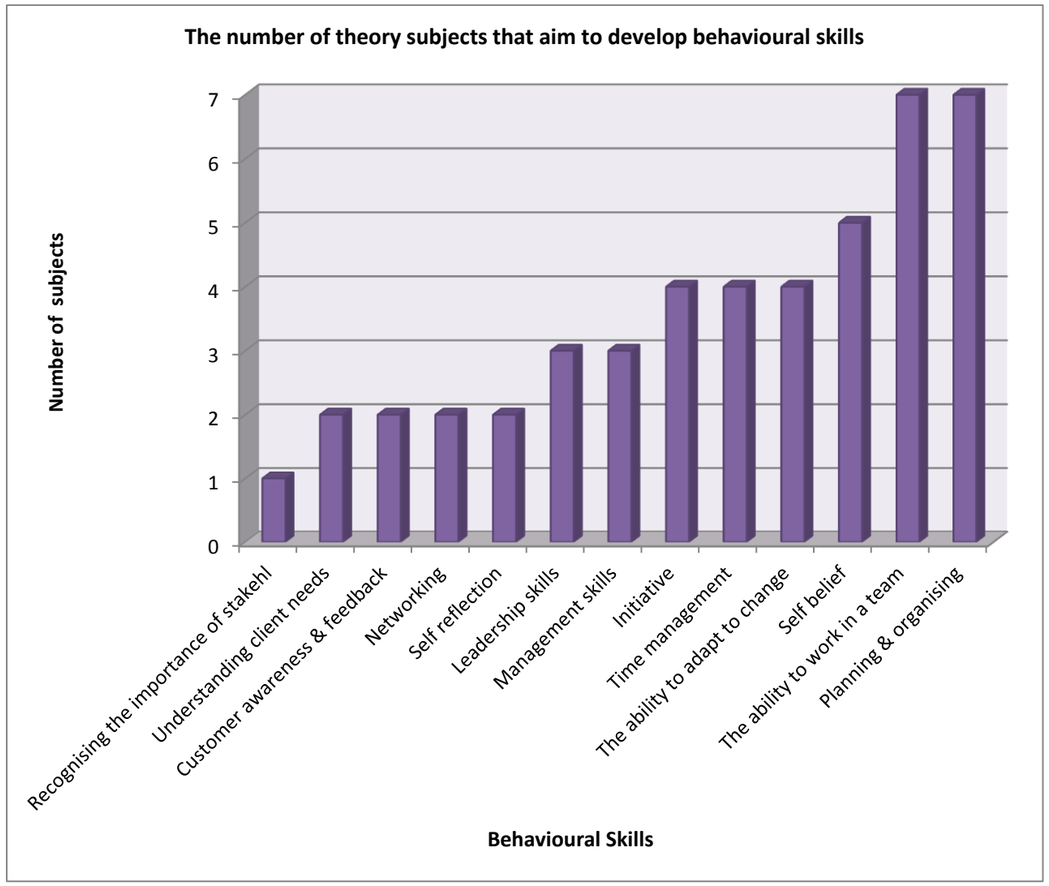


Figure 4.20: The number of theory subjects that aim to develop behavioural skills

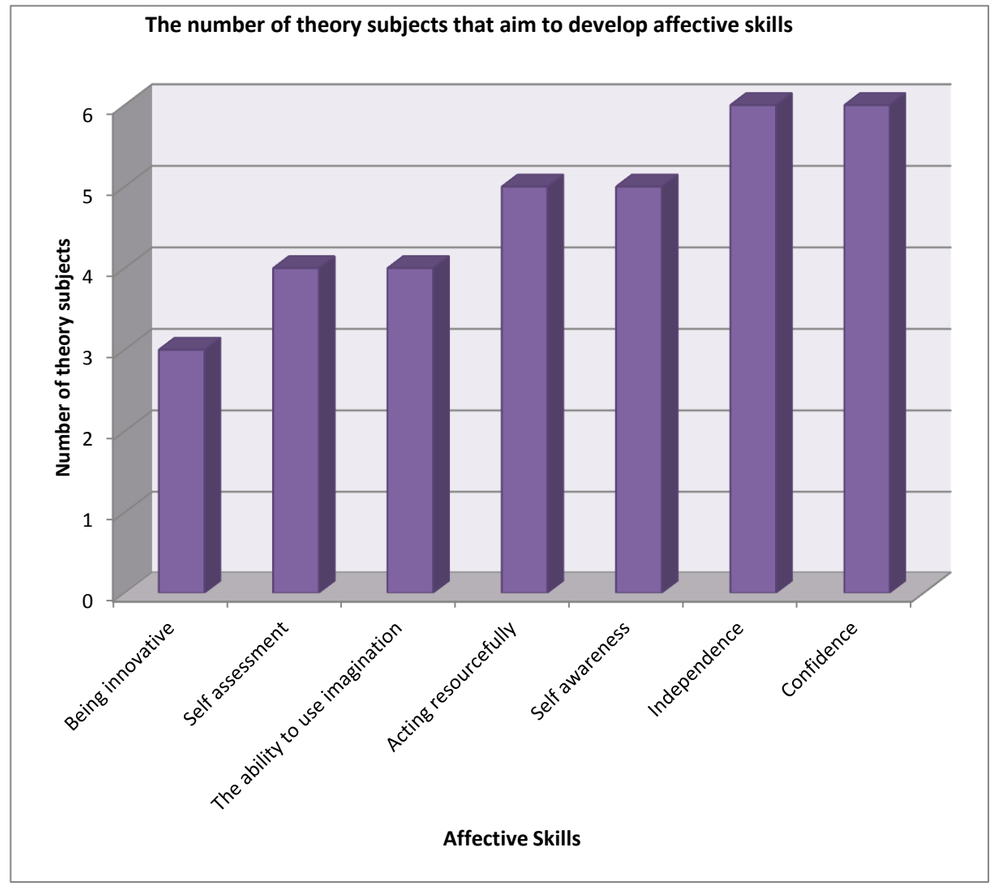


Figure 4.21: The number of theory subjects that aim to develop affective skills

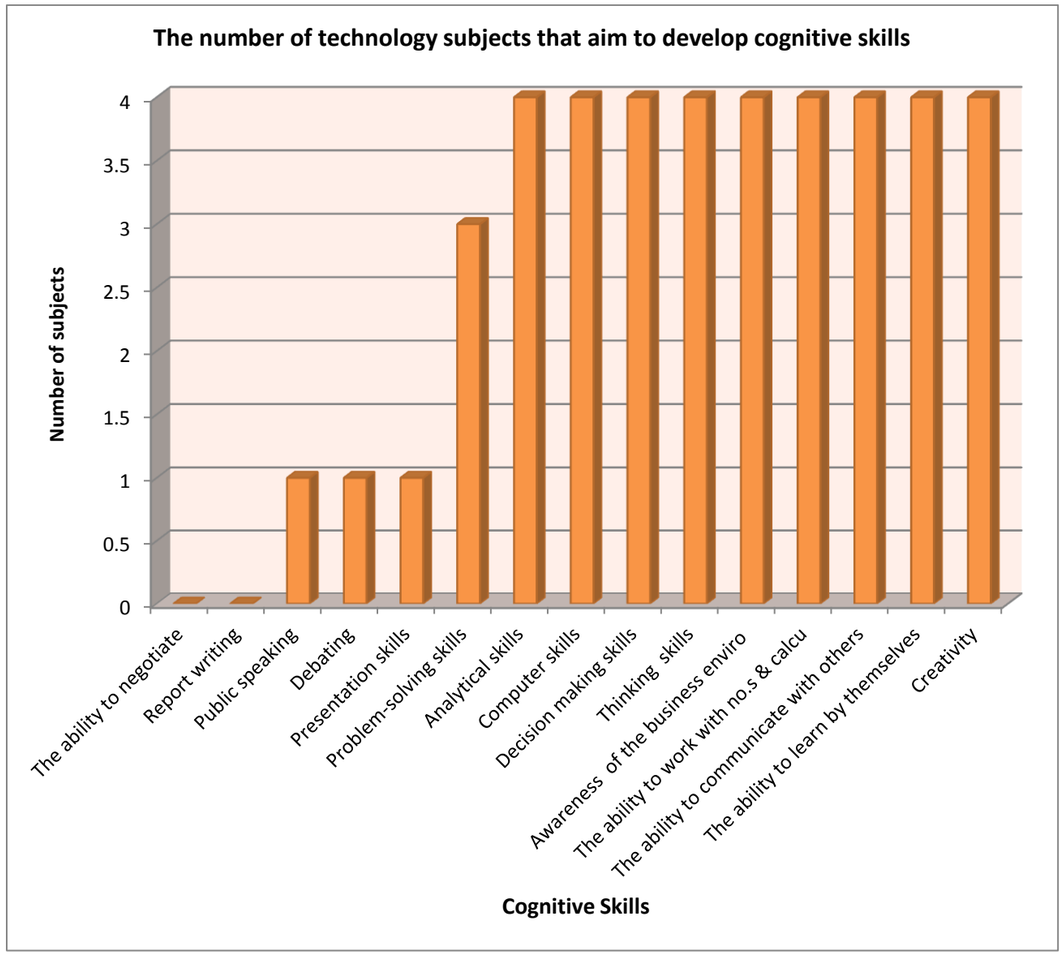


Figure 4.22: The number of technology subjects that aim to develop cognitive skills

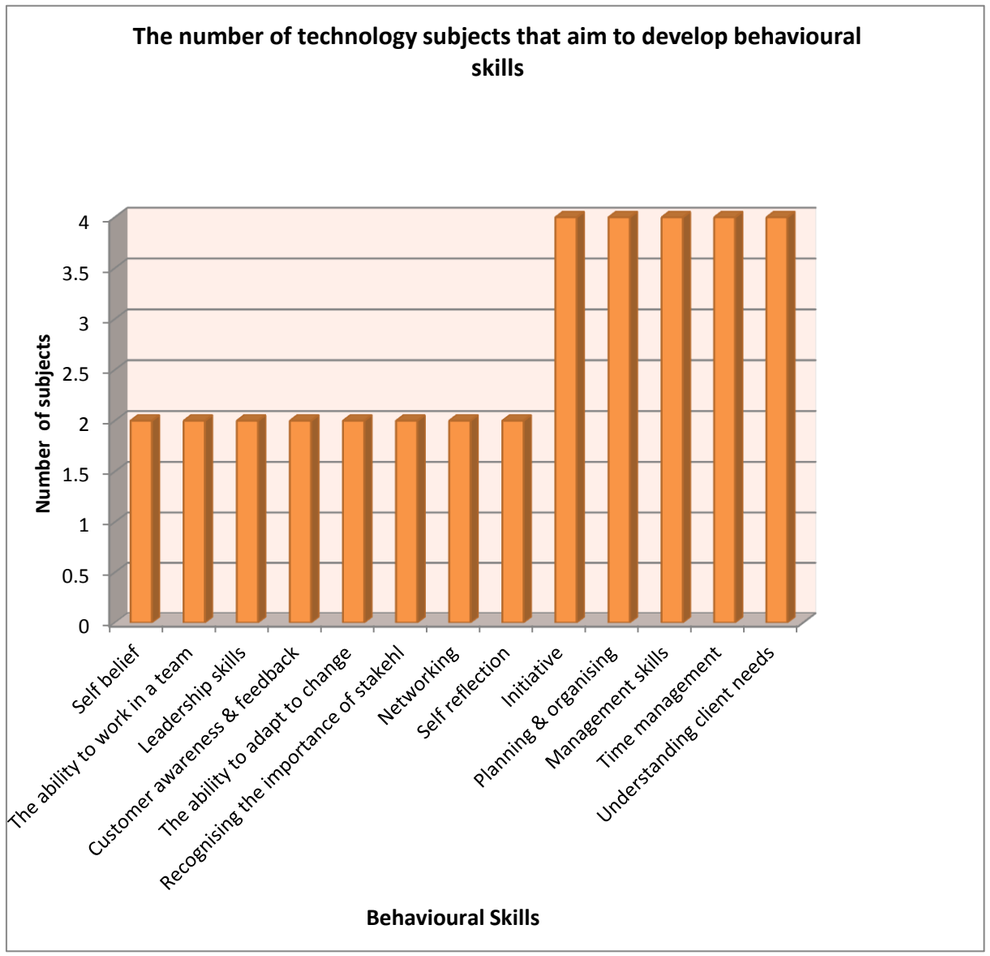


Figure 4.23: The number of technology subjects that aim to develop behavioural skills

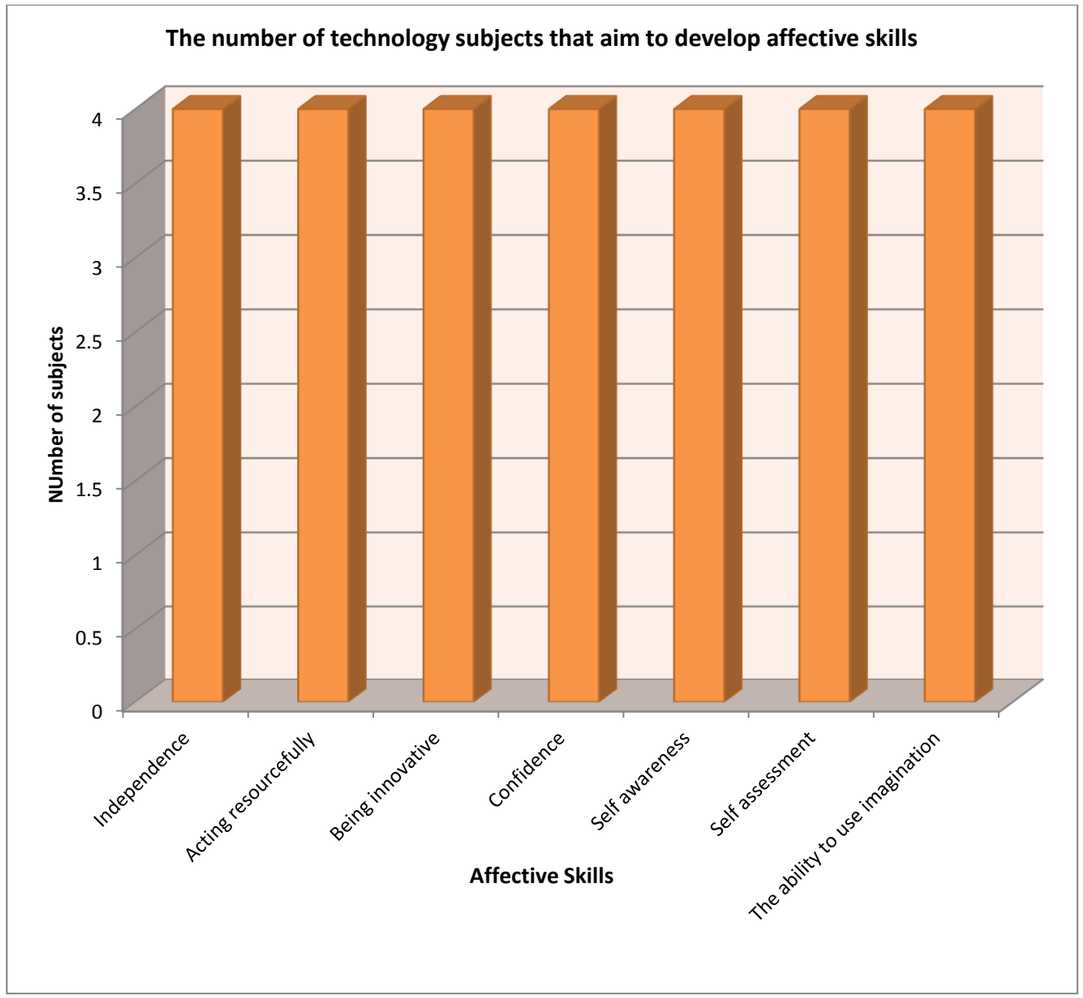


Figure 4.24: The number of technology subjects that aim to develop affective skills

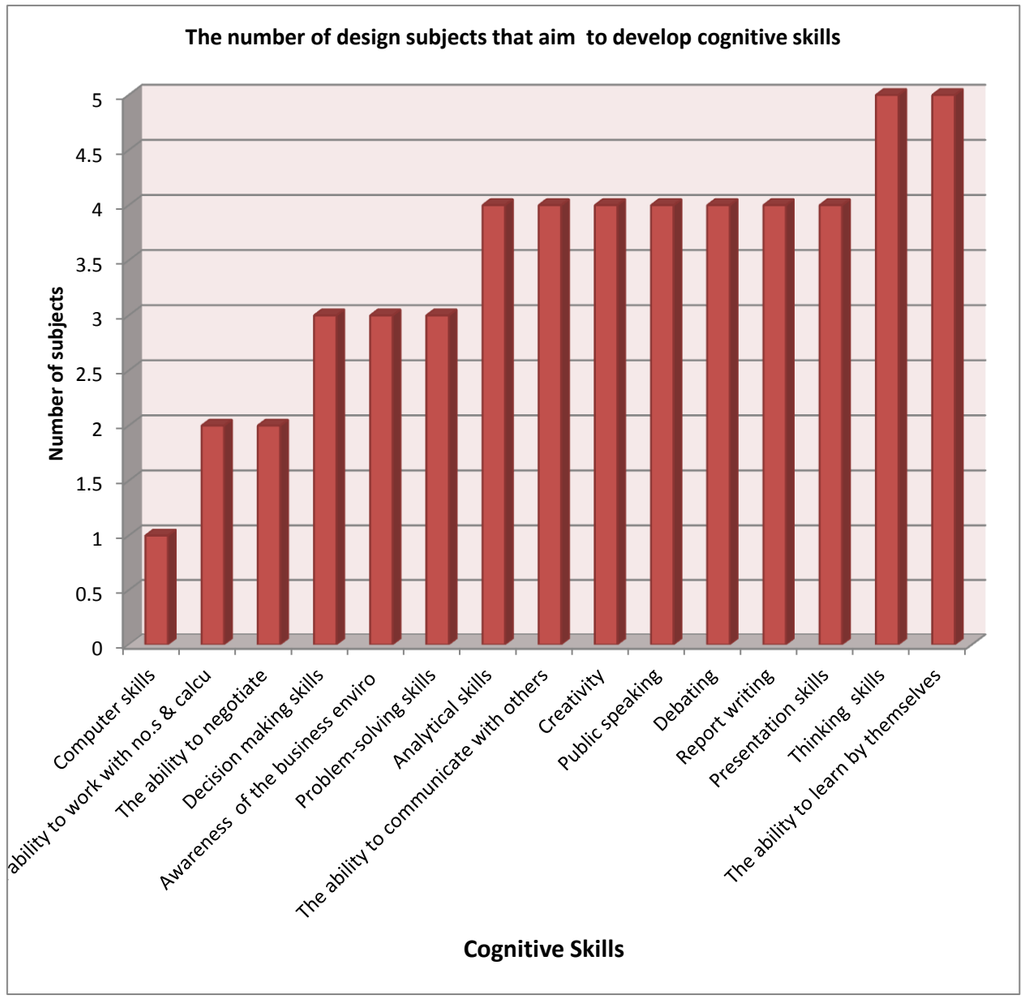


Figure 4.25: The number of design subjects that aim to develop cognitive skills

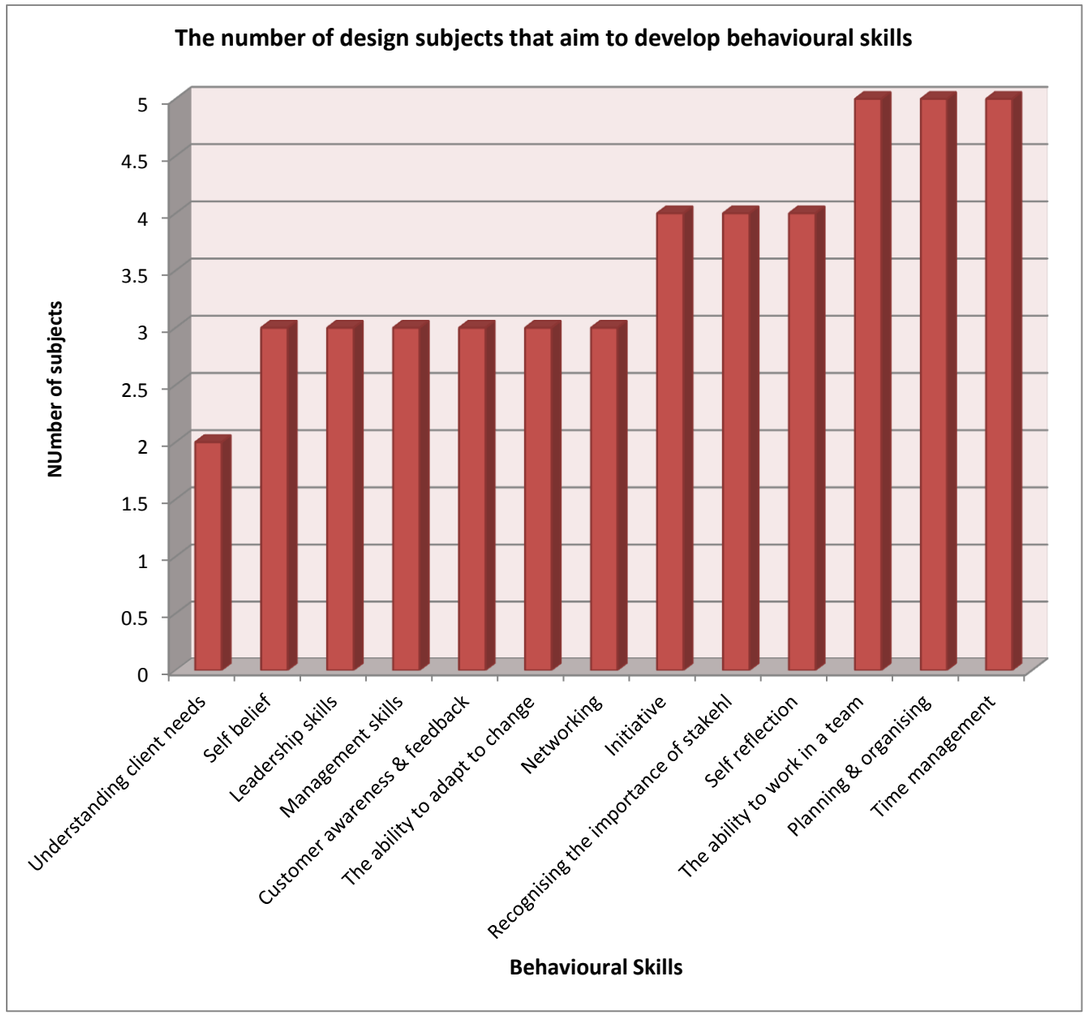


Figure 4.26: The number of design subjects that aim to develop behavioural skills

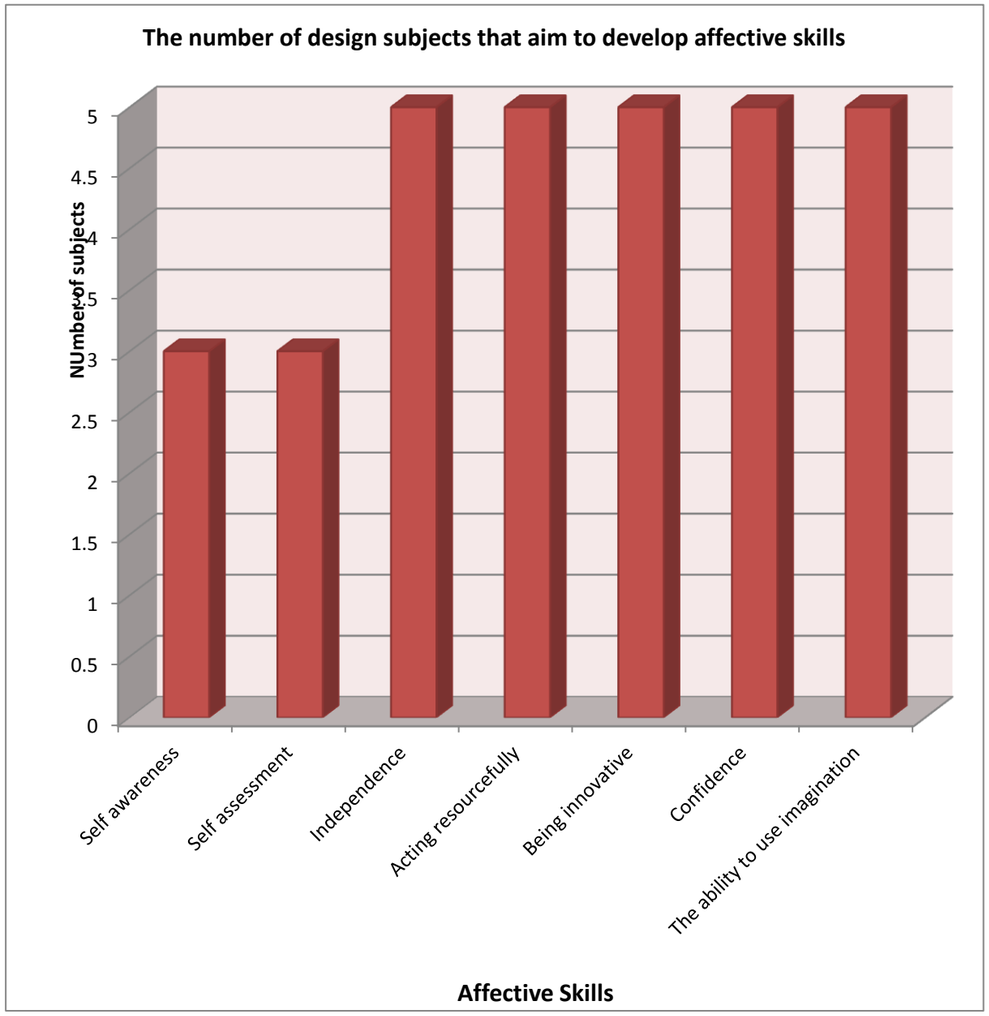


Figure 4.27: The number of design subjects that aim to develop affective skills

4.5.4 Analysis and interpretation of data

The most well developed skills were from the cognitive skills group, while behavioural skills had the most poorly developed skills. This confirmed that the CPUT planning curriculum emphasised the more practical skills than the "soft skills"

Although the number of theory subjects outweighed the technology and design subjects, the data suggested that students developed more enterprise skills from the technology and design subjects as opposed to the theory subjects.

The most poorly developed enterprise skills included: the ability to negotiate, networking, customer awareness and feedback. Ironically, the above-mentioned skills were poorly developed in the technology and design subjects.

In short, the most well developed skills in the town and regional planning curriculum were: thinking skills, the ability to learn by themselves, problem solving, analytical skills, planning and organising, decision making, the ability to communicate with others, independence and confidence.

It can therefore be concluded that there is an existence of enterprise skills development in the national diploma of town and regional planning curriculum. Are the enterprise skills developed adequate for the workplace? That can be answered by merging the employer data with the current data.

4.6 Conclusion (merging the data sets)

The aim of the following section is to merge the major three data sets. The data sets were compared with the aim of identifying similarities, occurring themes and contrasts. This gave a greater understanding of what academics considered as relevant enterprise skills for graduates and what employers viewed as relevant enterprise skills for graduates. Ultimately, the merging of the data sets was to answer the main research question: which enterprise skills are relevant to planning graduates? The goal was to extract relevant enterprise skills for CPUT planning graduates in the unique context of the Western Cape (planning) employment sector.

Three data sets that were merged were:

a) The perception of employers on CPUT planning graduates. This was broken down into three themes:
   - The distinct enterprise skills that graduates displayed on entering employment organisations.

- The strengths of graduates.
- The weaknesses of graduates.

b) The perception of employers on the skills demand in the workplace. (Employers had to rate the highest rated skills in demand in the workplace). Furthermore the following sectors were asked to identify their view of skills in demand in their sector;
    - Government employers
    - Private sector employers

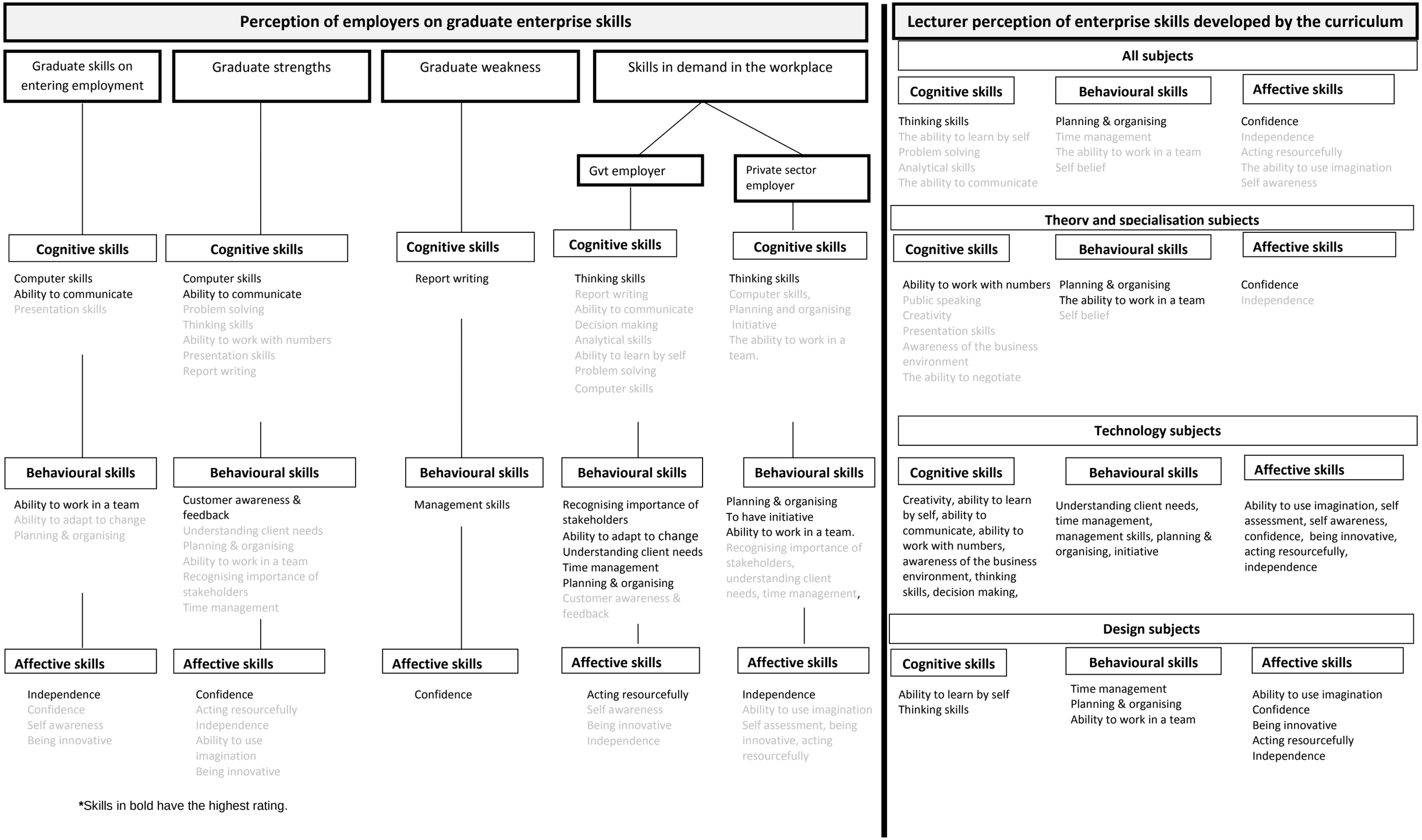
c) The perception of CPUT planning lecturers on the existence of enterprise skills development in the curriculum. Lecturers were asked to identify the enterprise skills that they developed in their subjects.

The first data set (a) provided a good understanding of the impression that graduates had as perceived by employers. The skills that they transferred into organisations prior to supervision and professional development can be directly linked to (c), which were the skills that have been developed through the curriculum. The data also gave a good account of what positive attributes (strengths) were displayed in the working environment as well as some of the weaknesses that graduates had.

The second data set (b) gave a clear indication of what type of enterprise skills employers wanted from graduates in order to adequately function as good quality employees. This data can be directly linked to the enterprise skills that lecturers developed versus what employers would like to see from graduates, as well as what the working environment expects from graduates, which would be what employers expect from the curriculum. Furthermore, one could get a clear view of what government employers preferred and what private sector employers preferred, and how these two sectors differ or compare in terms of skills demand.

The third data set (c) gave a clear indication of the most well developed enterprise skills that were developed through the curriculum as perceived by respective lecturers. Figure 4.28 below is a summary of the quantitative strand.

Figure 4.28: Summary of findings of the quantitative strand



*Skills in bold have the highest rating.

4.7 Qualitative data analysis

The following is discussed in this section: the purpose of the qualitative strand, (the framework of analysis was extensively discussed in chapter 3), then after, there is a description of the coding process, followed by presenting the data and finally interpretation of the results.

4.7.1 Review of the purpose of the qualitative strand

The purpose of the qualitative strand was to provide a deep understanding of the unique context of the CPUT planning curriculum. This relates back to the research problem which stated that the CPUT planning curriculum does not motivate nor does it support graduates to be enterprising planners. Therefore, the purpose was to ascertain whether there was any truth to the latter statement. However, the analysis of the curriculum solely focused on the teaching styles of lecturers and not the content of the subjects taught. This was because enterprise education or teaching through an enterprise approach focused on the teaching styles as well as the learning processes that occured within the classroom. The guiding principles for teaching through an enterprise approach have been discussed by Johnson (1988) and Birdthistle et al. (2007). They explained the key elements of teaching through an enterprise approach as student-centred, collaborative, experiential, flexible and negotiated teaching methods.

Therefore, the question was, are CPUT planning lecturers teaching through an enterprise approach? Were they using the above-mentioned principles in their teaching? To what extent were they or were they not using these principles? What were their own opinions of their teaching styles? All of these questions needed to ascertain whether there was an existence of enterprise skills development in the curriculum. Table 3.7 highlighted the questions directed at the lecturers.

4.7.2 Coding

Cresswell (2009) and Kumar (2011) have provided guidelines for data analysis. Some of the steps are to organise the documents in which the data is stored. Then the researcher needs to transcribe, read and edit the text. Then, transfer the data into a computer program used for analysing qualitative data. Once the data is in the software, the researcher may start reading the data, writing memos and developing a codebook. Some of the steps of developing a codebook involve; identifying themes, assigning codes to the main themes and interrelating themes across all the data. Then, represent your findings, report and analyse

your findings, state how the results have answered the research question and finally, compare the results to literature.

In this case multiple coding methods were used to create a codebook (Rule & John, 2011; Grbich, 2007):

- pre-determined codes, these codes were guided by the questionnaire and relevant theories that were translated into keywords as guided by literature,
- allowing data to determine its own themes and codes, and
- axial coding.

Once the coding (refer to appendices I-FF) was completed further analysis was done.

4.7.3 Data presentation and analysis

Figure 4.29 below gives a brief summary of the core objectives of each subject. Figure 4.30 gives a brief summary of the teachings styles that lecturers used on their subjects. Figure 4.31 is a summary of those subjects that encourage (or not encourage) teamwork. Figure 4.32 is a summary of subjects that encourage students to learn from each other. Figure 4.33 is an analysis of student centeredness. Figure 4.34 is an analysis of those subjects that encourage learning by doing and those that did not. Figure 4.35 is an analysis of student contribution towards subject content, teaching and assessment styles. Figure 4.36 is an analysis of the environments that each subject is taught under.

Figure 4.29: An analysis of the core objectives of subjects in the curriculum

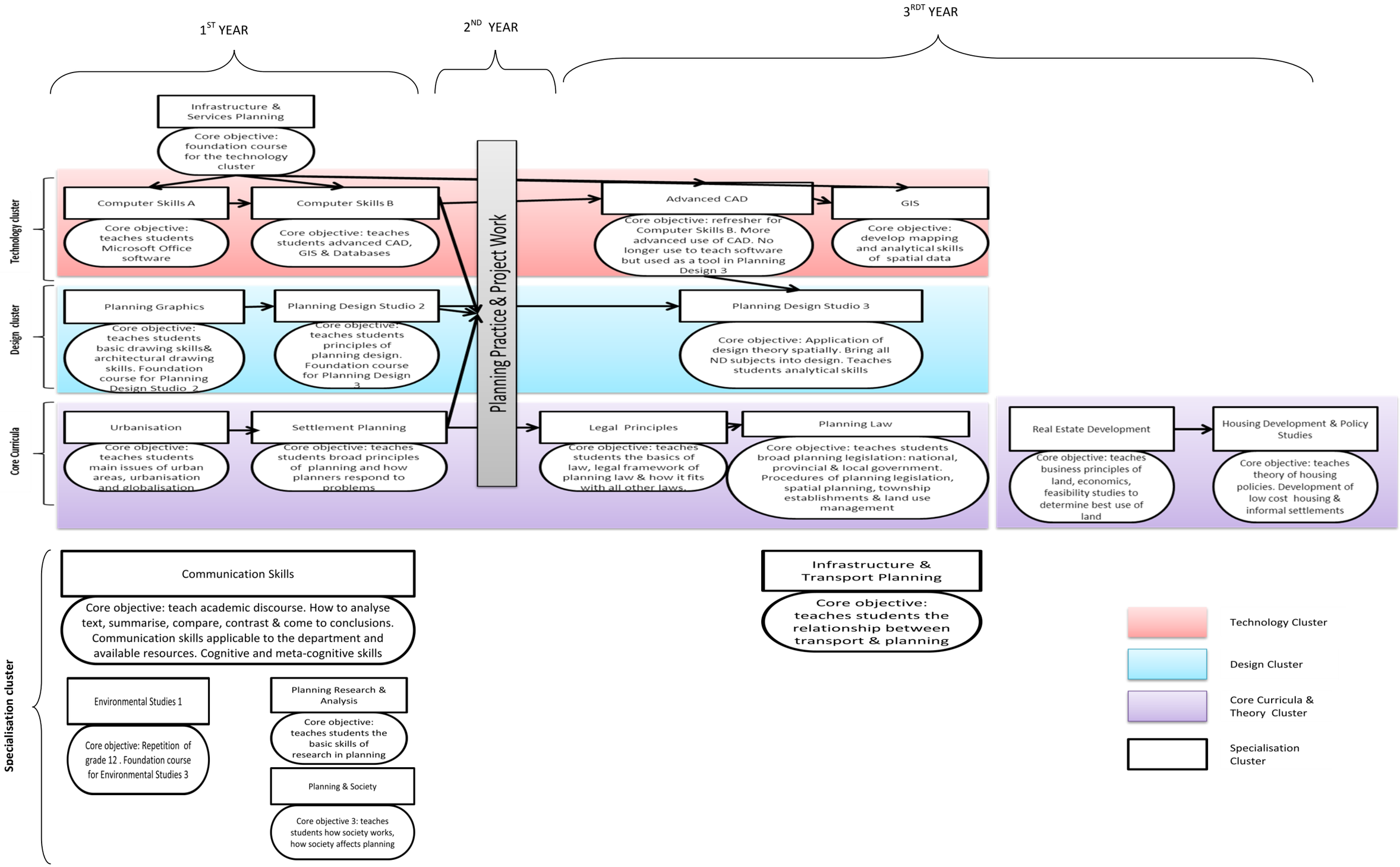


Figure 4.30: An analysis of teaching styles

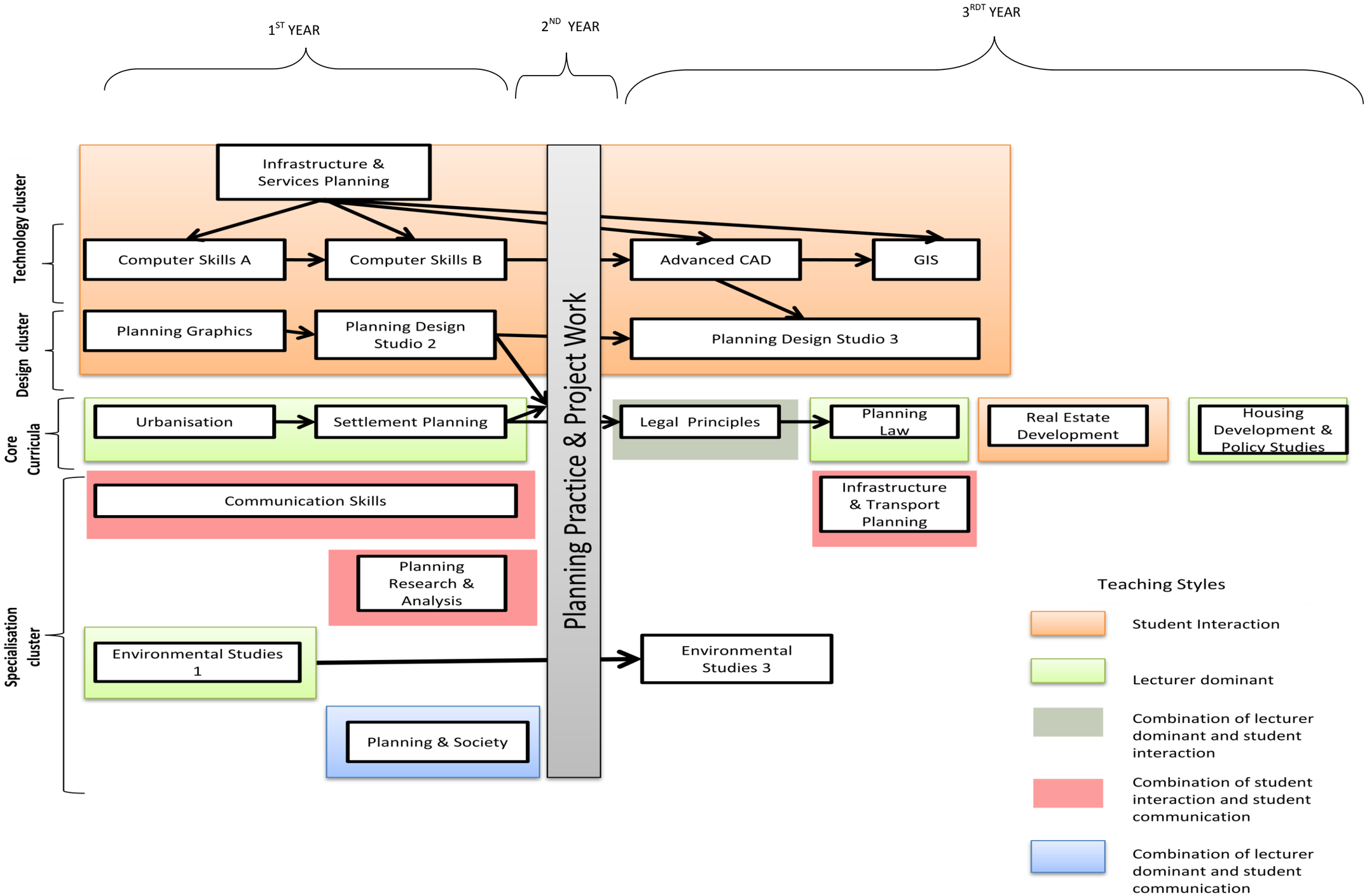


Figure 4.31: An analysis of subjects that encourage teamwork

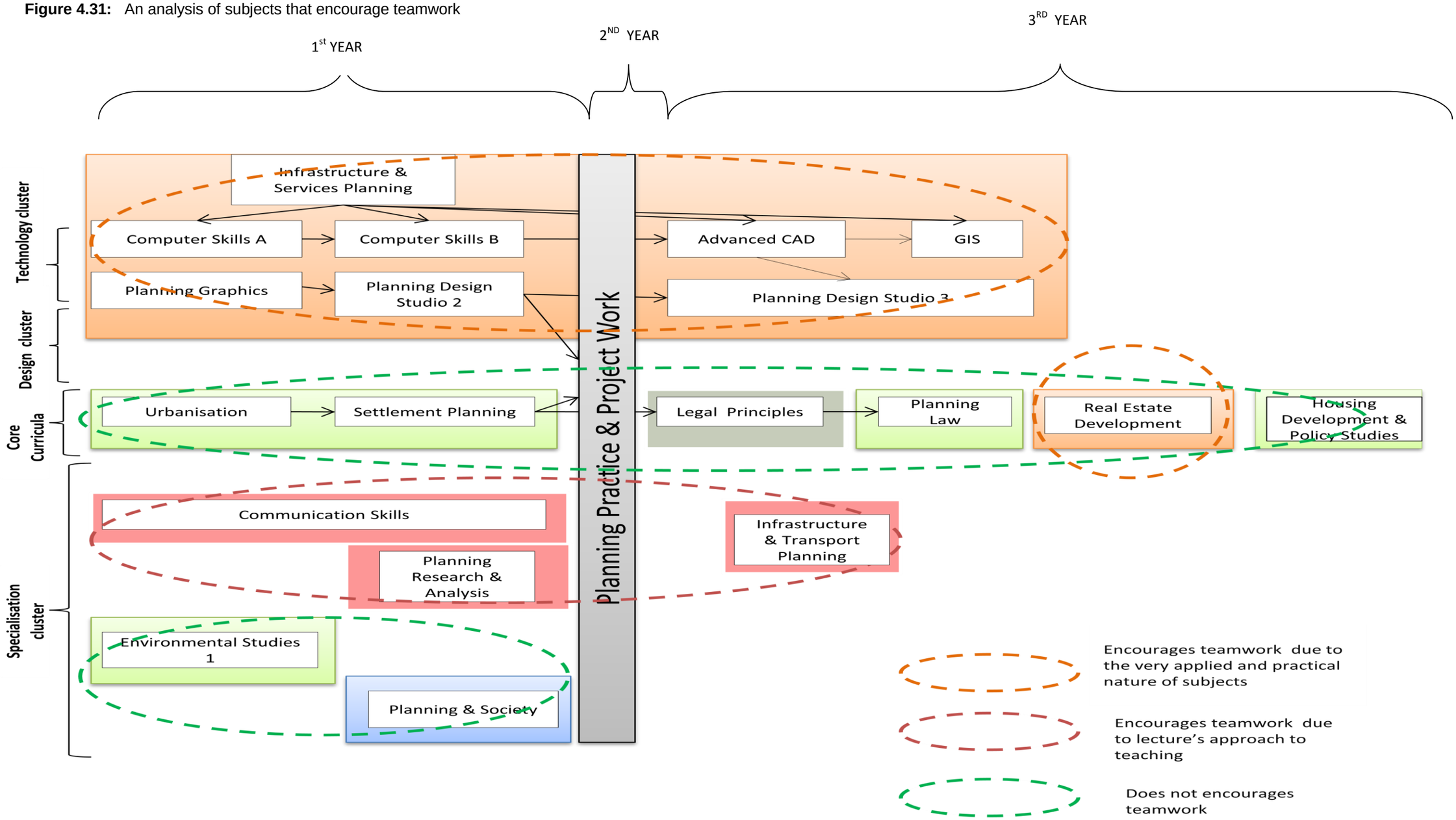


Figure 4.32: An analysis of subjects that encourage students to learn from each other

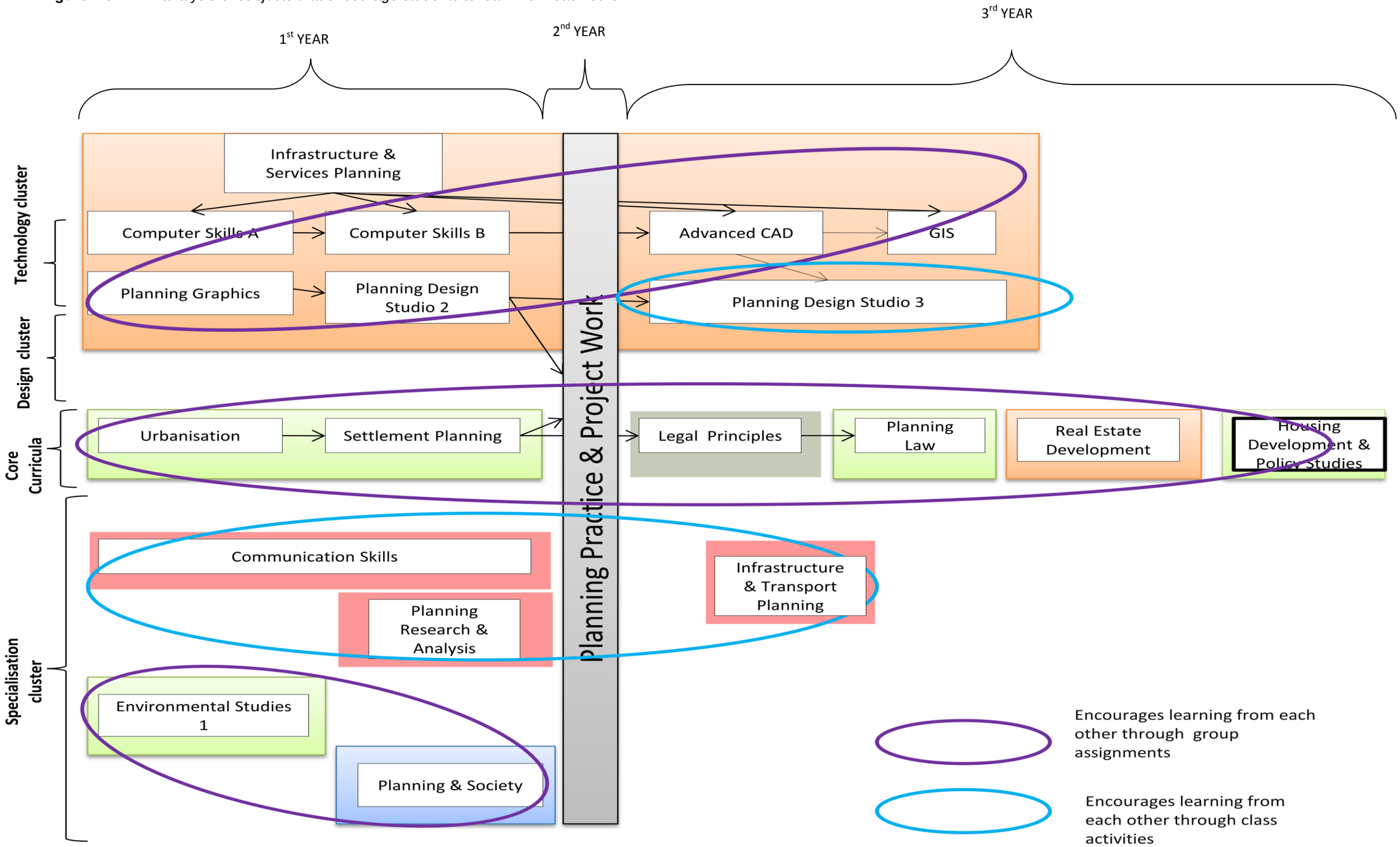


Figure 4.33: An analysis of student centeredness

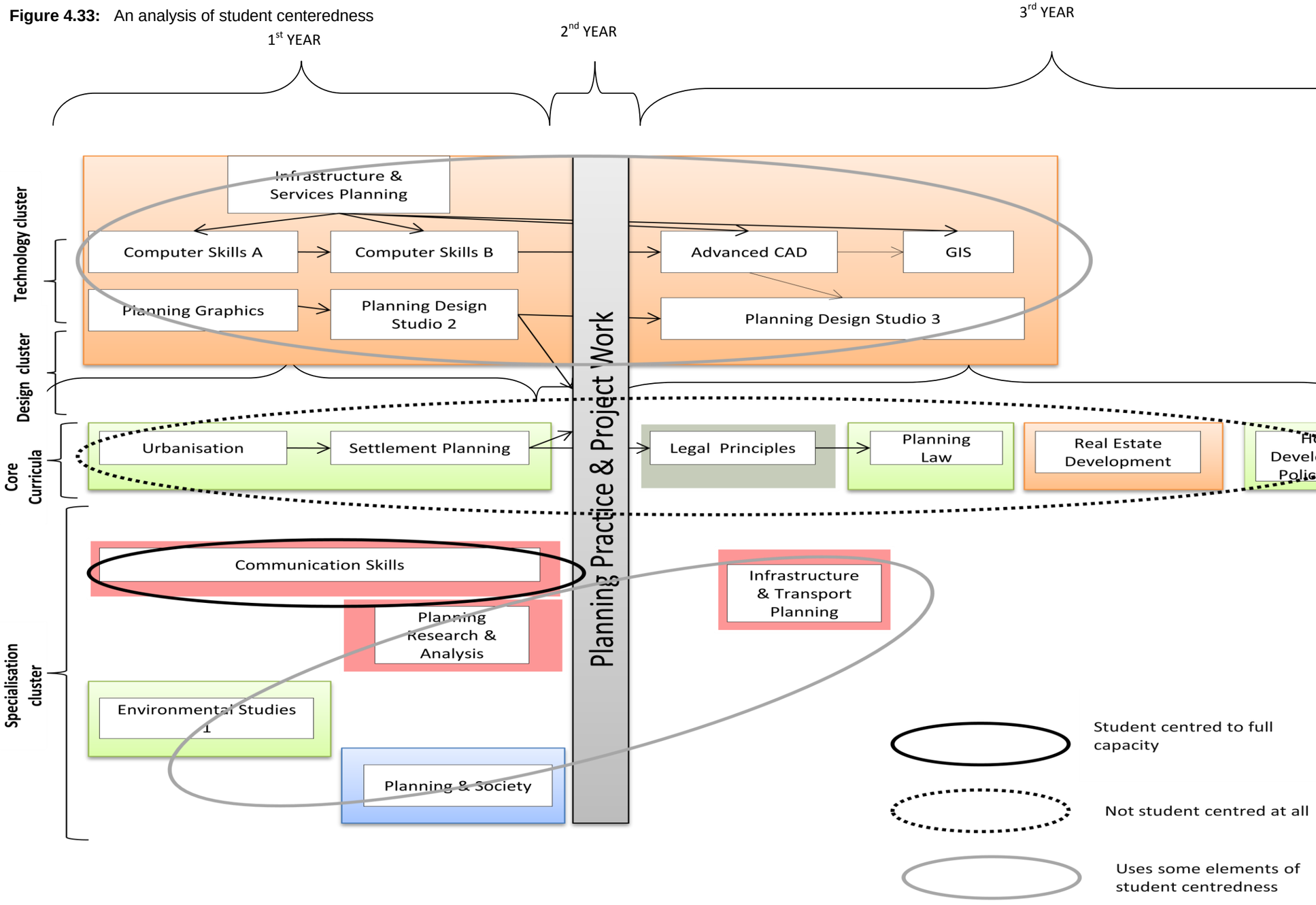


Figure 4. 34: An analysis of learning by doing

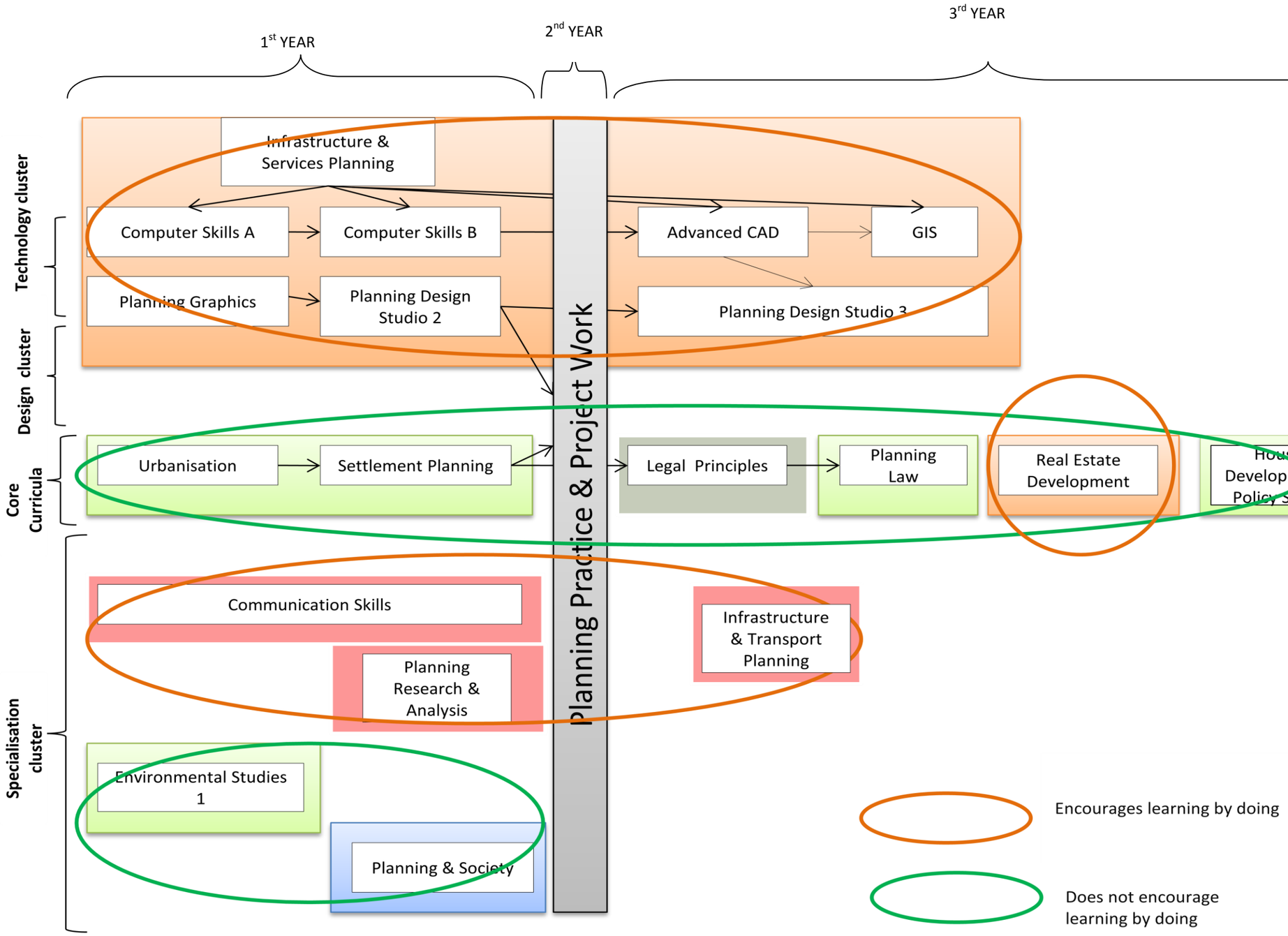


Figure 4. 35: An analysis of student contribution towards subject content, teaching and assessment styles

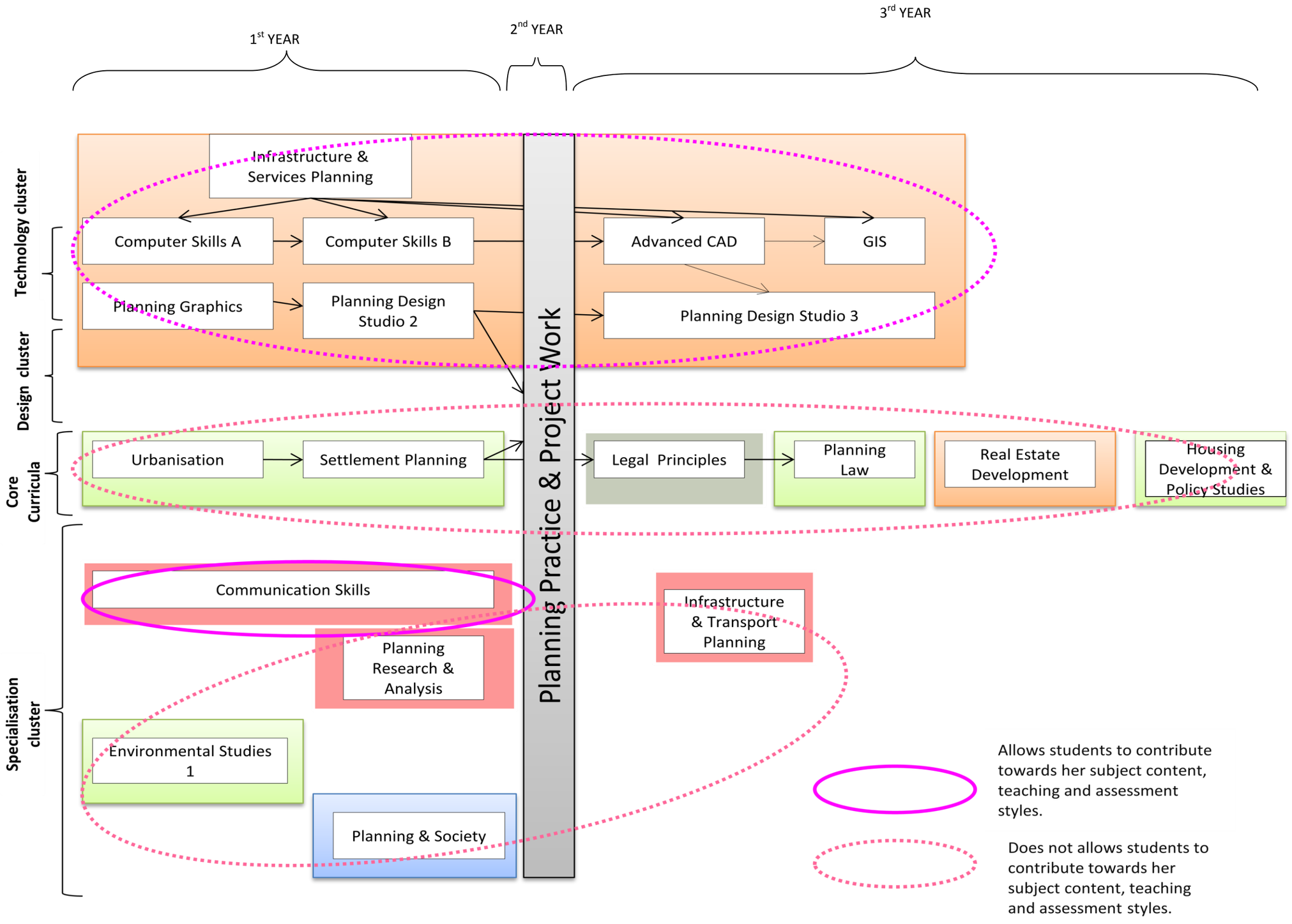
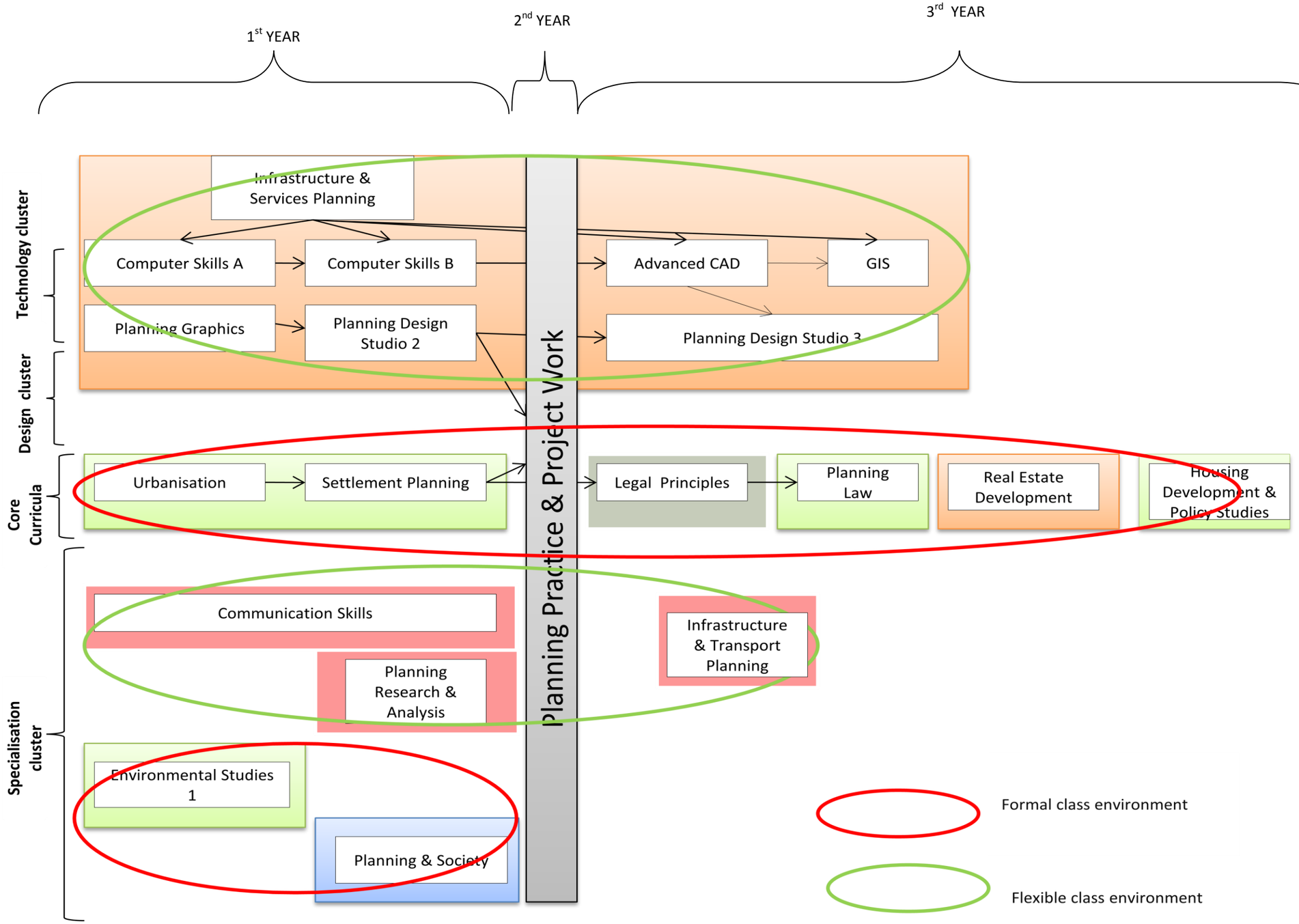


Figure 4.36: An analysis of classroom environment



4.7.4 Findings of the qualitative strand

Lecturers were asked to describe their overall teaching styles. It was found that all of the design and technology subjects were taught through the student interaction style. Even though lecturer 3 taught one specialisation subject (he also taught the technology subjects) in which he stated that it was theory and engineering orientated, he still taught it in the student interaction teaching style. In this case, his teaching style was not influenced by the type of subject he taught (whether it was a theory or applied subject). His teaching style reflected his overall teaching approach. This was the same for lecture 1 and 6 who taught specialisation subjects. Lecturer 1 and 6 taught all their subjects through a combination of student interaction and student communication. Their subjects did not have a significant element of practical work (especially communication skills), however their teaching approach allowed students to practice what they have learnt and there was a heavy two-way exchange of information exchange between lecturer and student. It was therefore concluded that their teaching styles were not influenced by the nature of their subject; it was their overall teaching approach that was a major factor.

The opposite was true for lecturer 2 and 4. The nature of their subject content determined their teaching style. Lecturer 4 taught the first year design subjects. Since the latter subjects were practical and applied subjects, her teaching approach in this case was student interaction. She also taught specialisation subjects. In this case her dominant teaching style was lecturer dominant. This was in particular reference to Environmental Studies. However, in Planning and Society she taught through a combination of lecturer dominant and student communication. This was also true for lecturer 2. His dominant teaching style was the lecturer dominant style. His lecturer dominant style was associated with subjects that had heavy theoretical content. However, there were subjects he taught that were applied although they were still theoretical. In this case he taught through the student interaction teaching style. This was in particular reference to Real Estate Development. In Legal Principles he taught through a combination of lecturer dominant and student interaction.

Lecturers were asked if they encouraged teamwork through their subjects. It was found that all the technology and design subjects (including Infrastructure and Services Planning taught by lecturer 3) all encouraged teamwork. However the nature of their subject content (being very practical and applied) was the significant contributor to the element of teamwork. This also applied to one of the theory subjects (Real Estate Development) that was taught by

lecturer 2. It could be concluded that the student interaction teaching style encourages teamwork.

When lecturers were asked if their subjects encouraged learning by doing, the response was the same, i.e. all the lecturers who taught through the student interaction teaching style (which was influenced by the nature of the subject content) encouraged teamwork and encouraged learning by doing. In addition to this, all the technology and design subjects (including Infrastructure and Services Planning taught by lecturer 3) were taught in a flexible class environment.

Lecture 1 and 6 also encouraged teamwork. However, the significant factor to the latter was their teaching approach. In other words, the nature of their subject content did not influence teamwork, but rather their teaching style (which was a combination of student interaction and student communication) was their overall teaching approach. Their subjects also encouraged learning by doing. Therefore, it could be concluded that the combination of student interaction and student communication teaching style did encourage teamwork as well as learning by doing. Additionally, the learning environment in this case was also a flexible environment. In essence a combination of student interaction and communication teaching style has a flexible learning environment, which stimulates teamwork and learning by doing.

All the subjects taught through the lecturer dominant teaching style did not encourage teamwork and did not encourage learning by doing. In addition to this, all the latter subjects were taught in a formal and strict environment. It could be concluded that the lecturer dominant style which occurred in a formal and strict environment did not stimulate teamwork nor did it stimulate learning by doing.

With regards to student centeredness, there was a negative attitude towards the concept of student centeredness. The main objection towards student centeredness was the loss of control and authority over the subjects content and assessment styles that would be lost by the lecturer if student centeredness were to be employed in the classroom. The general reaction was that lecturers should maintain a level of authority and be respected for their acquired knowledge as opposed to the student who was assumed to have little knowledge about what they should learn and know. This assumption that students had very little (discipline) knowledge was articulated by the majority of lecturers who did not believe that students learn best when they learnt from each other. They stated that students should learn

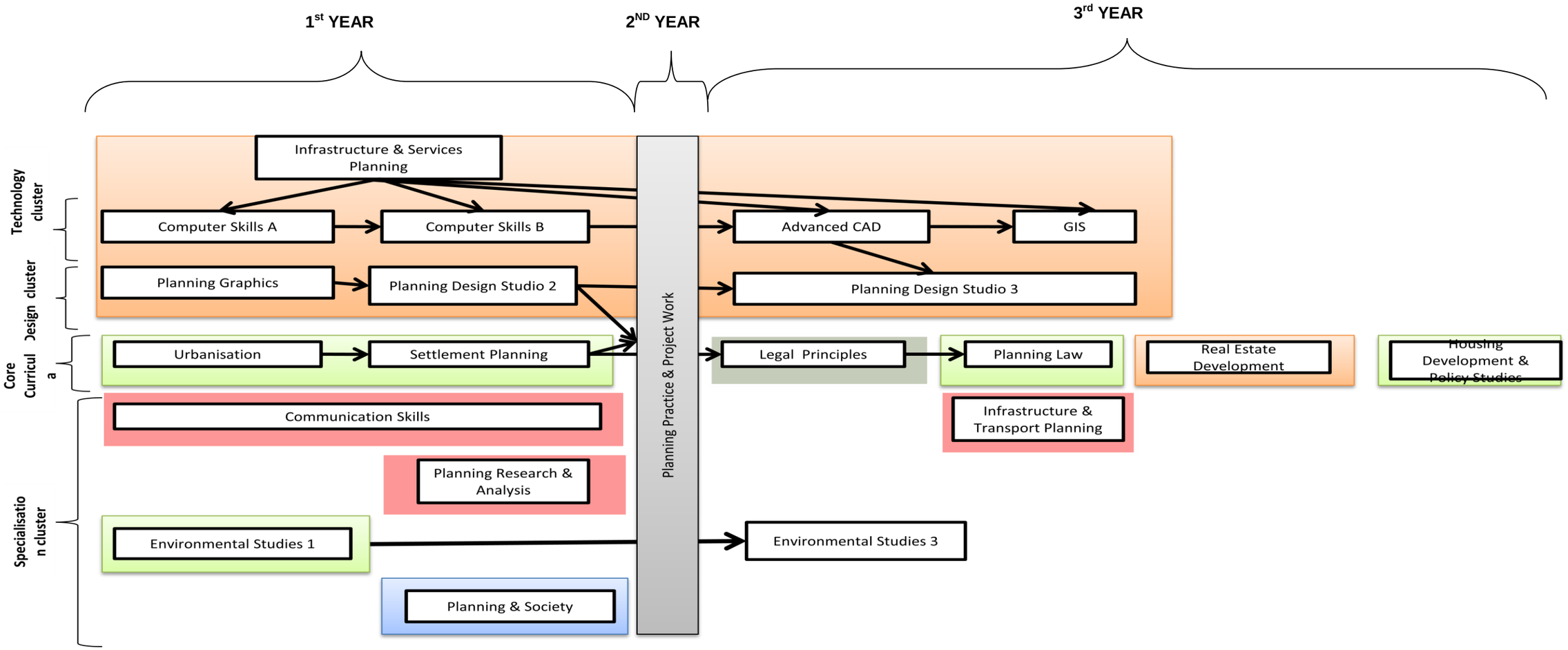
from each other in a structured and controlled environment. In essence, the majority of lecturers (except for lecturer 6) generally disagreed (even though they may have practiced some elements of student centeredness) with the concept of student centeredness. Their general disagreement with the concept of student centeredness was reflected in the lack of student involvement and contribution towards subject content, teaching styles and assessment styles. They did not believe that students should be given the opportunity to contribute towards subject content, teaching style and assessment style.

4.8 Conclusion

Are the CPUT planning lecturers teaching through and enterprise approach? Yes and no; there were some elements of teaching through an enterprise approach that they did practice and there were some elements that they did not practice. The principles of collaboration, experiential learning was evident in teaching practices. Students were encouraged to work in teams and learn from each other. A great portion of subjects (12 out of 19 subjects) encouraged teamwork. The principle of experiential learning was evident in the lecturers teaching practice. Again, a great portion of subjects (12 out of 19 subjects) encouraged learning by doing.

The principles of student centeredness; flexibility and negotiation were non-existent practices for the majority of lecturers. Almost all the lecturers did not practice student centeredness; they did not allow students to negotiate class activities and subject content. There was no element of flexibility in the curriculum, i.e. the curriculum was fixed and had specific goals. The mere fact that lecturers did not involve students in curriculum development, teaching and assessment styles was a reflection of the rigidity of the curriculum. In fact, only one lecturer out of six lecturers taught through an enterprise approach to its entirety, and that was lecturer 6. Figure 4.35 is a summary of the qualitative strand.

Figure 4.37: Summary of findings of the qualitative strand



	PRINCIPLES OF TEACHING THROUGH AN ENTERPRISE APPROACH	COLLABORATION												EXPERIENTIAL						STUDENT CENTEREDNESS						NEGOTIATED & FLEXIBLE						FLEXIBLE											
	Teaching styles	Teamwork						Learning from each other						Learning by doing						Student centeredness						Student contribution						Flexible class environment						Formal class environment					
		Lecturer						Lecturer						Lecturer						Lecturer						Lecturer						Lecturer						Lecturer					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	Student interaction			x	x	X				x	x	x				x	x	x				x	x	x												x	x	x							
	Lecturer dominant		x		x										x																									x				
	Combination of lecturer dominant and student interaction		x						x						x																								x		x		
	Combination of student interaction and student communication	x					x	x					x	x					x	x					x						x					x	x						
	Combination of lecturer dominant and student communication				x											x																								x				

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter has the following sequence: first, is a summary of the previous chapters. The aim of the latter is to discuss the main points or findings of each chapter. Second, is a discussion of ambiguities, anomalies and deviations in the data. Third, are recommendations.

5.2 Summary of each chapter

5.2.1 Chapter 1

Structure of chapter 1: The purpose of chapter 1 was to build the argument of the research problem. In other words, what led the researcher to decide on the topic and how the contextual background further built onto the research problem? The next section dealt with a preliminary literature review of enterprise education, as well as how it could be contextualised in the planning profession. All of the above-mentioned were used to further refine the research problem, which led to the construction of research questions and objectives. This was followed by a preliminary discussion of the research design and methodology, followed by the delineation of the research and contribution of the research.

Summary of chapter 1: This research was initiated by the researchers' educational background and work experience. A graduate from a technikon had a reputation of being more technically inclined than their university counterpart. She felt that the emphasis on the technical skills left many soft skills untapped. Technikons emphasised technical competencies due to their establishments. They were influenced by the industrial revolution that needed a large workforce of skilled labours (Maserumela, 2005). In addition to this, the CPUT planning school was influenced by European planning models, which had a heavy influence of technical and physical design (Watson & Odendaal, 2012).

When the researcher stumbled across the concept of enterprise education; this resonated with her research problem. Education through enterprise: aims to teach life skills through enterprise activities. This means that students are not only taught knowledge and skills, but they are taught how to apply knowledge and technical skills in real life projects (Ritchie, 1991) (Gibb, 1987) (Caird, 1990). Therefore, the argument of this research was that the

current CPUT town planning curriculum did not motivate nor support planning graduates to be enterprising. The latter translated into the purpose of the research which was to investigate enterprise skills that were relevant to town planning graduates. A secondary aim was to investigate the existence of enterprise skills development in the curriculum. Therefore, the research questions were:

1. Which enterprise skills were relevant to town planning graduates?
2. Was there an existence of enterprise skills development in the CPUT town and regional planning curriculum?

5.2.2 Chapter 2

Structure of chapter 2: The literature review was divided into two parts. The first part was a review of the literature of enterprise education. This section was divided into three sub-sections. The first section was a literature review of the ontology of enterprise education, the second section was a review of the pedagogy of enterprise education. The final section was a literature review of the assessment methods of teaching through an enterprise approach. The aim of all three sections was to have a holistic understanding of enterprise education, more specifically education through an enterprise approach.

The second part was a review of the literature on planning education. This part focused on the relationship between planning education and planning practitioners. Furthermore, was a discussion of the implications that the latter relationship had on the planning education system. Next, was a discussion of the skills for planning graduates, particularly the additional interpersonal attributes that should be coupled with the technical skills. The aim of the latter was to establish the enterprise skills that were relevant to planning graduates.

Summary of chapter 2: Enterprise education is not a straight forward concept. There is a clear lack of definition and overlap over two main concepts: the business oriented focus area and the enterprising behavioural skills focus area. This was caused by the initial aim of enterprise education which was to enable students to start-up businesses. As more schools adopted this approach they further developed “soft skills” or attributes that would assist the entrepreneur to become enterprising (Draycott & Rae, 2011). Ritchie (1991) made a distinction between two types of enterprise education. “Education for enterprise” is aimed at enabling students to set up business competencies and ultimately to start-up businesses. “Education through enterprise” is aimed at developing life skills. The aim of this research was to explore the latter.

Enterprise education can be contextualised into any subject or profession. It has the ability to promote a value system for any profession. The principles of teaching through an enterprise approach are student centeredness, collaborative, experiential, flexible and negotiated teaching methods (Jones & Iredale, 2010).

The second part of the literature review focused on the literature of planning education. The literature indicates that there has been a continuous struggle between planning academics and planning practitioners. The strained relationship between the latter is mainly about the roles of each entity with regards to the development of graduate skills. Planning schools strive to teach students theory, concepts and skills, while planning practitioners felt that students should learn practical skills of the day to day planning processes (Baum, 1997).

Numerous authors have conducted research that shows that soft skills are as necessary as the knowledge and technical skills in the workplace (Oc et al., 1997; Guzzetta & Bollens, 2003; Kitchen, 2007; Frank, 2007). Even though the latter authors are international authors, the South African planning system is no stranger to the latter phenomenon. Planning in South Africa has changed from being technocratic to developmental. This has compelled the planner to have more interpersonal skills that were not developed in his/her academic years (Ovens & Associates, 2007).

Most of the interpersonal skills that were discussed in the planning literature were identical to the skills discussed in the enterprise education literature. In essence the literature confirmed that enterprise skills are relevant for planners. The planning skills identical to enterprise skills were: communication skills, problem solving, teamwork, managerial skills, analytical skills, computer skills, negotiation skills, creativity, leadership, imagination, critical thinking, decision making, adapting to change, time management, understanding public/client needs, customer awareness and how to secure feedback, recognizing the importance of stakeholders, networking, and reflective skills.

5.2.3 Chapter 3

Structure of chapter 3: The purpose of this chapter was to document the research design and methodology of the data collection process. First, was a discussion of the chosen philosophical worldview. The philosophical worldview chosen was pragmatism. There was a basic explanation of the concepts of pragmatism and how it has shaped the approach to the research. Second, was a review of the research problem, research question and purpose of the research. The purpose of the latter was to discuss the congruence between the latter.

Third, was a discussion and justification of the chosen research methodology. The chosen research methodology was mixed method research. A definition and explanation of the basic concepts of mixed method research was provided. Following was a justification of the chosen strategy. Then, there was a discussion of the advantages and challenges of mixed method research. Finally, the last few sections included the sampling methods, data collection methods and instrumentation.

Summary of chapter 3: The chosen research methodology was mixed method research. Both quantitative and qualitative research methods were used to answer the research question. The quantitative strand was used to answer the first research question which was; which enterprise skills were relevant to town planning graduates? This was in the form of a questionnaire. One set of the questionnaire was targeted at the employers of CPUT. This was broken down into three themes:

- The distinct enterprise skills that graduates displayed on entering employment organisations.
- The strengths of graduates.
- The weaknesses of graduates.

The perception of employers on the skills demand in the workplace. Employers had to rate the highest rated skills in demand in the workplace. Furthermore, the following sectors were asked to identify their view of skills in demand in their sector;

- Government employers
- Private sector employers

The second set of the questionnaire was targeted at the lecturers of CPUT town planning students with the aim of investigating the perception of lecturers on the type of enterprise skills they aim to develop through their teaching styles.

The qualitative strand was used to answer the second research question which was: was there an existence of enterprise skills development in the CPUT town and regional planning curriculum? The qualitative strand was in the form of structured interviews. The interviews were targeted at the lecturers.

5.2.4 Chapter 4

Structure of chapter 4: This chapter was divided into two parts; the quantitative data analysis, followed by the qualitative data analysis. In both parts, there was a discussion of

the coding process, followed by a discussion of the framework of analysis, and then there was presentation of the data, finally, an analysis and interpretation of the findings.

Summary of chapter 4: In the quantitative strand the main findings were as follows:

- The overall impression of graduates in industry was good.
- There was a general agreement amongst employers that CPUT planning graduates were computer literate, had the ability to communicate with others and were able to work in teams. This had been evident as the graduates entered organisations and it proved to be their highest strengths.
- Employers agreed that there was a general lack of management skills in planning graduates.

- Overall, the enterprise skills demanded in the work place were: thinking skills, the ability to work in a team, planning and organising, recognising the importance of stakeholders, time management, independence, the ability to adapt to change and acting resourcefully.
- Government employers regarded report writing as a vital means of communication, sustaining good relations with stakeholders, as well as time management.
- Private sector employers wanted graduates who were computer literate, graduates who were time conscious and had the ability to prioritise tasks. Graduates also needed to be team players while still able to work and think independently.

- The most well developed skills (as perceived by lecturers) in the town and regional planning curriculum were: thinking skills, the ability to learn by themselves, problem solving, analytical skills, planning and organising, decision making, the ability to communicate with others, independence, and confidence.

In the qualitative strand:

- It was found that all the subjects (usually, these subjects had a high content of theory) that were taught through the lecturer dominant teaching style were taught through the strict and formal environment. This environment did little to stimulate teamwork and learning by doing. In other words, the principle of collaboration and experiential learning was non-existent.

- Subjects that were taught through the student interaction and student communication (or a combination of the two) teaching style were taught in an informal and flexible

environment. The latter environment stimulated teamwork and learning by doing. In other words, the principle of collaboration and experiential learning was evident.

- With regards to student centeredness, there was a negative attitude towards the concept of student centeredness. The main objection towards student centeredness was the loss of control and authority over the subject contents and assessment styles that would be lost by the lecturer if student centeredness were to be employed in the classroom.

In conclusion, the principles of collaboration, experiential learning were evident teaching practices. The principles of student centeredness; flexibility and negotiation were non-existent practices for the majority of lecturers. Only one lecturer out of six lecturers taught through an enterprise approach to its entirety, and that was lecturer 6.

5.3 Connections between research findings and literature

5.3.1 What literature says about graduate skills and the perception of employers

Jackson (2009) has conducted an extensive literature review of the skills gap prevalent in the USA, UK and Australia. All three countries agree that the quality of graduate interpersonal, soft or non-technical skills is insufficient for the workplace. Interestingly, there are some skills that Jackson (2009) has identified as soft skills that are similar to enterprise skills, such as: application and use of technology, problem solving, written communication, oral communication, team-working, critical thinking, leadership skills, initiative, creativity and interpersonal skills (which included conflict resolution, the ability to give feedback, communication, customer relation, etc.).

Griesel and Parker (2009) have evaluated graduate attributes (in the context of South Africa) from the perspective of employers across all sectors of industry. Although this study does not specifically deal with the planning discipline, it gives an overall picture of the perception of employers across all sectors of industry. The main purpose of the study was to investigate the expectations of employers and evaluate the quality of graduates leaving South African higher education institutions. The study correlates well with this research in two ways: it investigates employers' perception about attributes that they view as important and expect

from graduates as they enter the workplace, as well as how graduates demonstrate these attributes in the workplace. The findings of the research were as follows:

- The gap between what employers got and what employers expected was highest in relation to graduates' written communication. This correlates with the results of this research, which indicated that report writing (which is a component of written communication) was lacking in CPUT graduates as they enter the workplace.
- The gap between what employers got and what employers expected in relation to computer literacy was small. In other words, employers seem to be satisfied with the level of computer literacy graduates demonstrated in the workplace. This correlates with the findings of this research, which confirm that employers are content with the level of computer literacy CPUT graduates demonstrated in the workplace. However, just as Griesel and Parker's (2009) study confirmed that employers did not regard computer literacy as a highly demanded skill, this was also true for employers of CPUT graduates; this trend also applied to numeracy and quantitative literacy as well as oral presentation skills.
- There were significant gaps between what employers got and what employers expected in relation to the ability of graduates to work independently, problem solving, evaluating one's work, being innovative and adapting to changes in the workplace. In other words, graduates were finding it difficult to convert what they have learnt at university and apply it in the context of work.
- Employer's expectations in relation to negotiation and mediation skills, the ability to network, being initiative, creativity and innovation, as well as leadership skills were lower than what they got. This meant that graduates struggled with the latter skills. In the context of this research, all of the latter skills were some of the least important skills for graduates in the planning industry (as perceived by employers). However, the gap between what employers got and what employers expected in relation to teamwork and confidence was smaller. Meaning that, graduates were able to demonstrate the ability to work in teams and were confident individuals. This correlates with the findings of this research which concluded that teamwork and confidence were some of the graduate strengths and some of the most demanded skills in the workplace.

In summary, the latter statements correlate with the findings of this research. Even though employers have positive perceptions about CPUT graduates, the skills they demonstrate as they enter the workplace environment did not correlate with the desired skills that employers wanted graduates to possess.

5.3.2 What does literature says about planning educators?

Peel (2000) discusses the importance and role of the teacher in planning education. He emphasises a student-centred and active learning approach in the classroom. There is a correlation between classroom dynamics and planning activities in the workplace. He notes that there are five key activities that are common practices for town planners*; to plan, prepare, present, assess and evaluate (*Peel, 2000: 377). Even though the latter activities may be taught (at a planning school) through technical knowledge, educators have the responsibility to develop skills that will enable graduates to apply them in the world of work.

Peel (2000) suggests that in order for students to apply what they have learnt in the classroom, teachers must develop communicative and collaborative skills. His argument is that town planners are confronted with diverse groups of people, with different power relations and different visions; the lecturer is also faced with diverse groups of students with differing learning styles. In other words, the relevance of a communicative approach to teaching is important. Educators should in essence not be teachers. The meaning of teaching is to "instruct, to impart knowledge or skill, to make know, to show, guide, direct" (Peel, 2000: 374). In contrast, a student-centred approach, allows the educator to be the facilitator, in other words, the educator facilitates the learning process. Educators should use participatory techniques such as experiential learning and problem solving tasks. Just as planners need to re-evaluate themselves in their work activities, students must be able to re-evaluate themselves and others. There needs to be self-learning and realisation; in the end students must be able to say "…we did this ourselves" (Peel, 2000: 374).

Peel (2000) and many other authors (such as Baum (1997), Shephered and Cosgrif (1998), Lusk and Kantrowitz (1990)) argue for a more communicative approach to teaching planning. Although they don't specifically refer to an enterprise approach in teaching, their suggestions have common elements to teaching through an enterprise approach. Some of the elements they refer to are: student centeredness, experiential learning, educators acting as facilitators, problem-based learning, and application of knowledge through real life problems, collaboration and communicative skills. All of the elements are principles of teaching through an enterprise approach.

5.4 A discussion of ambiguities, anomalies and deviations in the data

5.4.1 A discussion of anomalies in the literature

Enterprise education is an unfamiliar concept in relation to planning, particularly because the term is seen as synonymous to terms such as “business and entrepreneurship”. There was an evident disconnect between planners and enterprise education, particularly due to the nature of planners and their activities. Literature has confirmed that planners did not readily see themselves as enterprising individuals. Most planners regarded themselves as servants of the public. However, when employers were asked to rate the significance of enterprise skills, most enterprise skills were rated as desired skills. This confirmed that enterprise skills were a necessity for planners. Even lecturers were asked if they had any knowledge of enterprise education, they confirmed that they didn’t. However, when they were asked to identify enterprise skills they thought they developed, they were able to do so.

The principles of enterprise education are similar to other pedagogical methods, such as active learning, experiential learning, problem based learning, etc. This makes the outcome of enterprise education very similar to the outcomes of other similar pedagogical methods. This was evident in the literature. Authors of planning have a number of identical skills as those authors of enterprise education. Again, this confirmed the relevance of enterprise skills in planning.

It was difficult to find planning authors who specifically made reference to enterprise education. This meant the researcher had to borrow from authors with similar concepts to enterprise education in order to build her argument. Furthermore, there was limited literature that refers to enterprise education that develops interpersonal skills; there was however an unlimited resource of literature that focuses on business and entrepreneurship.

The philosophy that enterprise education was linked to economic growth is unproven. There were authors such as Shacklock et al. (2000) who believed that an enterprise approach in teaching has always existed in the classroom; the only difference was that “enterprise” is used as a metaphor in education.

In summary, the concept of enterprise education in relation to planning was very hard to pin down. It seems as though it will be difficult to convince planners about the relevance of the concept, yet enterprise skills are desired skills amongst employers and the principles of enterprise education are the desired pedagogical practices for planning schools.

5.4.2 A discussion of anomalies in the data findings

The researcher was restricted to 20 participants (employers) due to financial constraints. Most of the participants were from within the city of Cape Town and surrounding areas. The distance and locations were favourable since they were easily reachable. However, those employers that resided outside the city of Cape Town meant that funds were depleted due to travelling costs.

The number of government employers who participated in the project was much higher than private sector employers. Government employers were more willing to partake in the project. Their willingness was attributed to numerous reasons:

- Some employers were graduates of the then former Cape Technikon.
- Most employers employed CPUT graduates during the project or had employed CPUT graduates in the past.
- Most employers had long standing relationship with the Department of Town and Regional Planning (particularly through the recruitment of 2nd year students in the experiential learning programme).
- Most graduates were employed in the government sector.
- The most significant reason was that employers were generally satisfied with the quality of graduates from CPUT.

There were fewer private sector employers compared to government sector employers. Most of the private sector employers who participated in the project had successful businesses, which meant that they were able to employ more people. However, the majority of private sector employers were small companies who cannot afford to employ many people. The uneven numbers in the two main participants meant that data findings from government employers could not be compared to data findings from the private sector employers.

The research did not take into account the number of years' experience that graduates had in their employment or whether they were newly appointed employees. In other words, when employers were asked how they perceived graduate skills as they entered their employment organisations, some graduates would have had work experience already, while others would have been new appointees. This meant that the perception of employers varied depending on the graduates experience or inexperience. For those graduates who had experience, there was no consideration of the number of years' experience graduates had. Although there was a general assumption that graduates would be new appointees with no work experience (except for the experiential training year), the research did not specify this.

Employers were only given one questionnaire to provide an overall perception about one or a number of students they have supervised. Employers commented that it was unfair and difficult to provide overall perceptions about a group of graduates they have supervised since all individuals had different strengths and weaknesses.

In some cases employers would identify a skill as a strength and would identify the same skill as a weakness. In other cases, employers would identify a specific skill as a dominant skill as graduates entered employment organisation, and the same skill would not be identified as strength.

The curriculum of CPUT has changed over the last 8 years or more. This research has made an attempt to track the changes in the curriculum since 2007 to 2010. No attempt has been made to track changes in the curriculum prior 2007 due to the lack of records. Changes in the curriculum during 2007-2010 or before may have consequences in the way employers perceived graduates. Keep in mind that the year in which graduates graduated from CPUT was not specified, as well the years of employment experience. This meant employers analysed graduates that may have studied within the different curriculum changes. This may have influenced employers' perceptions. In other words, the focus of this study was not to determine the impact of various curriculum changes on performance in the workplace. The research did not specify those graduates that graduated before curriculum changes or graduates that graduated after the curriculum changes.

There have been numerous staff changes that have occurred over the last five years or more in the CPUT planning department. As way of example, lecturer 1 and 2 were the longest serving educators (27 years combined), lecturer 3 was employed in 2008, lecturer 4 was employed in 2009, and lecturer 5 and 6 were employed in 2012. This meant students have experienced different teaching styles in their university life cycle. This means that the skills that they may have developed varied. Again, this may have had an influence on their performance in the workplace as well influenced the perception of employers. Additionally, it is generally assumed that lecturers change their teaching styles over the years. For instance, new lecturers may have developed their teaching styles through mentorships or professional training. In other words, the time at which the lecturers were interviewed had an impact on the findings. For example, in 2013 there was an introduction of service learning in the curriculum, but the interviews were conducted in 2012. If the interviews were conducted during 2013 the findings would have been different.

Lecturers have indicated that teaching through an enterprise approach was desirable but it was challenging. One of the major reasons was time allocated to teaching. There is no space in the timetable and the time allocated for each class usually does not provide

opportunities for extra activities. Due to time constraints, teaching through an enterprise approach was almost unattainable.

The perception of employers' enterprise skills did not correlate with skills that lecturers thought they developed. This confirms what literature states; that academics and practitioners did not have the same view of what makes a good graduate; employers were receiving a different set of skills compared to what graduates have been taught at school.

5.5 Recommendations

Enterprise education is a subject open to many interpretations and meanings. Its element of fluidity may cause confusion and criticism in the traditional education sector. However, the advantage of enterprise education is that it can be moulded to fit the purpose and objectives of any subject (Jones & Iredale, 2010; Johnson, 1988; Birdthistle et al., 2007). An enterprise approach is less time consuming if it is weaved into the already existing subjects. The integration of enterprise approach need not overwhelm the existing system.

The Department for Children, Schools and Families (2010), Pittay and Hannon (2008) set out guidelines for initial implementation of teaching through an enterprise approach. Institutions must first define the meaning of enterprise education according to their context and purpose. They must have a vision and a set of objectives that will meet their purpose. In order to meet those objectives, institutions must decide on the outcome of enterprise education; in other words what are the enterprise skills or capabilities that will confirm that the implementation of enterprise education has been achieved; how will they know that they have developed enterprising individuals? What will be happening and what are the distinguishing factors between an enterprising student and a normal student ? In essence, how will the outcome of enterprise education be measured?

Spielhofer and Lynch (2008) suggest planning considerations before attempting to assess enterprise capabilities. Firstly, institutions must be able to provide a clear statement of the purpose and the main goal for assessing enterprise capabilities. Some institutions may want to provide a recognized qualification, others may just want to make students aware of their enterprise capabilities or improve their enterprise capabilities. Whatever the purpose, it should be clarified. Clarifying the purpose of assessing enterprise capabilities will guide the sort of enterprise capabilities the institution wants to focus on. The second phase is deciding what enterprise capabilities are going to be developed and assessed in order to feed the

purpose. Thirdly, the department needs to decide on the tools and resources for assessment. The fourth phase is deciding how enterprise capabilities will be assessed.

The following step is to develop an action plan for implementing enterprise education; what will be the stages of implementation, who, how and when will enterprise education be delivered and who will be the key role players or stakeholders? The action plan must be aligned and integrated with the institutional policy. It is important for institutional structures to support the purpose of enterprise education. Failure in alignment may have conflicting purposes and lack of support from the institution. The absence of supporting infrastructure to enable enterprise activities can prohibit the implementation and success of enterprise education, therefore institutions must have suitable context and infrastructure. Professional bodies should be motivated to approve enterprise approach. This reinforces the credibility of enterprise education (Jones & Iredale, 2010; Johnson, 1988; Birdthistle et al., 2007).

Educators must also be in support of enterprise education. Staff development is crucial. It is important in eliminating any misconceptions towards enterprise education. Another way of promoting confidence amongst teachers is to highlight the existing enterprising activities and teaching techniques that teachers are already using (Jones & Iredale, 2010), (Johnson, 1988) (Birdthistle et al., *2*007). Another way to encourage educators is to establish awards and recognition programmes that honour educators who display excellent teaching practices.

Higgins et al. (2009) places emphasis on the studio approach as a teaching method in planning. The studio is a valuable component of teaching planning since the learning process and outcomes of learning contrast the traditional teaching methods. The studio encourages collaboration, problem-solving, creative thinking, critical thinking and analysis, learning by doing, active learning, the application of theoretical knowledge to practical problems, the integration of content from other subjects, and a student centred approach. The studio can also develop transferrable skills such as teamwork, academic and report writing, oral presentation, graphic communication and other communication skills such as negotiation and conflict resolution.

The CPUT planning curriculum consists of planning studios. The planning studios work well, however there is an opportunity for improvement. Firstly, there needs to be more integration between subjects and subject content. The practical subjects; particularly the design subjects are the main players in the studio sessions. The more theoretical subjects need to take part in the studio sessions. This means that there is a need for alignment and

integration of subject content between the theoretical subject, design and technology subject. The theoretical lecturer, the technological lecturer and the design lecturer can collaborate to develop a single or multiple tasks that compels the students to integrate the knowledge from of all the subjects. In essence, there needs to be a mind-shift in the way lecturers deliver their programmes.

Secondly, since the studio consumes more hours than the theoretical subjects in one week, the other option is to dedicate an entire day for studio work where all the subjects are taking part in the studio. The other option is to dedicate an entire week for the studio per month or twice a month, etc.

Thirdly, there is no cross disciplinary integration with other planning related courses that also use studios. Cross disciplinary integration may prove to be challenging, however, educators from different disciplines need to communicate and find a common ground about time allocation, space allocation, subject content, assessment methods, etc. Higgins et al. (2009) suggests that briefs can be designed by students from various disciplines. The integration between different courses can be done incrementally so that it does not overwhelm the system. Another opportunity for collaboration across different fields can come through already existing projects such as service learning projects. The essence of collaboration between different disciplines is to educate students about the role of other disciplines in planning. It is a process that mirrors the professional workplace (Higgins et al., 2009).

The research findings have indicated that student centeredness, flexibility and negotiation of the curriculum were non-existent at the CPUT planning school. One the main reasons that lecturers stated was their perceived loss of control of the curriculum. However, a studio approach makes student centeredness possible. A studio approach is "…less structured, more open and informal environment…" (Higgins et al., 2009: 16), therefore fostering an element of flexibility.

Negotiation of the curriculum structure, design and teaching styles can be done together with alumni. Past students are able to provide valuable feedback about the effectiveness of the curriculum. The CPUT planning department should foster long term sustainable relationships with alumni. This can be done by creating functions such as those that recognise successful planners that have graduated from the institution. These can be done in two or three year cycles. Such functions will create long-term partnerships with the department as well as students. Alumni may act as mentors of students while they are still studying. They can present and make students aware of the dynamics and expectations of the world of work.

Alumni can form part of future research. The department should dedicate time and resources towards conducting research relating to the effectiveness of the curriculum.
Enterprise learning should be relevant to the world of work, therefore partnerships with industry is important. The establishment of this partnership may be difficult at first due to lack of interest or time, however, it may be a good idea to locate a workplace that may need an extra pair of hands, a good example of these are non-governmental organisations (NGO's). Another way to establish partnerships between the school and the work place is to have a dedicated individual responsible for communication and liaison between the two institutions (Jones & Iredale, 2010; Johnson, 1988; Birdthistle et al., 2007).

Employers should take the initiative to make students aware of what is expected from them after graduation. This should be done while students are still in the education system through formal presentations, talks, workshops, etc. In other words, there should be strong and formalised partnerships between employers and higher education. Employers should participate in the curriculum (Griesel & Parker, 2009).

5.6 Conclusion

There is untapped potential in enterprise education with particular reference to planning education. The principles of teaching through an enterprise approach offer planning schools the platform to enhance their pedagogy. The value in teaching through an enterprise approach is that planning schools will not be implementing teaching strategies that are completely new to the system, but integrating the teaching approaches with what they already have. Planning schools already have programmes that allow for the integration of enterprise education. With reference to the CPUT planning school, there are many opportunities that are on offer for integrating the current system of education with enterprise education. Some of the opportunities include the experiential training programme that already exist, the service learning programme that was introduced to the curriculum in 2013, the already existing teaching methodologies such as planning studios, fieldwork, and unrecorded class activities that promote some of the principles of teaching through an enterprise approach. It was evident that lecturers had difficulty in grasping some of the concepts of enterprise education; however most saw its value. An incremental mind-shift is what is needed.

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Appendix A: Template of the employer questionnaire

Instructions

This questionnaire consists of three sections:

Section A: **Demographics**- in this section, basic information is required in order to obtain that the participant meets the requirements of the research in order to proceed with the questionnaire. Additionally the aim of this section is to ensure that the participant has the relevant educational background and work experience to fill in the questionnaire.
This section consists of seven questions. Please answer all the questions. You may answer the questions by filling in the blank space _____ provided or tick the box ☐ provided.

Section B: Perception of employers on CPUT (Cape Peninsula University of Technology) graduate skills. The aim of this section is to obtain your opinion of CPUT graduate skills that you have employed, mentored or supervised.
This section consists of three questions. Each question has a list of skills divided into three columns, when answering each question please refer to all three columns. Please answer all the questions. You may answer the questions by ticking the box ☐ provided.

Section C: The skills in demand in the workplace. The aim of this section is to obtain your opinion on the most important skills that graduates should have in the workplace. This section consists of one question. Please rate each skill as either High, Medium or Low. You may answer the questions by ticking the box ☐ provided.

You will need 15 minutes to complete the questionnaire.

Please proceed to the next page to complete questionnaire.

Section A: Demographics

1. **Organisation name** _____		2. **Department name** _____	
3. **Sector**	☐ Government	☐ Parastatal	☐ Education
	☐ Private sector	☐ Non-profit organization	☐ Other

8. Respondent position	Supervisor/Manager ☐	Employer ☐	Employee ☐
9. **Highest qualification obtained** _____			

11. What are the primary services that your organisation renders?			
Land use management	☐	Land reform	☐
Land development	☐	Public works	☐
Spatial planning	☐	Economic development	☐
Housing	☐	Transport planning	☐
Environmental management	☐	Engineering	☐
Heritage Planning	☐	Community development	☐
Property management	☐	Urban design	☐
Other ☐ Specify _____			

10. Have you employed, mentored or supervised a Cape Peninsula University of Technology (CPUT) graduate with a National diploma in Town and Regional Planning?

Choose an item.

Section B: Perception of employers on CPUT town planning graduate skills

7. What were the distinctive skills that CPUT graduates (with a National Diploma in Town and Regional Planning) held on entering your organisation?

COGNITIVE SKILLS	BEHAVIOURIAL SKILLS	AFFECTIVE SKILLS
☐ Analytical skills	☐ Self belief	☐ Independence
☐ Computer skills	☐ To have initiative	☐ Acting resourcefully
☐ Decisions making skills	☐ The ability to work in a team	☐ Being innovative
☐ Thinking skills	☐ Leadership skills	☐ Confidence
☐ Awareness of business environment	☐ Planning and organizing	☐ Self awareness
☐ The ability to work with numbers and calculations	☐ Management skills	☐ Self assessment
☐ The ability to communicate with others	☐ Time management	☐ The ability to use his/her imagination
☐ Problem-solving skills	☐ Understanding public/client needs	
☐ The ability to learn by themselves	☐ Customer awareness and how to secure feedback	
☐ Creativity	☐ The ability to adapt to change	
☐ The ability to negotiate	☐ Recognising the importance of stakeholders	
☐ Public speaking	☐ Networking	
☐ Debating	☐ Self reflection	
☐ Report writing		
☐ Presentation skills		

8. What are the weaknesses of CPUT graduates (with a National Diploma in Town and Regional Planning)?

COGNITIVE SKILLS	BEHAVIOURIAL SKILLS	AFFECTIVE SKILLS
☐ Analytical skills	☐ Self belief	☐ Independence
☐ Computer skills	☐ To have initiative	☐ Acting resourcefully
☐ Decisions making skills	☐ The ability to work in a team	☐ Being innovative
☐ Thinking skills	☐ Leadership skills	☐ Confidence
☐ Awareness of business environment	☐ Planning and organizing	☐ Self awareness
☐ The ability to work with numbers and calculations	☐ Management skills	☐ Self assessment
☐ The ability to communicate with others	☐ Time management	☐ The ability to use his/her imagination
☐ Problem-solving skills	☐ Understanding public/client needs	
☐ The ability to learn by themselves	☐ Customer awareness and how to secure feedback	
☐ Creativity	☐ The ability to adapt to change	
☐ The ability to negotiate	☐ Recognising the importance of stakeholders	
☐ Public speaking	☐ Networking	
☐ Debating	☐ Self reflection	
☐ Report writing		
☐ Presentation skills		

9. What are the strengths of CPUT graduates (with a National Diploma in Town and Regional Planning)?

COGNITIVE SKILLS	BEHAVIOURIAL SKILLS	AFFECTIVE SKILLS
☐ Analytical skills	☐ Self belief	☐ Independence
☐ Computer skills	☐ To have initiative	☐ Acting resourcefully
☐ Decisions making skills	☐ The ability to work in a team	☐ Being innovative
☐ Thinking skills	☐ Leadership skills	☐ Confidence
☐ Awareness of business environment	☐ Planning and organizing	☐ Self awareness
☐ The ability to work with numbers and calculations	☐ Management skills	☐ Self assessment
☐ The ability to communicate with others	☐ Time management	☐ The ability to use his/her imagination
☐ Problem-solving skills	☐ Understanding public/client needs	
☐ The ability to learn by themselves	☐ Customer awareness and how to secure feedback	
☐ Creativity	☐ The ability to adapt to change	
☐ The ability to negotiate	☐ Recognising the importance of stakeholders	
☐ Public speaking	☐ Networking	
☐ Debating	☐ Self reflection	
☐ Report writing		
☐ Presentation skills		

Section C: The skills in demand in the workplace

10. Please rate the level of importance for each skill as it is regarded in your organisation? Please rate them as HIGH, MEDIUM, and LOW.

COGNITIVE SKILLS	HIGH	MEDIUM	LOW	BEHAVIOURIAL SKILLS	HIGH	MEDIUM	LOW	AFFECTIVE SKILLS	HIGH	MEDIUM	LOW
Analytical skills	☐	☐	☐	Self belief	☐	☐	☐	Independence	☐	☐	☐
Computer skills	☐	☐	☐	To have initiative	☐	☐	☐	Acting resourcefully	☐	☐	☐
Decisions making skills	☐	☐	☐	The ability to work in a team	☐	☐	☐	Being innovative	☐	☐	☐
Thinking skills	☐	☐	☐	Leadership skills	☐	☐	☐	Confidence	☐	☐	☐
Awareness of business environment	☐	☐	☐	Planning and organizing	☐	☐	☐	Self awareness	☐	☐	☐
The ability to work with numbers and calculations	☐	☐	☐	Management skills	☐	☐	☐	Self assessment	☐	☐	☐
The ability to communicate with others	☐	☐	☐	Time management	☐	☐	☐	The ability to use his/her imagination	☐	☐	☐
Problem-solving skills	☐	☐	☐	Understanding public/client needs	☐	☐	☐				
The ability to learn by themselves	☐	☐	☐	Customer awareness and how to secure feedback	☐	☐	☐				
Creativity	☐	☐	☐	The ability to adapt to change	☐	☐	☐				
The ability to negotiate	☐	☐	☐	Recognising the importance of stakeholders	☐	☐	☐				
Public speaking	☐	☐	☐	Networking	☐	☐	☐				
Debating	☐	☐	☐	Self reflection	☐	☐	☐				
Report writing	☐	☐	☐								
Presentation skills	☐	☐	☐								

Appendix B: Template of the lecturer questionnaire

Instructions

This questionnaire consists of two sections:

Section A: **Demographics**- in this section, basic information is required in order to obtain that the participant meets the requirements of the research in order to proceed with the questionnaire. Additionally the aim of this section is to ensure that the participant has the relevant educational background and work experience to fill in the questionnaire.
This section consists of three questions. Please answer all the questions. You may answer the questions by filling in the blank space _____provided or tick the box ☐provided.

Section B: Enterprise skills developed through your teaching style. The aim of this section is to obtain your opinion on the skills you aim to develop through your teaching style.
This section consists of one question which has a list of skills divided into three columns, when answering each question please refer to all three columns. The same question will be repeated per subject you teach. Please answer all the questions. You may answer the questions by ticking the box ☐provided.

You will need 15-30 minutes to complete the questionnaire.

Please proceed to the next page to complete questionnaire.

Section A: Demographics

1. **How long have you been lecturing Town and Regional Planning courses at CPUT?** TYPE YOUR COMMENTS HERE		
2. **Which group do you lecture?**		
☐ 1st year students only	☐ 3rd year students only	☐ Both 1st and 3rd year students
3. **Which subject(s) do/did you lecturer?**		
First year subjects		
☐ Environmental Studies 1	☐ Planning Graphics 1	☐ Infrastructure & Services Planning 1
☐ Communication Skills 1	☐ Urbanisation 1	☐ Settlement Planning
☐ Computer Skills (Module A)	☐ Computer Skills (Module B)	☐ Planning and Society
☐ Planning Research and Analysis	☐ Planning Design 2	
3rd year subjects		
☐ Planning Design Studio 3	☐ Geographic Information Systems 3	☐ Legal Principle 2
☐ Real Estate Development (Module 1)	☐ Housing Development & Policy Studies 3 (Module2)	☐ Planning Law 2
☐ Advanced CAD 3	☐ Infrastructure and Transport Planning 3	☐ Environmental Planning 3

Section B: Enterprise skills developed through your teaching style

4. **What type of skills do you aim to develop through your teaching style (for each of your subjects)?**

COGNITIVE SKILLS	BEHAVIOURIAL SKILLS	AFFECTIVE SKILLS
☐ Analytical skills	☐ Self belief	☐ Independence
☐ Computer skills	☐ To be initiative	☐ Acting resourcefully
☐ Decisions making skills	☐ The ability to work in a team	☐ Being innovative
☐ Thinking skills	☐ Leadership skills	☐ Confidence
☐ Awareness of business environment	☐ Planning and organizing	☐ Self awareness
☐ The ability to work with numbers and calculations	☐ Management skills	☐ Self assessment
☐ The ability to communicate with others	☐ Time management	☐ The ability to use my imagination
☐ Problem-solving skills	☐ Understanding public/client needs	
☐ The ability to learn by myself	☐ Customer awareness and how to secure feedback	
☐ Creativity	☐ The ability to adapt to change	
☐ The ability to negotiate	☐ Recognising the importance of stakeholders	
☐ Public speaking	☐ Networking	

Appendix C: Template of interview schedule for lecturers

Instructions

This interview consists 7 sections:

Section A: **Demographics**- in this section, basic information is required in order to obtain that the participant meets the requirements of the research in order to proceed with the questionnaire. Additionally the aim of this section is to ensure that the participant has the relevant educational background and work experience to proceed with the interview.
This section consists of 3 questions. Please answer all the questions. You may answer the questions by filling in the blank space _____provided or tick the box ☐provided.

Section B-G: The teaching approaches of enterprise education. These sections are divided into five. Each section consists of a teaching approach of enterprise education:
Section B: Collaboration- the main purpose of this section is to find out if you encourage collaboration through your teaching style.
Section C: Learning from each other- the main purpose of this section is to find out if you encourage peer learning through your teaching style.
Section D: Student centeredness- the main purpose of this section is to find out if you encourage student centeredness through your teaching style.
Section E: **Experiential/learning by doing**-the main purpose of this section is to find out if you encourage learning by doing through your teaching style.
Section F: Negotiation and Flexibility- main purpose of this section is to find out if you encourage negotiation and flexibility through your teaching style.
Section G: **Values**- the main purpose of this section is to find out what type of skills you develop through your teaching style.

There are 25 questions. Please answer all the questions. You will need 45-60 minutes to answer all questions.

Please proceed to the next page to complete questions.

Section A: Demographics

1. **How long have you been lecturing Town and Regional Planning courses at CPUT?** TYPE YOUR COMMENTS HERE		
2. **Which group do you lecture?**		
☐ 1st year students only	☐ 3rd year students only	☐ Both 1st and 3rd year students
3. **Which subject(s) do/did you lecturer?**		
First year subjects		
☐ Environmental Studies 1	☐ Planning Graphics 1	☐ Infrastructure & Services Planning 1
☐ Communication Skills 1	☐ Urbanisation 1	☐ Settlement Planning
☐ Computer Skills (Module A)	☐ Computer Skills (Module B)	☐ Planning and Society
☐ Planning Research and Analysis	☐ Planning Design 2	
3rd year subjects		
☐ Planning Design Studio 3	☐ Geographic Information Systems 3	☐ Legal Principle 2
☐ Real Estate Development (Module 1)	☐ Housing Development & Policy Studies 3 (Module2)	☐ Planning Law 2
☐ Advanced CAD 3	☐ Infrastructure and Transport Planning 3	☐ Environmental Planning 3

4. (Referring to question 3). What is/ was the core objective of each of the subjects that you teach/ taught?

5. How can you describe your overall teaching style?

6. Do you have any knowledge of the concept of teaching through an enterprise approach? If so, can you briefly explain?

The teaching approaches of enterprise education

Section B: Collaboration

7. Does your subject(s) encourage collaboration amongst students? Give reasons for your answer.
8. If so (refer to question 7), what techniques do you use to encourage collaboration amongst students?

9. What are some of the challenges you come across when trying to encourage collaboration amongst students?
10. (Refer to question 9) How do you deal with such challenges?

Section C: Learning from each other

11. There is a belief that students learn best when they learn from each other, do you agree with this? Give reasons for your answer.
12. If so (refer to question 11), what techniques do you use to encourage students to learn from each other?
13. What are some of the challenges you come across when trying to encourage students to learn from each other?
14. (Refer to question 13) How do you deal with such challenges?

Section D: Student centeredness

15. Do you have any knowledge of the concept of “student centeredness"? If so, can you briefly explain?
16. What techniques do you use to foster student centeredness?
17. What are some of the challenges you come across when trying to encourage student centeredness?
18. (Refer to question 17) How do you deal with such challenges?

Section E: Experiential/ Learning by doing

19. Do you have any knowledge of the concept of “learning by doing"? If so, can you briefly explain?
20. What techniques do you use to encourage "learning by doing" amongst students?
21. (Refer to question 20). How do you deal with such challenges?

Section F: Negotiation and Flexibility

22. Do you believe that students should be allowed to contribute in curriculum development, teaching methods and assessment methods? Give reasons for your answer.
23. Do you give students the opportunity to suggest and make recommendations about your subject content? Give reasons for you answer.
24. Do you give students the opportunity to suggest and make recommendations about your teaching style? Give reasons for your answer

Section G: Values

25. Planning is a value-driven profession: what kind of values do you teach your students through your subjects?

The end. Thank you for your time

Appendix D: Distinctive enterprise skills of graduates as identified by employers

COGNITIVE SKILLS								
CATEGORY	**CODE**	**FREQ (population=20)**	**%**	**FREQ OF GOV (population=13)**	**% OF GOV**	**FREQ OF PRIV (population=6)**	**% OF GOV**	**FREQ OF PARASTATAL (population=1)**
Analytical skills	1	8	40%	7	54%	3	50%	0
Computer skills	2	19	95%	12	93%	6	100%	1
Decision making skills	3	1	5%	1	8%	0	0%	0
Thinking skills	4	8	40%	6	46%	2	33%	0
Awareness of the business environment	5	7	35%	4	31%	2	33%	0
The ability to work with no.s& calculations	6	12	60%	9	69%	3	50%	0
The ability to communicate with others	7	16	80%	11	85%	4	67%	1
Problem-solving skills	8	7	35%	6	46%	1	17%	0
The ability to learn by themselves	9	12	60%	8	62%	3	50%	1
Creativity	10	8	40%	6	46%	2	33%	0
The ability to negotiate	11	5	25%	1	8%	2	33%	0
Public speaking	12	5	25%	4	31%	1	17%	0
Debating	13	3	15%	2	15%	1	17%	0

Report writing	14	7	35%	6	46%	1	17%	0
Presentation skills	15	11	55%	8	62%	2	33%	1

BEHAVIOURIAL SKILLS

CATEGORY	CODE	FREQ (population=20)	%	FREQ OF GOV (population=13)	% OF GOV	FREQ OF PRIV (population=6)	% OF GOV	FREQ OF PARASTATAL (population=1)
Self belief	16	11	55%	7	54%	4	67%	0
To have initiative	17	8	40%	5	38%	3	50%	0
The ability to work in a team	18	17	85%	10	77%	6	100%	1
Leadership skills	19	4	20%	3	23%	1	17%	0
Planning & organising	20	12	60%	7	54%	4	67%	1
Management skills	21	2	10%	2	15%	0	0%	0
Time management	22	10	50%	7	54%	2	33%	1
Understanding client needs	23	10	50%	8	62%	1	17%	1
Customer awareness & feedback	24	7	35%	6	46%	1	17%	0
The ability to adapt to change	25	13	65%	8	62%	4	67%	1
Recognising the importance of	26	10	50%	8	62%	1	17%	1

stakeholders								
Networking	27	7	35%	6	46%	1	17%	1
Self reflection	28	5	25%	4	31%	1	17%	0

AFFECTIVE SKILLS

CATEGORY	CODE	FREQ (population=20)	%	FREQ OF GOV (population=13)	% OF GOV	FREQ OF PRIV (population=6)	% OF GOV	FREQ OF PARASTATAL (population=1)
Independence	29	15	75%	10	77%	4	67%	1
Acting resourcefully	30	9	45%	6	46%	2	33%	1
Being innovative	31	11	55%	8	62%	3	50%	0
Confidence	32	14	70%	9	69%	4	67%	1
Self awareness	33	11	55%	9	69%	2	33%	1
Self assessment	34	7	35%	6	46%	2	33%	0
The ability to use imagination	35	8	40%	7	54%	2	33%	0

Appendix E: Strength of graduates as identified by employers

COGNITIVE SKILLS								
CATEGORY	**CODE**	**FREQ (population=20)**	**%**	**FREQ OF GOV (population=13)**	**% OF GOV**	**FREQ OF PRIV (population=6)**	**% OF GOV**	**FREQ OF PARASTATAL (population=1)**
Analytical skills	36	13	65%	7	54%	5	83%	1
Computer skills	37	19	95%	12	93%	6	100%	0
Decision making skills	38	10	50%	8	62%	2	33%	1
Thinking skills	39	14	70%	9	69%	4	67%	1
Awareness of the business environment	40	14	70%	12	93%	2	33%	0
The ability to work with no.s& calculations	41	13	65%	9	69%	4	67%	0
The ability to communicate with others	42	16	80%	11	85%	5	83%	1
Problem-solving skills	43	14	70%	7	54%	6	100%	1
The ability to learn by themselves	44	10	50%	8	62%	4	67%	1
Creativity	45	8	40%	4	31%	4	67%	0
The ability to negotiate	46	8	40%	5	38%	2	33%	1
Public speaking	47	7	35%	4	31%	2	33%	1
Debating	48	6	30%	5	38%	1	17%	1
Report writing	49	12	60%	10	77%	3	50%	0
Presentation skills	50	12	60%	8	62%	3	50%	1

BEHAVIOURIAL SKILLS								
CATEGORY	**CODE**	**FREQ (population=20)**	**%**	**FREQ OF GOV (population=13)**	**% OF GOV**	**FREQ OF PRIV (population=6)**	**% OF GOV**	**FREQ OF PARASTATAL (population=1)**
Self belief	51	10	50%	8	62%	1	17%	1
To have initiative	52	9	45%	6	46%	2	33%	1
The ability to work in a team	53	13	65%	13	100%	3	50%	1
Leadership skills	54	5	25%	1	8%	4	67%	0
Planning & organising	55	13	65%	9	69%	4	67%	1
Management skills	56	3	15%	0	0%	3	50%	0
Time management	57	12	60%	9	69%	4	67%	1
Understanding client needs	58	13	65%	10	77%	3	50%	1
Customer awareness & feedback	59	14	70%	12	93%	3	50%	1
The ability to adapt to change	60	9	45%	9	69%	2	33%	1
Recognising the importance of stakeholders	61	12	60%	10	77%	4	67%	1
Networking	62	10	50%	8	62%	2	33%	1
Self reflection	63	7	35%	6	46%	1	17%	
AFFECTIVE SKILLS								
Independence	64	12	60%	7	54%	3	50%	1
Acting resourcefully	65	15	75%	7	54%	2	33%	1
Being innovative	66	11	55%	6	46%	2	33%	0
Confidence	67	18	90%	9	69%	4	67%	1
Self awareness	68	10	50%	5	38%	2	33%	0

Self assessment	69	8	40%	5	38%	1	17%	1
The ability to use imagination	70	11	55%	6	46%	2	33%	

Appendix F: Weaknesses of graduates as identified by employers

COGNITIVE SKILLS								
CATEGORY	**CODE**	**FREQ (population=20)**	**%**	**FREQ OF GOV (population=13)**	**% OF GOV**	**FREQ OF PRIV (population=6)**	**% OF PRIV**	**FREQ OF PARASTATAL (population=1)**
Analytical skills	71	8	40%	5	38%	3	50%	1
Computer skills	72	1	5%	0	0%	1	17%	0
Decision making skills	73	7	35%	5	38%	2	33%	0
Thinking skills	74	3	15%	1	8%	2	33%	0
Awareness of the business environment	75	7	35%	3	23%	4	67%	0
The ability to work with no.s& calculations	76	2	10%	2	15%	0	0%	0
The ability to communicate with others	77	2	10%	2	15%	0	0%	1
Problem-solving skills	78	8	40%	4	31%	4	67%	1
The ability to learn by themselves	79	3	15%	2	15%	1	17%	0
Creativity	80	4	20%	3	23%	1	17%	0
The ability to negotiate	81	7	35%	4	31%	3	50%	0
Public speaking	82	7	35%	6	46%	1	17%	0
Debating	83	6	30%	6	46%	0	0%	0
Report writing	84	10	50%	4	31%	6	100%	1
Presentation skills	85	6	30%	2	15%	4	67%	1

BEHAVIOURIAL SKILLS								
CATEGORY	**CODE**	**FREQ (population=20)**	**%**	**FREQ OF GOV (population=13)**	**% OF GOV**	**FREQ OF PRIV (population=6)**	**% OF GOV**	**FREQ OF PARASTATAL (population=1)**
Self belief	86	2	10%	2	15%	0	0%	0
Initiative	87	3	15%	2	15%	1	17%	1

The ability to work in a team	88	1	5%	0	0%	1	17%	0
Leadership skills	89	5	25%	4	31%	1	17%	0
Planning & organising	90	3	15%	3	23%	0	0%	0
Management skills	91	12	60%	9	69%	3	50%	0
Time management	92	6	30%	4	31%	2	33%	0
Understanding client needs	93	2	10%	1	8%	1	17%	0
Customer awareness & feedback	94	2	10%	1	8%	1	17%	0
The ability to adapt to change	95	2	10%	1	8%	1	17%	0
Recognising the importance of stakeholders	96	1	5%	0	0%	1	17%	0
Networking	97	6	30%	4	31%	2	33%	0
Self reflection	98	1	5%	0	0%	1	17%	0

AFFECTIVE SKILLS

CATEGORY	CODE	FREQ (population=20)	%	FREQ OF GOV (population=13)	FREQ OF PRIV (population=6)	% OF GOV	% OF GOV	FREQ OF PARASTATAL (population=1)
Independence	99	5	25 %	3	23%	2	33%	1
Acting resourcefully	100	8	40 %	3	23%	5	83%	0
Being innovative	101	7	35 %	3	23%	4	67%	1
Confidence	102	10	50 %	4	31%	6	100%	1
Self awareness	103	4	20 %	1	8%	3	50%	0
Self assessment	104	6	30 %	2	15%	4	67%	0
The ability to use imagination	105	5	25 %	4	31%	1	17%	0

Appendix G: Enterprise skills in demand in the workplace

COGNITIVE SKILLS																			
		FREQ (total population=20)						FREQ GOV(total population=13)						FREQ PRIV(total population=6)					
CATEGORY	CODE	High	%	Med	%	Low	%	High	%	Med	%	Low	%	High	%	Med	%	Low	%
Analytical skills	106	16	80%	4	20%	0	0%	10	77%	3	23%	0	0%	5	83 %	1	17%	0	0%
Computer skills	107	15	75%	5	25%	0	0%	9	69%	4	31%	0	0%	6	100 %	0	0%	0	0%
Decision making skills	108	14	70%	5	25%	1	5%	10	77%	2	15%	1	8%	4	67 %	2	33%	0	0%
Thinking skills	109	20	100 %	0	0%	0	0%	13	100%	0	0%	0	0%	6	100 %	0	0%	0	0%
Awareness of the business environment	110	13	65%	5	25%	2	10 %	10	77%	2	15%	1	8%	3	50 %	2	33%	1	17 %
The ability to work with no.s&calcu	111	11	55%	5	25%	4	20 %	8	62%	2	15%	3	23 %	4	67 %	2	33%	0	0%
The ability to communicate with others	112	16	80%	4	20%	0	0%	11	85%	2	15%	0	0%	4	67 %	2	33%	0	0%
Problem-solving skills	113	14	70%	6	30%	0	0%	9	69%	4	31%	0	0%	4	67 %	2	33%	0	0%
The ability to learn by themselves	114	12	60%	8	40%	0	0%	9	69%	3	23%	1	8%	3	50 %	3	50%	0	0%
Creativity	115	11	55%	8	40%	1	5%	7	54%	5	38%	1	8%	4	67 %	2	33%	0	0%
The ability to negotiate	116	12	60%	6	30%	2	10 %	8	62%	4	31%	1	8%	3	50 %	2	33%	1	17 %
Public	117	8	40%	8	40%	4	20	5	38%	5	38%	3	23	2	33	3	50%	1	17

speaking							%						%		%				%
Debating	118	12	60%	4	20%	4	20 %	6	46%	5	38%	2	15 %	4	67 %	2	33%	0	0%
Report writing	119	14	70%	6	30%	0	0%	11	85%	2	15%	0	0%	4	67 %	0	0%	2	33 %
Presentation skills	120	12	60%	5	25%	3	15 %	6	46%	5	38%	2	15 %	5	83 %	1	17%	0	0%

BEHAVIOURIAL SKILLS

		FREQ (total population=20)						FREQ GOV(total population=13)						FREQ PRIV(total population=6)					
CATEGORY	CODE	High	%	Med	%	Low	%	High	%	Med	%	Low	%	High	%	Med	%	Low	%
Self belief	121	12	60%	7	60%	1	5%	7	54%	5	38 %	1	8%	4	67%	2	33%	0	0 %
The ability to work in a team	122	16	80%	4	80%	0	0%	10	77%	3	23 %	0	0%	5	83%	1	17%	0	0 %
To have initiative	123	12	60%	6	60%	2	10%	7	54%	4	31 %	2	15 %	5	83%	1	17%	0	0 %
Leadership skills	124	6	30%	11	30%	3	15%	4	31%	7	54 %	2	15 %	2	33%	4	67%	0	0 %
Planning & organising	125	16	80%	4	80%	0	0%	11	85%	2	15 %	0	0%	5	83%	1	17%	0	0 %
Management skills	126	6	30%	10	30%	4	20%	5	38%	6	46 %	2	15 %	2	33%	4	67%	0	0 %
Time management	127	16	80%	3	80%	1	5%	11	85%	1	8%	1	8%	4	67%	2	33%	0	0 %
Understanding client needs	128	15	75%	5	75%	0	0%	11	85%	2	15 %	0	0%	4	67%	2	33%	0	0 %
Customer awareness & feedback	129	14	70%	6	70%	0	0%	10	77%	3	23 %	0	0%	3	50%	3	50%	0	0 %

The ability to adapt to change	130	15	75%	5	75%	0	0%	11	85%	2	15%	0	0%	3	50%	3	50%	0	0%
Recognising the importance of stakeholders	131	16	80%	4	80%	0	0%	11	85%	2	15%	0	0%	4	67%	2	33%	0	0%
Networking	132	10	50%	8	50%	2	10%	7	54%	5	38%	1	8%	3	50%	2	33%	1	17%
Self reflection	133	8	40%	8	40%	4	20%	7	54%	4	31%	2	15%	2	33%	4	67%	0	0%
AFFECTIVE SKILLS																			
		FREQ (total population=20)						FREQ GOV(total population=13)						FREQ PRIV(total population=6)					
CATEGORY	CODE	High	%	Med	%	Low	%	High	%	Med	%	Low	%	High	%	Med	%	Low	%
Independence	134	14	70%	5	25%	1	5%	8	62%	4	8%	1	8%	5	83%	1	17%	0	0%
Acting resourcefully	135	15	75%	5	25%	0	0%	10	77%	3	0%	0	0%	4	67%	2	33%	0	0%
Being innovative	136	14	70%	4	20%	2	10%	8	62%	3	15%	2	##	4	67%	2	33%	0	0%
Confidence	137	12	60%	8	40%	0	0%	8	62%	5	0%	0	0%	3	50%	3	50%	0	0%
Self awareness	138	11	55%	9	45%	0	0%	8	62%	5	0%	0	0%	3	50%	2	33%	1	17%
Self assessment	139	8	40%	12	60%	0	0%	7	54%	6	0%	0	0%	4	67%	2	33%	0	0%
The ability to use imagination	140	9	45%	11	55%	0	0%	6	46%	6	8%	1	8%	4	67%	2	33%	0	0%

Appendix H: Enterprise skills identified by lecturers

COGNITIVE SKILLS									
CATEGORY	**CODE**	**FREQ**	**%**	**FREQ THEORY SUBJECTS**	**%**	**FREQ TECHNO SUBJECTS**	**%**	**FREQ DESIGN SUBJECTS**	**%**
Analytical skills	141	15	79%	7	58%	4	100%	4	80%
Computer skills	142	7	36%	2	17%	4	100%	1	20%
Decision making skills	143	14	74%	7	58%	4	100%	3	60%
Thinking skills	144	18	96%	11	92%	4	100%	5	100%
Awareness of the business environment	145	7	36%	1	8%	4	100%	3	60%
The ability to work with no.s& calculations	146	7	36%	3	25%	4	100%	2	40%
The ability to communicate with others	147	14	74%	8	67%	4	100%	4	80%
Problem-solving skills	148	15	79%	9	75%	3	75%	3	60%
The ability to learn by themselves	149	17	89%	9	75%	4	100%	5	100%
Creativity	150	10	53%	2	17%	4	100%	4	80%
The ability to negotiate	151	3	16%	3	25%	0	0%	2	40%
Public speaking	152	10	53%	6	50%	1	25%	4	80%
Debating	153	7	36%	2	17%	1	25%	4	80%
Report writing	154	9	47%	5	42%	0	0%	4	80%

Presentation skills	155	9	47%	4	33%	1	25%	4	80%
BAHAVIOURIAL SKILLS									
CATEGORY	**CODE**	**FREQ**	**%**	**FREQ THEORY SUBJ**	**%**	**FREQ TECHNO SUBJ**	**%**	**FREQ DESIGN SUBJ**	**%**
Self belief	156	10	53%	5	42%	2	50%	3	60%
Initiative	157	9	47%	4	33%	4	100%	4	80%
The ability to work in a team	158	12	63%	7	58%	2	50%	5	100%
Leadership skills	159	7	36%	3	25%	2	50%	3	60%
Planning & organising	160	15	79%	7	58%	4	100%	5	100%
Management skills	161	9	47%	3	25%	4	100%	3	60%
Time management	162	12	63%	4	33%	4	100%	5	100%
Understanding client needs	163	7	36%	2	17%	4	100%	2	40%
Customer awareness & feedback	164	5	26%	2	17%	2	50%	3	60%
The ability to adapt to change	165	8	42%	4	33%	2	50%	3	60%
Recognising the importance of stakeholders	166	7	36%	1	8%	2	50%	4	80%
Networking	167	6	32%	2	17%	2	50%	3	60%
Self reflection	168	8	42%	2	17%	2	50%	4	80%
AFFECTIVE SKILLS									

CATEGORY	CODE	FREQ	%	FREQ THEORY SUBJ	%	FREQ TECHNO SUBJ	%	FREQ DESIGN SUBJ	%
Independence	169	14	74%	6	50%	4	100%	5	100%
Acting resourcefully	170	13	68%	5	42%	4	100%	5	100%
Being innovative	171	10	53%	3	25%	4	100%	5	100%
Confidence	172	14	74%	6	50%	4	100%	5	100%
Self awareness	173	11	58%	5	42%	4	100%	3	60%
Self assessment	174	10	53%	4	33%	4	100%	3	60%
The ability to use imagination	175	12	63%	4	33%	4	100%	5	100%

Appendix I: Codebook: subject core objectives

CODE	SUBECT CORE OBJECTIVES				
SUB-CODES	**Infrastructure & Services Planning**	**Computer skills A**	**Computer skills B**	**Advanced CAD**	**GIS**
Quotations	"...this is a sort of grounding for courses that are to be carried from the diploma into the B-tech. The reason for doing it is to familiarise the students with basic and essential knowledge for the technology cluster mainly, to prepare them to go further. So it's a general aspect of all that you need to know for the courses to come."	"…is to familiarise the students with Microsoft Office, those software tools that are essential for doing this course. It also brings students that are poor in computer skills and those that are good in computer skills onto the same playing field, to level the playing field."	"We take them more to the specialised software that we use, which is a look at CAD, GIS and databases. Because the old database course has been done away with, it has been incorporated into GIS."	"…is a follow up from computer skills. They have obviously been out in industry in their second year, some of them have used CAD, some of them haven't, so it's a bit of a refresher in the beginning but it builds on computer skills B. It is using the software in a more advanced way. It's using it in the planning design environment. So it is a technology that is involved in planning design. So it not about learning and teaching software. It's about applying it in planning. It is alongside planning design."	"It is to develop their mapping and analysis skills of spatial data."

SUB-CODES	**Planning Graphics**	**Design Studio Planning 2**	**Planning Design Studio 3**
Quotations	"The objective of planning graphics is to teach students basic technical drawing skills, basic architectural drawing skills, scale, calculations and basic principles of drawing. They will learn how to work with different scales, elevations, sections, 1 point perspective and 2 point perspective, axo and isometric drawing. These skills are seen as foundation for the drawing skills they will need for planning design."	"The core objective of planning design studio 2 is to introduce students to principles of design in planning. This is where they get the foundation knowledge and theory for planning design processes and theory."	"The core objective is to build over the students' last two years and help him/her to start thinking analytically and in a more thoughtful manner and not just with design, but to bring in all the other subjects as well as the other subjects within the third year." "…the application of different planning issues in different planning contexts. It's looking at design theory and how you would apply it spatially."

Appendix J: Codebook: teaching styles

CODE	TEACHING STYLES			
SUB- CODES	TYPE OF TEACHING			
	Lecturer dominant	**Combination of lecturer dominant and student communication**	**Combination of lecturer dominant and student interaction**	**Combination student communication & student interaction**
	Lecturer 2:Urbanisation & Settlement Planning	Lecture 4:Planning & Society	Lecturer 2:Legal Principles	Lecturer 1:Planning Research & Analysis &Infrastructure and Transport Planning
Quotations	"The approach is more like, where the lecturer stands in front and tries to explain certain principles. You can basically read those principles… I don't use the same teaching as my other subjects." Lecture 4: Environmental Studies "Environmental studies is a very theoretical subject. The traditional teaching methods apply here, because this is information that is either right or wrong, there are terms that they have to know and processes that they have to understand, so I do a lot of talking and they do the listening. I make presentations, study guides and videos available on blackboard."	"Planning and society is a lot like environmental studies, but it has a lot of room for debates and class discussions because most of the concepts they already know, the only difference is that these concepts are coming in the form of theories."	"Legal principles and planning law: It's about case studies. Law is very much applied, because it's so applied, and the best way of teaching is by case studies. You either have a case study that you discuss in class; alternatively the students must go and find a specific case on their own. There is also the discussion of the theory, explanation of the theory, which is required by any theory subject. That is the main way in which I try to impart knowledge. For example, you have law, you want to make the students understand how that law applies, and you do it by way of case studies."	"In general, I would say my teaching philosophy is that students take responsibility for their own learning. I would use styles that facilitate that. For example, I gave the first year students a very difficult question to unpack the relationship between benefits and responsibilities. It's a difficult question for a first year student. They are sitting in groups of 4 trying to figure out what this is all about. So, instead of giving the information, I will give them the context and question. At the moment I am telling them what vehicle to use which is a work session and in the end they have to have a poster and they would have to figure it out for themselves. I don't tell them everything, I just tell them enough so that they can figure it out." Lecture 6: Communication Skills It is interactive. I give them notes, because the technology here doesn't work. I have tried using the lab and couldn't. I have tried using the room that they are normally in, and I came home with major viruses that destroyed my anti-virus system at home. So, I am not using PowerPoint presentations or anything like that. So, I depend on notes that I give them. But they are brief notes with many places where they have to fill in. So, it's not a case of giving them notes and they can just read them at home. They have to interact with the notes and fill in places and so on. I try to get them to discuss things with me. I don't lecture strictly speaking as such. It's more a kind of discussion, more informal interaction based on the notes that I give them.

Appendix K: Codebook: encourage teamwork

CODE	TEAMWORK					
SUB-CODE	Encourage Teamwork					
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning	Lecturer 5: Planning Design Studio 3	Lecturer 6: Communication Skills	Lecturer 1: Planning Research & Analysis, Infrastructure & transport planning	Lecturer 3: Computer skills A & B, CAD & GIS	Lecturer 2: Real Estate Development
Quotations	"The applied subjects such as planning graphics and design stimulate groupwork, simply because students are at different levels of drawing skills. So you find students helping each other. With the theoretical subjects group work has to be forced on to them through assignments, otherwise they will not do it."	"Yes, we do encourage it."	"So, I do group work." "I do give them tasks where they have to work in pairs or in groups of four."	"All of my subjects encourage teamwork."	"In computer skills, they have just done an assignment, not necessarily together, they have collaborated on it." "Teamwork comes more into play in the third year. In the first year it does happen in the form of the assignments that they do, because I encourage it on my subject guide. I state that students should collaborate in assignments. That is one aspect of it. And I also assess how they do it together. There isn't a formal exercise that forces them to get in groups, not in first year. Definitely in third year, in advanced CAD and GIS, they do assignments in groups."	"The only thing that would encourage teamwork would be the real estate development. It is not embedded in the subject specifically. Real estate development by nature is teamwork."

Appendix L: Codebook: challenges of teamwork

CODE	TEAMWORK				
SUB-CODE	Challenges of teamwork				
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning	Lecturer 5: Planning Design Studio 3	Lecturer 6: Communication Skills	Lecturer 1: Planning Research & Analysis, Infrastructure & transport planning	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	"Students are resistant to groupwork. You have to make them do it so that they understand the dynamics of working with a group of people."	"One of the challenges within group work would be that a lot of the time the group would prefer to work with certain individuals in the group. The hard part comes in when you try and choose the groups so that the same individuals don't have to work with each other over and over. In the beginning the students will kick back, as the week goes on they accustomise themselves with it and they start working with each other."	"Because I see them only twice a week and because so many weeks are taken up with tests, studying, exams and with just staying away. I have had to cancel classes quite often, my time is very limited, and I teach them for only an hour or maximum hour and a half. So, to get them into a group, it's what I am going to try now. I want to do a group exercise with them now and explain everything to them and get them organized. And to do that takes up too much time. So, for me, it's a matter of time, whether I am going to be more straight forward in my classroom or allow them to kind of get their own answers. I had a whole week seminar on different techniques for group work and I can tell you about that. I have not done it here, because my time is really limited. I have tried it in another department and it was a complete failure."	"We do reflective sessions especially around group work. I have asked students at the end of the semester, to tell me what problems they have encountered. The things they talk about is like, being bullied out of the group, which means they don't have a voice, people don't value their voice. Other people would do nothing and the responsibility lies with them. Timing, to get together, if it's not in the class context. To try to meet outside class and time to get together"	"The challenge for first years is to keep their management skills intact. You find that they need more supervision within their groups. If you don't, you find for instance, if you want them to stand up and talk about something and share it amongst the class; they don't know how to do that unless they are prompted."

Appendix M: Codebook: how to deal with challenges of teamwork

CODE	**TEAMWORK**			
SUB-CODES	**How to deal with challenges of teamwork**			
	Lecturer 3: Computer skills A & B, CAD & GIS	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning	Lecturer 6: Communication Skills	Lecturer 1:Planning Research & Analysis & Infrastructure and Transport Planning
Quotations	"So, now what I am going to do is to show each of their work in class and explain to them, exactly why this thing is acceptable or not, so that they can see what they have done. The class can comment and they can be held accountable. That's the only way, is to hold them accountable by showing it in front of the class." "In third year you have to make sure that they keep within the boundaries of the brief. Their scope has to be managed better in third year. They might go beyond what is expected or too little."	"I don't have to deal with the challenges of groupwork, they have to. I just want my work done."	"In third year you have to make sure that they keep within the boundaries of the brief. Their scope has to be managed better in third year. They might go beyond what is expected or too little."	"I have sessions that deal with the group work dynamics to try and eliminate some of the problems. Our next session is going to be about conflict in the group. I have decided on a few themes already but I am not dead set on when we are doing what. It depends on how the whole collaboration thing works. This is now specifically with first years. At third year, I expect them to have a bit more experience in collaborative work and working together. The next one would be focusing on conflict. So if we work together on an assignment then the emotions run very high. So within the next month, we are going to work together at an assignment and they need to learn something on conflict resolution. Being aware, how are you going to handle it? It's all very practical; I don't go to textbooks and things like that. We have sessions where we list the things that they think can resolve a conflict. We will talk about it and decide how we would handle it. So they have ownership. It's not about me telling them that this author said this so you can handle conflict."

Appendix N: Codebook: does not encourage teamwork

CODE	**TEAMWORK**		
SUB-CODE	**Does not encourage of teamwork**		
	Lecturer 2: Planning Law	Lecturer 2: Housing Development & Policy studies	Lecturer 2: Urbanisation& Settlement Planning
Quotation	“Law is not teamwork orientated subject.”	“Umm…actually not a lot of my subjects encourage teamwork. I am sitting there and thinking for an example, law, encourage teamwork? Ummm, not really.”	“And first year subjects don’t touch on that.”

Appendix O: Codebook: teamwork techniques

CODE	**TEAMWORK**		
SUB-CODE	**Teamwork techniques**		
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning	Lecturer 5: Planning Design Studio 3	Lecturer 6: Communication Skills
Quotations	“It’s basically letting students choose their own partners or you choose the groups so that they do assignments together.”	“We give them a topic to either discuss, debate or consult with each other. The output will either be a joint essay, presentation, or a skid that we’ve done before in class, in terms of just written work.” “We do group work assessments each semester."	“I don’t consciously think of techniques. I will give them tasks and I say work on this together. Sometimes, most of the time in class I try to avoid giving them homework because that kinds of puts their backs up against a subject. They don’t think that it is all that important. So I make them do most of their work in class and then I give them assignments that they have to work on together. I tell them to work together."

Appendix P: Codebook: lecturer attitude towards students learning from each other

CODE	LEARNING FROM EACH OTHER		
SUB-CODES	**Lecturer attitude towards students learning from each other**		
	Negative attitude		
	Lecturer 6: Communication Skills	Lecturer 1:Planning Research & Analysis & Infrastructure and Transport Planning	
Quotations	"No, because, I am afraid I have tried it before many times, of almost four decades of teaching. You find that the blind lead the blind and both land in the ditch. In general, if you put groups together where both people struggle or three or four struggle, it doesn't lead to much. I have tried it and I was told to do this at school as well and it is a hit and miss situation."	"It depends on which level of students it is. First year students, they come with experience but not as much as the third years. At third year you can bargain on learning from each other much more than at first year level." "In some cases yes, in some cases no. They need to be assisted before they can learn from each other."	
SUB-CODES	**Positive attitude**		
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	"Yes, for instance in the applied subjects, they learn a lot from each other because people know how to draw at different levels." "The studio sessions are an opportunity for people to work together, and they make use of it. If you don't create group assignments with the theory subjects, they won't learn from each other. So it has to be forced."	"I think it's not only learning from each other but learning through doing practical things. The service learning project would be a good example because we had students split up to do different tasks with the service learning project and each one had to report back to the original group, so that we split the work but the group had exposure to every aspect of the project."	"I definitely agree with that, peer learning is the best way, especially in the technology cluster. Not always is the lecturer able to show the students how to do certain things in technology. When a student is doing it himself, he discovers things he can pass on to his peers. Therefore, that's why in third year, this group work is so important because they teach each other. To a certain extent they teach the lecturer as well."

Appendix Q: Codebook: techniques to encourage learning from each other

CODE	LEARNING FROM EACH OTHER	
SUB-CODES	Techniques to encourage learning from each other	
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3
Quotations	"Yes, for instance in the applied subjects, they learn a lot from each other because people know how to draw at different levels." "The studio sessions are an opportunity for people to work together, and they make use of it. If you don't create group assignments with the theory subjects, they won't learn from each other. So it has to be forced."	"For example, the last one that we did, we split the class into groups of six and each one had a research design essay to do. They compiled the essay, they submitted it today. I then created one host per group. Each group rotated and each group criticized the other group on their submission. They also asked questions. The original group then realized aspects that were missing from the essay and then needed to bring it back. Also during presentations, the marking and the critique session is done by the actual group and not the lecturer, who acts as the facilitator. It also tries to break down the barrier of lecturer and student." "I think it's not only learning from each other but learning through doing practical things. The service learning project would be a good example because we had students split up to do different tasks with the service learning project and each one had to report back to the original group, so that we split the work but the group had exposure to every aspect of the project."

Appendix R: Codebook: Challenges of encouraging learning from each other

CODE	**LEARNING FROM EACH OTHER**	
SUB-CODES	**Challenges of encouraging learning from each other**	
	Lecturer 5: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3
Quotations	"I personally don't have any."	"I think in the beginning, in the first two or three months it was a bit harder because at a third year level they have already experienced two years of lecturer teaching students. To try and swap and adapt to learning from each other, they often either didn't do the work or they spend seventy percent of the time speaking about social or entertainment activities rather than the actual project. So when it came time to submit, they realized that what they did is actually wrong."

Appendix S: Codebook: How to deal with challenges of encouraging students learning from each other

CODE	**LEARNING FROM EACH OTHER**		
(SUB-CODE)	**How to deal with challenges of encouraging students learning from each other**		
	Lecturer 1: Planning Research & Analysis, Infrastructure & transport planning	Lecturer 3: Computer skills A & B, CAD & GIS	Lecturer 5: Planning Design Studio 3
Quotations	"That is why it is important to reflect, as soon as the students see the benefits of it, and then you are selling the idea. If you are going to push learning from each other and not explain why we are doing it, and not looking back and asking them how it benefitted them, if you don't force them, they will always want the easy way out, especially the first years."	"You still give them an individual mark for what they are doing, so that if someone is disadvantaged by someone who is not cooperating..." "But you generally find that the leaders start managing that."	"I think the trick is that if you're trying to implement it in the beginning that weight your assignments very low. For the first two assignments it was weighted at three percent and five percent. Then when the students start integrating, are active and pro-active within this whole concept, you start increasing the weight."

Appendix T: Codebook: lecturer attitude towards student centeredness

CODE	STUDENT CENTEREDNESS		
SUB-CODES	Attitude towards student centeredness		
	Lecturer 6: Communication Skills	Lecturer 5: Planning Design Studio 3	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	" I am absolutely student centered." "Absolutely, my whole course is built up on that and that's why it changes every year."	"No. I agree with the concept but you can't do it in the beginning of the year. I am only seeing the benefits of student centeredness now and we are already eight months into the year. If we as a department want to move into a student centered approach, then we need to start implementing it from first year, in bits and pieces. So that when you come to the third year level, they don't kick it back to you."	"I think the continuous evaluation structure allows for students to progress for themselves. Whereas if you have exam based, there is certain information that they will need to reproduce in an exam. That material is taught to them and they have to deliver it back in the form of an exam. The answer has to be the way you taught it. Infrastructure and services planning is exam based, the rest is continuous evaluation which is a much better forum for students to dictate to lecturers, rather than the lecturer. They get a subject guide in the beginning of the year and that dictates. I think it's more appropriate for mature students. I think it should be encouraged in the B-Tech, especially in the technology cluster, where you basically have a project outline and they take it from there and they actually impress you. But I think in first year I wouldn't do that at all because you do have to establish ground skills and therefore you do have to dictate. In third year, you are already seeing them being creative and innovate."

Appendix U: Codebook: student centeredness techniques

CODE	STUDENT CENTEREDNESS		
SUB-CODES	Techniques for student centeredness		
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3	Lecturer 3:Computer skills A & B, CAD & GIS
Quotations	"I am just a couple of years older than most students, some are even older than me. So the lecturer student relationship in the classroom is very informal. Students are free to talk to me because I have broken that barrier. I always say that I am also here to learn from them and I don't have all the answers."	"For instance, one of the tasks was when we started the service learning project. What is housing? What is informal housing? What is formal housing? Do we as a city accept slum dwellers? Should we accept shack settlements? Or because we are well off, we do not care about this people. I ask the class, who is for formal and who is for informal housing. Immediately we got a complete split. I then asked each group to research over a day and then debate that topic in class. In eight hours they managed to research two different essay topics, write and submit it. The average for the assessment was 65%. That had nothing to do with the lecturer, it had no information transfer from the lecturer to the student. It was the student who had actively had an interest in the topic and decided that we can debate it. They realized that doing it that way and learning from each other, they also had to reference their work. In eight hours they could submit an essay. So that is one aspect."	"For instance in third year we run a seminar in GIS. Students have to choose a topic. By the end of the semester when they present the seminar and hand in, it might be completely different to the subject that they were intended to do. So, that is completely in their control to change."

Appendix V: Codebook: challenges of student centeredness

CODE	STUDENT CENTEREDNESS	
SUB-CODEs	Challenges of student centeredness	
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 6: Communication Skills
Quotations	"Because the age gap is so small, there are some students who take advantage of that. Like, they would talk back and become disrespectful."	"The challenges are that this is a very big group, that also makes it difficult, that also makes it difficult as far as teamwork is concerned. I am trying to break this group into groups of four or five. I can't find enough corners to put the groups because I should be having nine groups. So, with a big class like that it is very difficult and people will fall through the cracks. Either, because one doesn't pick it up if their very quiet and not forthcoming where they need help or where their weaknesses are. Secondly, they are always certain characters who don't come to class. Either not at all or not often. I mean Khulong, I didn't know he was on my class list until he dropped an assignment in the box here at the end of last term. There are certain people who never pitch, so it's also very difficult to try and get everybody in the same denominator. Those are the main challenges. The group is too big. By rights, language and communication, I was told by very experienced people that one shouldn't have more than twenty people. So that one can really focus on them and really help them where it's necessary. And the fact that their attendance is very random. Many of them don't take the subject seriously, so they are not prepared to come forward and say I need help with this and I need help with that. Those are the challenges."

Appendix W: Codebook: how to deal with challenges of student centeredness

CODE	STUDENT CENTEREDNESS	
(SUB-CODE)	**How to deal with the challenges of student centeredness**	
	Lecturer 6: Communication Skills	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society
Quotations	"I can only take them to the trough, I cannot make them drink. They have to make a conscious decision to choose to work along with what I am doing." "How do I deal with those challenges? It is very difficult. I cannot phone people and say please I want you in class. I am trying to persuade people, I'm trying to explain to them why this subject is important."	"A way to deal with that is talking to the student in my office and explaining to them that I don't like their attitude, that I am not the enemy and that even though they may not like me they still have to see me every day. So I give them a choice to be nice because I hold the key to their future. It's better to make me an ally than the enemy. Once you have isolated them from the group and talked to them alone, they start changing their behavior."

Appendix X: Codebook: learning by doing techniques

CODE	LEARNING BY DOING		
SUB-CODES	**Techniques to encourage learning by doing**		
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	"The studio sessions are an opportunity for people to work together, and they make use of it. If you don't create group assignments with the theory subjects, they won't learn from each other. So it has to be forced." "Studio sessions play a vital role in learning by doing. Field trips are also a great way of doing it. The applied subjects are the most fruitful subjects."	"This year the advantage of doing the service learning project is that everything that we were teaching them in theory, they were able to put it in practice with service learning project. So, the students did a full spatial analysis within a five kilometer radius of Flamingo Crescent. It was real. It was something they could see how it transformed. It gave them the opportunity of really doing a land study, really walking five kilometers."	"At the moment we are trying to implement that at third year level again in GIS. We are trying to implement a service learning component. Where a student does not know anything, goes into a community, benefits from a real life experience and the NGO's get something out of it. But that is in a developmental stage at the moment. Already we have purchased equipment. We are making contact with partners and we have put it in our study guides. So they will be doing a practical field work for the first time for GIS."

Appendix Y: Codebook: challenges of encouraging learning by doing

CODE	LEARING BY DOING		
SUB-CODES	Challenges encountered in learning by doing		
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3	Lecturer 3:Computer skills A & B, CAD & GIS
Quotations	"Some students are not in favour of drawing and they struggle a lot. You find that they are very good at theory though. But it's a matter of showing them that it's possible. If thousands of students did it why can't they."	"We didn't have any challenges." "The challenge comes from the institution and the budget that we have to do service learning. It costs us R8000 to take students across twenty kilometers."	"Logistics of going into these areas, it's much more difficult than sitting in a classroom. The university is providing a lot of support in this area. So the logistics, once we have done it, it will become easier. We have done a little pilot project where students went out. The students felt they weren't getting involved enough. They were doing the mundane things, because that's what the community and the program needed. Whereas they wanted to get to the management side, but they couldn't. I think that's a disadvantage of it."
SUB-CODES	Lecturer 6: Communication Skills	Lecturer 1:Planning Research & Analysis, Infrastructure & transport planning	Lecturer 2: Real Estate
Quotations	"Again, because I only see them for two hours a week."	"Learning by doing takes time. It is intensive. It's much easier to talk and chalk and cover the same amount of work. Whether the students get any of it, you don't know that until the exams. If you are pushed for time at the end of the semester "learning by doing" will be the first thing out of the window."	"You find that different students respond to different types of assessments. Some students will do well in applied assessments and some will do well in theoretical assessments."

Appendix Z: Codebook: how to deal with challenges of encouraging learning by doing

CODE	LEARNING BY DOING		
SUB-CODES	How to deal with challenges of learning by doing		
	Lecturer 1: Planning Research & Analysis, Infrastructure & transport planning	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 3:Computer skills A & B, CAD & GIS
Quotations	"I haven't heard any problems with resources and funding. Usually you can do it at a very low key and at a small scale, which would require little funding."	"Just throw the students in the deep end and I promise you, they will swim."	"These projects should be done right from first year to B-tech. The same project is been done so that it's a follow through from the moment they start the university."

Appendix AA: Codebook: attitude towards student contribution

CODE	STUDENT CONTRIBUTION		
SUB-CODES	Attitude towards student contribution: assessment, teaching style & subject content		
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5:Planning Design Studio 3	Lecturer 3:Computer skills A & B, CAD & GIS
Quotations	"Yes. I think that what students know is a reflection of teaching styles and assessment methods."	"I think to an extent yes. It goes back to that whole notion of the top down approach, we should be telling students what they need to learn. But if it's the students that are being the benefactors of it, then maybe they should have an input into the curriculum. Maybe look at your B-tech alumni, masters' alumni, say dating from 2000 or 2010. Look back then, ask; what would have been done differently in the curriculum? Working in the workplace now, what do you really require? Is communication a necessity? Is design being done properly? What other things can be done to improve? To sit as panel and say, this is what we need to do, this is how it is structured, law needs to be this way, infrastructure needs to be that, without actually checking what the students actually need is effectively doing a top down approach."	"Definitely, we do it. For instance we write a practical test. I have limited them to a timeframe, we discuss if we can change it. If an assignment wasn't done well we do another one. We also do a re-evaluation at the end, so that those students who failed all the way through on all the tasks. By the end they can do those things because they have worked on it. They can do a re-evaluation and I will substitute those marks back. So it is the responsibility of the students to manage. At the end of the course you are able to reverse a failure. First year needs to be structured, perhaps you can have no briefs for assignments and you can discuss it in class and formulate a brief together."

Appendix BB: Codebook: student contribution towards teaching style

CODE	STUDENT CONTRIBUTION		
SUB CODE	**Student contribution towards subject content**		
CODES	**CLASSROOM ENVIRONMENT**		
	Lecturer 1: Planning Research & Analysis, Infrastructure & transport planning	Lecturer 4:Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	"With regards to content, I think students can contribute. In the past I have had senior students say that this new thing is happening in the office for environmental studies 4, I think it is a policy document that came out, can we include that? And we would include that. You need more mature students to influence a curriculum. Can they influence the curriculum with your guidance? Yes. I do that at first year level and third year level. They develop notes. I don't dictate, I dictate what's the topic, I don't dictate the flesh that comes in there."	"No, because they are first years and the assumption is that they are here to learn from us."	"No, personally, I have been lecturing for 3 and a half years, and only now would I be in a position to be more flexible in that way. As you get more experience, you are able to manage it better."

Appendix CC: Codebook: student contribution towards teaching styles

CODE	STUDENT CONTRIBUTION		
SUB-CODES	**Student contribution to teaching styles**		
	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	"Yes. But I do it very informally, like; I will ask students in the corridors what they thought about this and that. But because I have a very open relationship with students, they will come to me when they don't like something."	"I haven't asked it so explicitly. But at the end of every lecturer you ask them what can I do for you? That analysis would come at the end of the year, when you give them the lecturer assessment sheet of what should be changed and shouldn't be changed. On that note, maybe at the end of the year, it's a bit too late. Maybe you should do it mid-year and at the end of the year. If you're getting feedback at the end of the year, you can only change for next year."	"We fill in the assessment form at the end, which is a formal and structured way of doing it. I listen to the students with a deaf ear. I don't ask them and we don't talk about it. But I get a sense of what I do that they don't like and what hasn't worked."
SUB-CODES	Lecturer 6: Communication Skills	Lecturer 1: Planning Research & Analysis, Infrastructure & transport planning	Lecturer 2: Settlement Planning, Urbanisation, Real Estate Development, Housing & Policy Development
Quotations	"Number two, they can negotiate with me as long as it's constructive."	"Teaching techniques, that's my responsibility."	"But that is structured; they fill in that form, where they criticize you. The institution forces that. I wouldn't want anybody to criticize me."

Appendix DD: Codebook: Classroom environment: formal environment

SUB-CODES	Classroom environment: formal environment		
	Environmental Studies, Planning & Society	Settlement Planning, Urbanisation, Real Estate Development, Housing & Policy Development	Infrastructure & Services Planning
Quotations	"…but its dependant on the subject content. If its theory, they have to listen."	"Formal to strict. But it depends on the subject. For example, when we sit in a lab, the environment is a very flexible environment. But the classroom environment is much more structured and strict."	"Infrastructure and services planning is a theory subject that gives a foundation for the technology subjects. In that class it is a formal not very flexible environment. Typically engineering and not planning type of environment. There are no grey areas, It's right or wrong and cannot be wrong co-ordinates, etc."

Appendix EE: Codebook: Classroom environment: flexible environment

CODE	CLASSROOM ENVIRONMENT		
SUB-CODES	Classroom environment: flexible environment		
	Lecturer 4: Planning Graphics & Planning Design Studio 2,	Lecturer 5: Planning Design Studio 3	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	"If it's practical it's an informal environment."	"Flexible environment. I broke down the barriers in the beginning of the year. I think you did the same. You stop asking students to call you Miss Sithagu or Mr Moodley.You try and break down the barrier of lecturer student and you start calling them by their first name. If you want respect from the student, you need to respect them and many of them in class are the same age as you. It is flexible to an extent, but you also need to draw the line at some point."	"Then technology cluster, the continuous evaluation environment, there is a very open and informal type of arrangement, even with attendance, they can play music, tests are all open book."
SUB-CODES	Lecturer 6: Communication Skills	Lecturer 1: Planning Research & Analysis, Infrastructure & transport planning	
Quotations	"Flexible." "Number one, I have always been very flexible to my students."	"We have certain house rules in the class. There are certain things that are non-negotiable. I remind students of it if I see there is a problem. Things like, how you conduct yourself. You have to conduct yourself in a professional manner. You have to be respectful, respectful to each other, respectful to your lecturer and respectful to the infrastructure that we use. Students need to realise that the learning is up to them. I am not one to say switch off your cell phone because we use twitter in class. If they are not listening to what I am saying, I would reprimand them." "Most cases it's very informal, because they learn by themselves. It's not me standing and they take notes. It is very interactive. We would be talking about a specific topic and I would not know the answer and I would ask one of the students to go on Google scholar and go and check it for us. There are a lot of impromptu things happening and it is very informal. But I don't tolerate people not being respectful to each other, coming late in class, disrupting classes. I think it's pretty fun, we laugh."	

Appendix FF: Codebook: Values

CODE	VALUES		
SUB-CODES	Lecturer 4: Planning Graphics & Planning Design Studio 2, Environmental Studies, Planning & Society	Lecturer 5: Planning Design Studio 3	Lecturer 3: Computer skills A & B, CAD & GIS
Quotations	"Time management, paying attention to detail, neatness and professionalism."	"Some of the things that we try to install is integrity, it's simple things such as meeting deadlines, being respectful. Especially in design, every action has an equal and opposite reaction. When you are trying to do something it is going to affect numerous other people. With regards to values, I think we are having change in the type of students that we are getting this year, especially with the third years. Their values are a bit shaded in terms of, you have values only if you get caught. If you don't get caught then it doesn't really matter. How do you change that mind set? I don't think you can change it but I think this years' third year from the thirty five, there are only about ten students who are actually planners in that class. The other twenty five if you really dig deeper are the ones who had nothing else to study, it was the last resort, or they couldn't get into any other institution and this was it. You will see it by their behavior within the department."	"Right from the beginning they are told that they are part of a professional team and that their responsibility in that team is paramount for the whole project to be successful and that if they don't consider other professions then they are not performing the way they should. Right from the beginning they are told that it is a group thing. It is not something they are doing on their own, but in a professional team."