ATTRIBUTES FOR ECONOMIC AND MANAGEMENT SCIENCES GRADUATES ENTERING THE WORLD OF WORK: A CURRICULUM PERSPECTIVE.

by

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DECLARATION

I hereby declare that the work submitted here is the result of my own independent investigation. Where help was sought, it has been acknowledged. I further declare that this work is submitted for the first time at this university/departments towards a PhD degree and that it has never been submitted to any other university/faculty/department for the purpose of obtaining a degree. I furthermore cede copyright of the thesis in favour of the University of the Free State.

Sanet Kruger

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LIST OF ACRONYMS AND ABBREVIATIONS

AACU	**Association of American Colleges and Universities**
AAGE	**Australian Association of Graduate Employers**
ACEA	**The Association of Consulting Engineers Australia**
ACRL	**Association of College and Research Libraries**
BCOM	**Bachelor of Commerce**
CCFOs	**Critical cross-field outcomes**
CBI	**Confederation of Business Industry**
CHE	**Council on Higher Education**
CTL	**Centre for Teaching and Learning**
DBSA	**Development Bank of South Africa**
DHET	**Department of Higher Education and Training**
DNT	**Department of National Treasury**
DoE	**Department of Education**
EMS	**Economic and Management Sciences**
GAs	**Graduate attributes**
HESA	**Higher Education South Africa**
HEQF	**Higher Education Qualifications Framework**
ILO	**International Labour Organization**
MoE	**Ministry of Education**
RSA	**Republic of South Africa**
SAQA	**South African Qualifications Authority**
SAICA	**The South African Institute of Chartered Accountants**
UFS	**University of the Free State**
UNESCO	**United Nations Educational, Scientific and Cultural Organization**

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SUMMARY

The study has been undertaken against the contextual background of a changing higher education and labour market. Global and national labour market requirements, trends and challenges such as economic pressure, the knowledge economy and unemployment rates have a significant impact on the expectations placed on higher education. In the national and international higher education arena rapid expansion and access of a diverse student population further impact on higher education.

Different stakeholders such as government, funding bodies, professional associations and students have growing expectations that universities should address the graduate attributes that will enhance the employability, social responsibility and lifelong learning of students. It is in the light of this movement toward equipping students with more than discipline-specific knowledge and skills that the study endeavoured to identify graduate attributes that will appropriately prepare Economic and Management Sciences students for the world of work and to subsequently design a framework that may ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences (EMS), University of the Free State (UFS).

The literature review focused on answering four research questions, namely (i) identifying contemporary perspectives pertaining to graduate attributes required for preparing students for the world of work; (ii) determining how curriculum design/mapping models can assist in addressing and embedding these graduate attributes that have been identified in EMS curricula, (iii) determining how graduate attributes can be taught and the evidence of their development and attainment collected and assessed; and (iv) identifying the educational considerations pertaining to the transferability of graduate attributes in higher education. The literature review informed the empirical investigation.

The empirical investigation entailed a qualitative multi-method case study with limited quantitative enhancement. The first round of data collection involved an online questionnaire consisting mainly of open-ended questions. The views of purposefully selected university teachers, graduates and human resource practitioners were collected, pertaining to: the graduate attributes required to prepare undergraduate EMS students of the UFS for the world of work; the extent to which these attributes are adequately addressed in undergraduate curricula, as well as related curriculum design and delivery. An integrated interpretation of the findings from this stakeholder

questionnaire survey and the extensive literature review subsequently led to the construction of a preliminary framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty concerned. The preliminary framework was subjected to evaluation by a purposefully selected validation panel by making use of an online questionnaire allowing participants to rate each feature and make comments and suggestions. Based on the findings from this second round of data collection the necessary adaptations were made to the preliminary framework to arrive at a final proposed framework.

The significance of this study is found in the development of a framework for accommodating graduate attributes in undergraduate curriculum design and delivery applicable to the current higher education environment. The framework is based on sound theoretical principles takes into account international and national trends, and directives from national governing bodies, the institution and professional associations, and was informed by participants with contextual and real-world experience in both the higher education environment and the world of work.

Although the aim was not to generalise the findings, the generic nature of the features of the framework could serve as a vantage point for other interested parties wishing to explore the accommodation of graduate attributes in undergraduate curriculum design and delivery. The framework is grounded in an asset-based approach where the exploration of existing effective practices are encouraged and individuals can learn from one another by continually exploring the strengths and challenges pertaining to practices and find pro-active solutions to problems. It is non-static and allows for innovation and choice within the contextual realities of those tasked with such undertakings.

Key words: graduate attributes; higher education; curriculum design; curriculum delivery; curriculum implementation; curriculum mapping; skills development; teaching-learning; assessment; Economic and Management Sciences.

OPSOMMING

Die studie is binne die konteks en teen die agtergrond van ’n veranderende hoëronderwysomgewing en arbeidsmark onderneem. Wêreldwye en nasionale arbeidsmarkvereistes, -tendense en -uitdagings soos ekonomiese druk, die kennisekonomie en werkloosheidkoerse het ’n betekenisvolle impak op die verwagtinge wat van hoër onderwys gekoester word. In die nasionale en internasionale hoëronderwysarena het die snelle uitbreiding en toeganklikheid van ’n diverse studentepopulasie ’n verdere impak.

Verskillende belanghebbendes soos die staat, befondsingsliggame, professionele verenigings en studente het groterwordende verwagtinge dat universiteite aandag moet skenk aan die eienskappe waaroor gegradueerdes moet beskik om hul indiensnemingsmoontlikhede, hul sosiale verantwoordelikheid en hul vermoë tot lewenslange leer te verhoog. In die lig van hierdie beweging om studente toe te rus met meer as dissipline-spesifieke kennis en vaardighede, het die studie gepoog om die eienskappe van gegradueerdes wat studente in Ekonomiese en Bestuurswetenskappe toepaslik vir die werkomgewing sal voorberei, te identifiseer, en om vervolgens ’n raamwerk te ontwerp wat uiteindelik kan help om hierdie eienskappe in die voorgraadse kurrikulumontwerp en -aflewering in die Fakulteit Ekonomiese en Bestuurswetenskappe (EBW), Universiteit van die Vrystaat (UV), te akkommodeer.

Die fokus in die literatuuroorsig was op die beantwoording van vier navorsingsvrae, naamlik (i) die identifisering van kontemporêre perspektiewe rakende die eienskappe van gegradueerdes wat vereis word om studente voor te berei vir die werkomgewing; (ii) om te bepaal hoe kurrikulumontwerp-/-karteringsmodelle kan help dat meer aandag geskenk word aan en dié eienskappe ingebed word in die EBW-kurrikula; (iii) om te bepaal hoe dié eienskappe van gegradueerdes onderrig kan word en hoe die bewyse van ontwikkeling, ingesamel en geassesseer kan word; en (iv) die identifisering van die onderwysoorwegings wat verband hou met die oordrag van eienskappe van gegradueerdes in hoër onderwys. Die empiriese ondersoek is onderlê deur die literatuuroorsig.

Die empiriese ondersoek is uitgevoer as ’n kwalitatiewe meervoudigemetode-gevallestudie met beperkte kwantitatiewe uitbouing. Die eerste ronde data-insameling is gedoen met behulp van ’n aanlyn-vraelys met hoofsaaklik oop vrae. Hierdie vraelys het die sienings van doelbewus geselekteerde dosente, gegradueerdes en menslikehulpbronpraktisyns oor die volgende ingewin: die eienskappe van

gegradueerdes wat vereis word om voorgraadse EBW-studente van die UV voor te berei vir die werkomgewing; die mate waarin hierdie eienskappe voldoende aandag kry in voorgraadse kurrikula, asook kurrikulumontwikkelings- en -afleweringoorwegings wat verband hou met die ontwikkeling van die eienskappe van gegradueerdes. ’n Geïntegreerde interpretasie van die bevindinge van hierdie vraelys vir belanghebbendes en die uitgebreide literatuuroorsig het vervolgens gelei tot die opstel van ’n voorlopige raamwerk vir die akkommodering van die gewenste eienskappe van gegradueerdes in voorgraadse kurrikulumontwerp en -aflewering in die Fakulteit EBW aan die UV. Die voorlopige raamwerk is daarna deur ’n doelbewus geselekteerde evalueringspaneel geëvalueer deur gebruik te maak van ’n aanlynvraelys wat die deelnemers geleentheid gebied het om elke kenmerk na waarde te skat en kommentaar te lewer en voorstelle te maak. Op grond van die bevindinge van hierdie tweede ronde data-insameling is die nodige aanpassings aan die voorlopige raamwerk aangebring om ’n finale raamwerk voor te stel.

Die waarde van die studie is geleë in die ontwikkeling van ’n raamwerk om gewenste eienskappe van gegradueerdes in die ontwerp en aflewering van voorgraadse kurrikula, wat toepaslik is binne die hoëronderwysomgewing, te akkommodeer. Die raamwerk is gebaseer op grondige teoretiese beginsels, neem internasionale en nasionale tendense en voorskrifte van nasionale beheerliggame, die instelling en professionele verenigings in ag, en is toegelig deur deelnemers wat beskik oor kontekstuele en reële ervaring in beide die hoëronderwys- en werkomgewings.

Alhoewel die doel nooit was om die bevindings van die studie te veralgemeen nie, mag die generiese aard van die kenmerke van die raamwerk dien as ’n vertrekpunt vir ander belangstellende partye wat daarin belangstel om die akkommodering van eienskappe van gegradueerdes in voorgraadse kurrikulumontwerp en -aflewering te ondersoek. Die raamwerk is gegrond op ’n bategebaseerde benadering waarvolgens die ondersoek van bestaande effektiewe praktyke aangemoedig word en individue van mekaar kan leer deur voortdurend die sterk punte en uitdagings rakende praktyke te verken en pro-aktiewe oplossings vir probleme te vind. Dit is nie staties nie en laat ruimte vir innovering en keuses binne die kontekstuele realiteite van diegene wat met sodanige verpligtinge getaak word.

Trefwoorde: eienskappe van gegradueerdes; hoër onderwys; kurrikulumontwerp; kurrikulumaflewering; kurrikulumimplementering; kurrikulumkartering; vaardigheidsontwikkeling; onderrigleer; assessering; Ekonomiese en Bestuurswetenskappe

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

The aim of this chapter is to orientate the reader to the study. The chapter commences by providing a background to the research problem, followed by the research questions, aims and objectives of the study. Thereafter, the demarcation of the study as well as the terms and concepts applicable to the study are clarified, followed by a concise overview of the research design and methodology applied for the purpose of the study. The chapter is concluded with a brief discussion of the chapter layout and the significance of the study. The interrelated themes discussed in this introductory chapter are illustrated in Figure 1.1.

Figure 1.1: Themes addressed in Chapter 1

1.2 BACKGROUND TO RESEARCH PROBLEM

Global labour market trends and challenges have a profound impact on higher education. The economy has become more knowledge driven and requires of employees to have specific attributes such as problem-solving skills, a desire for lifelong learning and the ability to apply their knowledge and skills in various life contexts (Lingenfelter 2012:22; Powell and Snellman 2004:201; Usher 2002:144-145). The knowledge economy implies that large numbers of sufficiently educated persons are required to cope with professional tasks of the future (Teichler 2009:16). In addition, broader access to higher education has resulted in increased numbers competing for graduate-level jobs (CBI 2009; Helyer 2011:1). In South Africa, employers are likewise in desperate need of skilled and educated workers. Thus the importance of commerce degrees for the economic development of the country as a whole cannot be denied (Altbeker and Storme 2013:1-16; RSA DHET 2010:13; Reisen 2013:32; UCT 2006:iii).

The massification of higher education is a global reality and presents higher education with challenges pertaining to knowledge production, dissemination and application (Altbach, Reisberg and Rumbley 2009; Meek, Teichler and Kearney 2009:7). In addition to an increase in student numbers, the transformational objectives of the country and the poor basic education system have resulted in many underprepared students entering the higher education system in South Africa, which presents its own unique challenges (Brüssow 2007:5; RSA DoE 1997:1; RSA DHET 2010:15-16).

Taking into account the world-wide changes in the labour market, the employment picture in South Africa, as well as the need for skilled and educated employees, it seems that the *quality* of education and, more specifically, the quality of higher education, need particular attention.

Serious concerns have been expressed both nationally and internationally, about an increasingly wide ‘gap’ between the skills and capabilities of graduates, and the requirements and demands of the work environment (Garraway 2009:230; Teichler 2007:12, 2009:8). Government, professional bodies, higher education funding bodies and employers require more than discipline-specific knowledge and skills, and graduates are expected to meet those requirements of the job market (Cleary Flynn,

Thomasson, Alexander and McDonald 2007:2; Griesel and Parker 2009:1; Helyer and Lee in Helyer 2011:1; Maharasoa and Hay 2001:140; Nettleton, Litchfield and Taylor 2008:1 of 11; Radbourne 2007:309; UCT 2006). Moreover, university students invest in education to improve their employment prospects and are increasingly searching for programmes that view employability as a core criterion (Tomlinson in Jameson, Strudwick, Bond-Taylor and Jones 2011:2; Saunders and Zuzel 2010:1 of 15).

Consequently, there has been a movement toward equipping students with more than discipline-specific knowledge and skills in both the national and international higher education arena. Many examples are available of countries that have started to prioritise efforts to prepare students better for the world of work (AACU 2011:6-7; Barrie 2006:216; Cleary *et al.* 2007:21; Teichler 2011:27-31; The Conference Board of Canada 2014:Online; UNESCO 2012:53-55; University of Sydney 2011:Online).

In South Africa, the same aspirations are evident. The Council on Higher Education and the Education White Paper 3 indicate that learners (i.e. students) should be provided with access to quality education, and relevant knowledge, competencies, skills and attributes that build foundations for lifelong learning and are required for the national and international needs of a developing democracy (CHE 2011:3, 2000:10; RSA DoE 1997:3-4). These notions are evident in South African regulatory documents from government and professional associations, as well as documents released by the University of the Free State.

In South Africa students enter higher education with considerable academic, social, economic and cultural differences and it is vital that curricula empower these students with the knowledge and skills that are relevant to the country's needs (Fraser and Killen in Van Schalkwyk 2007:955; Maharasoa and Hay 2001:140; Nzimande 2011:1 of 4).

It therefore has become imperative to design and re-design curricula in an attempt to prepare students for the world of work. Embedding, integrating and developing graduate attributes and integrated assessment in the curriculum of discipline-specific skills modules, have become an integral part of the improvement of teaching and learning throughout the higher education system (Griesel and Parker 2009:11,17-18).

In an evaluation survey of the University of the Free State B.Com. programme among alumni and their line heads, Botes, Pelser and van Rooyen (2007) found that significant numbers of both alumni and line heads suggested that the degree programmes lacked opportunities for the sufficient development of aspects such as the practical application of theory, the compilation and writing of documentation, verbal communication and dealing with human relationships in the workplace.

In the context of this particular study, the Faculty of Economic and Management Sciences at the University of the Free State has in recent years (since 2010) undertaken a process of curriculum redesign to align its programmes with the Higher Education Quality Committee (HEQC) requirements and to establish a competitive advantage through the inclusion of appropriate attributes in its curriculum that will not only enhance academic competence, but also sufficiently prepare its graduates for the world of work. During this process, the structure of the programmes offered by the Faculty was adapted and skills development and integrated assessment modules were introduced in all undergraduate degree programmes. These modules would be taken from the first year up until the third year of study (i.e. the fourth year for extended programme students).

The aim of the skills development modules was to incrementally introduce students to skills required in the world of work and to prepare students for the integrated assessment modules. The skills included in the skills development modules (presented in the first semester of the three years of study), were to be applied and incorporated in the integrated assessment modules (presented in the second semester of the three years of study). The objectives of the skills development modules were to prepare students better for the world of work, thus making them more employable. Both the skills and integrated assessment modules aimed to introduce students to experiences relevant to the world of work. Unfortunately, after two years (i.e. 2012-2013) of implementation the skills development and integrated assessment modules had to be discontinued due to significant resource constraints.

Since 2013, the teaching and learning team in the Faculty of EMS is following a structured process in working with teachers to assess their teaching-learning and assessment practices, as well as how they integrate graduate attributes and make use of the available tutorial system in their modules. If developmental areas are

identified, the teaching and learning team, as well as the Centre for Teaching and Learning (CTL) at the UFS will work with the teacher to address such issues.

This study has its roots in these undertakings, and for this reason, graduate attributes had to be identified and the curriculum design and delivery approaches carefully considered in an attempt to optimise the transfer of both discipline-specific knowledge and skills and graduate attributes to different work and life contexts.

1.3 RESEARCH PROBLEM, RESEARCH QUESTIONS, AIM AND OBJECTIVES

The sections below provide a description of the research problem, research questions and objectives.

1.3.1 Research problem

In the light of the background provided above, the research problem in this study is summarised as follows:

As a result of the demands posed by the contemporary world of work and higher education environment, a need exists for undergraduate Economic and Management Sciences curricula to prepare students for the world of work in such a way that their employability will be optimised, and they will be equipped to be lifelong learners that can contribute meaningfully to the economic environment and society. For this reason, graduate attributes have to be identified and the curriculum design and delivery approaches must be considered carefully in an attempt to optimise the transfer of both discipline–specific knowledge and skills and graduate attributes to different work and life contexts.

1.3.2 Research questions

In order to address the research problem, the following overarching research question was posed:

Which graduate attributes are required to appropriately prepare EMS students for the world of work and how can these attributes be accommodated in undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?

Six emanating secondary research questions guided the researcher in answering the overarching research question, namely:

1. *What are the contemporary perspectives pertaining to graduate attributes required for preparing Economic and Management Sciences students for the world of work?*

2. *How can curriculum design/mapping models assist in addressing and embedding the graduate attributes that have been identified into EMS curricula?*

3. *How can graduate attributes be taught and the evidence of the development and attainment of graduate attributes be collected and assessed?*

4. *What are the educational considerations pertaining to the transferability of graduate attributes in higher education?*

5. *What are different stakeholders' perceptions pertaining to graduate attributes required to prepare undergraduate EMS students of the UFS for the world of work?*

6. *What are the implications of the identified information for undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?*

1.3.3 Research aim and objectives

The aim of the study was to identify graduate attributes that would appropriately prepare Economic and Management Sciences students for the world of work, and to subsequently design a framework that would ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State.

To attain the above-mentioned aim of the study, the following research objectives were pursued:

1. To undertake a comprehensive literature review in order to address secondary research questions one to six.

2. To conduct a qualitative questionnaire survey among graduates and teachers of the Faculty of Economic and Management Sciences at the University of the Free State as well as human resource practitioners involved in the recruitment, selection and training of, or work with young graduates to determine the following:

    - The graduate attributes that are viewed as important for the preparation of undergraduate students for the world of work (i.e. addressing research question 5).
    - Curriculum design and delivery options that will assist in embedding teaching-learning and assessment practices for optimising the mastery and transfer of graduate attributes (addressing research question 5).

3. To apply the findings of objectives 1 and 2 in the design of a preliminary framework that may assist in accommodating the identified attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State (i.e. addressing secondary research question 6).

4. To make use of feedback and ratings from electronic questionnaires completed by a validation panel to evaluate the potential use and quality of the preliminary proposed framework, and to make the appropriate adaptations to this framework (i.e. addressing secondary research question 6).

1.4 DISCIPLINARY DEMARCATION OF THE RESEARCH

The findings of the study are expected to be applied in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State. In this sense, the study falls within the field of Higher Education Studies and curriculum design in particular. Due to the application of the study in the field of Economic and Management Sciences the study can be classified as interdisciplinary.

Tight (2012) identifies eight categories of research in higher education. According to Tight's classification, this study mainly falls in the category of course design (also evident in the literature study), but has a broader focus that also contains elements of teaching and learning (e.g. student learning and teaching in higher education) and the student experience (e.g. transition from higher education to work).

1.5 CLARIFICATION OF CONCEPTS

This section aims to provide a concise clarification of the key concepts as reflected in the title, as well as the research problem, aim and objectives of the study in order to provide the reader with an understanding of the nature of the study. Chapters two, three and four commence with a detailed description of concepts related to each secondary research question addressed in the respective chapter (see 2.2; 3.2; 4.2).

1.5.1 Graduate attributes

There is a wealth of terminology used in different contexts to describe attributes and skills that graduates require and need to develop, including, amongst others, the following: graduateness; employability and employability skills; key, pervasive, generic, core and soft skills; transferable skills, and competencies (see 2.2.1). After an analysis of a wide array of documents, the researcher deemed the use of the term graduate attributes as most appropriate for the purpose of the study because

employability is addressed by graduate attributes and the term is associated with university education. Graduate attributes are intended to reflect broader aspirational, social, ethical or humanitarian characteristics that society desires from graduates (see 2.21). For the purpose of the study, graduate attributes were defined as follows:

The non-discipline-specific characteristics university graduates should develop during the time spent on their university education, which in turn will promote employability, and cultivate social responsibility and lifelong learning. These attributes include, but go further than discipline-specific knowledge and skills (see 2.2.1).

1.5.2 Curriculum design

A working definition adopted for the concept of curriculum design that befits this study is that it is the dynamic (non-static) interaction between the principles of design, that include situation analysis, formulation of aims, goals and objectives/outcomes, selection of learning content, designing learning experiences, teaching opportunities and strategies, as well as planning for assessment (of student learning) and evaluation (of the curriculum) (Carl 2012:66-67; Krüger 1980 cited in Geyser 2004:148). Curriculum design forms part of a larger curriculum development process (see 3.2.3).

Curriculum design may relate to the creation of a new curriculum or the adaptation (re-planning, review or re-design) of an existing curriculum after careful analysis. Curriculum design may take place at macro, meso and micro level (Carl 2012:66-67; Krüger 1980 cited in Geyser 2004:148).

1.5.3 Curriculum delivery/implementation

Curriculum delivery or implementation is the phase during which the curriculum design is applied in practice (Carl 2012:42)

1.5.4 Curriculum mapping

In this study the mapping of graduate attributes receives particular attention. Curriculum mapping is described as the process of recording the content and skills that are actually taught, and match those with what is supposed to be, or perceived to be taught and assessed (Udelhofen 2005:xviii).

Madiba (2011:376) describes curriculum mapping as a practice that involves the recording of decisions that are taken in the process of curriculum design and delivery, as well as the monitoring and evaluation of these decisions by the relevant stakeholders. Curriculum mapping can also be viewed as a tool for curriculum inquiry (Madiba 2011:383).

1.5.5 Mastery

For the purpose of this study mastery is defined as the attainment of a high degree of competence within a particular area (Ambrose, Bridges, Dipietro, Lovett and Norman 2010).

1.5.6 Transfer

For the purpose of this study transfer can be described as the ability to apply the knowledge, skills and values developed in one context (for e.g. undergraduate studies) to another context (e.g. the workplace) (Ambrose 2010 *et al.*; Garraway, Volbrecht, Wicht and Ximba 2011).

1.5.7 World of work

The world of work refers to the national and international labour market and these terms are used interchangeably throughout the study.

1.6 RESEARCH DESIGN AND METHODOLOGY

In order for the researcher to be able to accumulate sufficient knowledge and understanding of the research problem and the respective research questions, the study included a non-empirical literature study and an empirical investigation into the context of the research problem at the Faculty of Economic and Management Sciences at the University of the Free State.

The literature study was used as a basis for the empirical investigation.

For the empirical section of the study, a multi-method qualitative case study design with some quantitative enhancement was used. This was regarded as the most appropriate design as it allows for multiple methods of data collection such as document reviews and qualitative/quantitative questionnaire surveys. The design

allowed the researcher to explore multiple perspectives that are rooted in a specific context (see 5.3.1.2).

1.6.1 Sample

The researcher made use of purposeful sampling of information-rich individuals that could inform the study due to their experience with and understanding of the research problem. The participants that were purposefully selected, in some cases referred the researcher to other potential information-rich participants. This is referred to as snowball or network sampling.

Because the objective of the research was not to generalise the findings, the measure used for sufficient sample size was to include sufficient participants until reaching a stage when no new information came to light (i.e. when a point of data saturation was reached; see (5.3.1.1 [c]; 6.2.2).

During the first round of data collection, graduates and teachers from the Faculty of Economic and Management Sciences, as well as human resource practitioners employed at various organisations and who were involved with the recruitment, selection and training of young graduates, were invited to partake in the study.

For the second round of data collection a validation panel was purposefully selected, based on their areas of specialisation and experience with regard to the particular research. The validation panel was used to evaluate the preliminary framework that the researcher designed after the first round of data collection.

1.6.2 Data collection techniques

The study employed online electronic questionnaires for both rounds of data collection.

The questionnaire for the first round of data collection was informed by the literature review that aimed to address and inform research questions one to six. The aim of the questionnaire was (i) to identify the graduate attributes viewed by participants as important for students graduating from the Faculty of Economic and Management Sciences at the University of the Free State to possess in the world of work, and (ii) to qualitatively identify and explore the specific needs and viewpoints of participants with regard to (amongst others), the embedding (integration) of graduate attributes in

the undergraduate curriculum, teaching-learning and assessment practices, as well as evidence related to graduate attribute development. This questionnaire contained mainly open-ended questions with only a few closed questions utilised to obtain the demographic data of the participants (see 5.3.3.1[d]: Appendix C).

The findings of the data collected in the first round of data-collection and the literature review subsequently were integrated to compile a preliminary proposed framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State (see 7.4; 8.4).

The aim of the electronic questionnaire in the second round of data collection was to obtain information with regard to the potential feasibility of the proposed framework. The questionnaire consisted of all the features of the preliminary framework that had to be rated by the purposefully selected validation participants as ‘essential’, ‘useful’ or ‘not necessary’. Each section of the questionnaire allowed for suggestions and comments from the validation panel participants which were of great value to the researcher (see Chapter 7.3; 7.4; Appendix C).

1.6.3 Data analysis and reporting

The quantitative data were used to determine simple frequencies in terms of the demographic characteristics of the participants and the ratings pertaining to the features of the proposed framework. The qualitative data were analysed through organising the data, coding the data and making notes, establishing themes and patterns. The QSRNvivo program was used to facilitate the data analysis process. The findings were reported on by means of comparative findings, direct and rich descriptions and naturalistic generalisations (see 5.3.3.2)

1.6.4 Ethical considerations

The researcher focused on various ethical considerations during the course of the study. For both rounds of data collection informed consent and voluntary participation were explained in the invitation letter and obtained through the electronic questionnaire. If participants opted not to give informed consent, they were taken to the end of the questionnaire and thanked for their participation up to that stage (see Appendix C). The purpose of the questionnaires was stated clearly

as part of the invitation letter and instructions for completion of the questionnaires. Participants were also informed in the invitation letter (to participate in the research) that they could withdraw from the research at any stage (see 5.3.3.4 [a]).

The researcher could identify the participants for the purpose of further validation or clarification of answers. During the data analysis and reporting process, the participants were kept anonymous through the coding of names and the data were kept confidential by not allowing unauthorised persons access to the data. Further care was taken not to make participants identifiable by the detail of their messages in reporting the data (see 5.3.3.4 [b]).

Permission to conduct the study was obtained from the Ethics Committee (Ethical clearance number: UFS-EDU-2012-0046), Title Registration Committee and Faculty Board of the Faculty of Education at the University of the Free State. The Faculty of Economic and Management Sciences at the University of the Free State, as well as the University also gave permission to conduct the study (see 5.3.3.4 [d]; Appendix B).

1.6.5 Role of the researcher in the investigation

The researcher currently is employed as a learning designer at the Centre of Teaching and Learning at the University of the Free State. She initially started her career in the Faculty of Economic and Management Sciences and worked as both a lecturer and member of the Teaching and Learning Team of the faculty. The related experience gave her insight into the context and expressions used in the study.

The researcher took care of remaining honest in reporting the results, by reporting positive and negative results. Human subjectivity was not negated and the researcher was committed to disciplined subjectivity and reflexivity throughout the process (see 5.3.3.4 [e]). It was also important for the researcher to be aware of the limitations of the study which are reported on in section 8.6 of the thesis.

1.6.6 Quality assurance of the study

As mentioned earlier, objective reality is denied in qualitative research. In this study the researcher used an extensive literature study, multiple perspectives from graduates, human resource practitioners and university teachers, as well as validation questionnaire data collected from individuals regarded as knowledgeable (i.e. information rich) in the field of teaching and learning in higher education to enhance the credibility of findings, often referred to as the triangulation of data (5.3.3.4 [a)]).

The promoters of the study were used for the purpose of peer-review and debriefing in order to ensure that the researcher remained honest. They asked hard questions about method, meanings and interpretation and gave the researcher the opportunity to voice questions and concerns (5.3.3.4 [a]).

Verbatim accounts were used in reporting the data to enhance the validity and authenticity of the findings, and care was taken not to make participants identifiable in the process. This enhanced the credibility and authenticity of the data (5.3.3.4 [a]).

The researcher further aimed to enhance the transferability of the findings by providing a rich description of the literature, the findings and the proposed framework that resulted from the study to enable the reader to relate the findings to similar situations if the need should arise (although the aim was not to generalize) (5.3.3.4 [b]).

In terms of dependability, the researcher strove to base the study on rich, substantial and relevant data. The researcher left an audit trail by providing a detailed description of how the findings were arrived at. Peer review and triangulation were also used to enhance the dependability of the findings (5.3.3.4 [c]).

Lastly, the researcher constantly attempted to understand multiple perspectives and to identify blind spots or bias in her interpretive analysis through *disciplined* subjectivity and reflexivity, meaning that the researcher constantly raised questions about her own bias, motivation and interest to strengthen the confirmability of the findings. Both the dependability and confirmability of the study were enhanced through leaving an audit trail of how the study was conducted (5.3.3.4 [d]).

1.7 SIGNIFICANCE OF THE STUDY

The significance of the study is elaborated upon in more detail in Chapter 8 (see section 8.5).

The significance of this study is found in the development of a framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State. The value of graduate attributes cannot be denied. For the students that graduate from an institution that paid attention to this aspect of education, it provides an advantage in the world of work and contributes to self-confidence. Employers will also value graduates from an institution that is known for delivering graduates who are able to apply and transfer to the work environment the skills inherent in the graduate attributes. Therefore, integrating graduate attributes in curricula will benefit students, the institution and the employers of such students. In a country where large proportions of the students (future employees) come from disadvantaged backgrounds, mastering the life skills which are implicit in the identified graduate attributes should be a priority in a higher education institution (see 2.4; 2.5).

The researcher paid attention to national directives from governing bodies and professional associations in an attempt to align the framework with what is required at a national level (see Chapter 2). The framework was not only compiled by using directives for curriculum design, review and mapping processes (see Chapter 3), and teaching-learning and assessment practices that are applicable to the higher education environment (see Chapter 4), but was also informed by participants who have contextual and real-world experience in both the higher education environment and the world of work (see Chapter 6). The implications of the framework were also evaluated by specialists in the higher education environment, as well as specialists within the Faculty of Economic and Management Sciences at the University of the Free State (see Chapter 7).

Not only are the propositions made grounded on sound theoretical underpinnings, but the researcher also provided practical suggestions that may be employed by teachers and managing staff members of the particular faculty (Chapter 4; Appendix A). Due to the generic nature of the features of the framework, the study could serve as a vantage point for other faculties and academic programmes wishing to explore

the accommodation of graduate attributes in undergraduate curriculum design and delivery. It is hoped that the resulting framework and identified graduate attributes will stimulate further institutional discussion surrounding issues such as the relative value, applicability, resource and policy implications.

The motivation of the proposed framework is grounded in an asset-based approach where the exploration of existing effective practices is encouraged and teachers, support and managing staff members can learn from one another by continually identifying strengths and areas for improvement in curricula (see 8.5).

1.8 CHAPTER LAYOUT

For the purpose of addressing the overarching research question, the respective chapters addressed the specific secondary research questions that collectively led the researcher to respond to the overarching research question. The study report can be viewed as consisting of two larger sections. The first section comprises the literature study and consists of the following:

- Chapter 2 mainly responds to secondary research question one. The discussion pays attention to gaining conceptual clarity regarding the terminology and meanings associated with graduate attributes leading to a definition of graduate attributes to be used throughout the study. The chapter further provides an exploration of research trends, government documents and professional associations, as well as international approaches to graduate attribute development. The contextual influences (e.g. the national and international labour market and higher education environment trends and challenges) impacting on the movement toward equipping students with more than discipline-specific knowledge and skills, are elaborated on.

- Chapter 3 mainly addresses secondary research question two. The wide array of terminology associated with curriculum is clarified and influential perspectives pertaining to the curriculum are explored. The discussion continues by elaborating on national curriculum challenges, curriculum design models, challenges pertaining to embedding graduate attributes in curricula,

and curriculum review and mapping processes in order to arrive at suggestions for embedding graduate attributes in undergraduate curricula.

- Chapter 4 mainly responds to secondary research questions three and four by starting to clarify the terminology associated with teaching-learning and assessment. The chapter continues with an exploration of the importance of the alignment between intended learning outcomes and assessment tasks and criteria.

  The challenges associated with regard to the teaching of graduate attributes are elaborated on, along with the shift toward student-centred teaching and principles for enhancing teaching-learning practice, in order to arrive at suggestions pertaining to teaching-learning practices that may promote graduate attribute development.

  In the same vein assessment practices are discussed in Chapter 4 by exploring challenges pertaining to the assessment of graduate attributes, as well as principles related to enhancing assessment practice in order to arrive at assessment practices that may enhance graduate attribute development.

  Individual management and assessment of evidence of graduate attribute development also receive attention, ensuing in providing suggestions with regard to evidence management tools, generic graduate attribute assessment tools, and the evidence preferred by employers (including selection practices).

  In terms of research question four, Chapter 4 concludes with a discussion regarding the concepts of mastery and transfer. The complex nature of transfer and practices that may enhance the transfer of discipline-specific knowledge and skills, as well as graduate attributes, to different contexts is discussed, aiming to arrive at suggestions for practices that may be used in conjunction with teaching-learning and assessment practices for enhancing the transfer of what was learnt to the world of work and other life contexts.

The literature study which is reported in Chapters 2, 3 and 4, provides the contextual backdrop that informed the second part of the study report, namely the report on the empirical investigation. The empirical investigation is explicated in this report in Chapters 5 to 8.

- Chapter 5 provides an overview of the research design and the methodology used in the study to address secondary research questions five and six.
- Chapter 6 responds to secondary research question five by discussing the analysis and interpretation of the data gathered during the first round of data collection. The data that came under scrutiny here, pertain to different stakeholders' perceptions regarding the graduate attributes required to prepare undergraduate Economic and Management Sciences students of the University of the Free State for the world of work, as well as the related curriculum design and delivery considerations. A preliminary framework was constructed based on the findings from the literature study and the first round of data collection. The discussion of this framework is integrated with the findings of the evaluation of the framework in Chapter 7.
- Chapter 7 responds to research question 6 by providing the analysis and interpretation of the data collected during the second round of data collection. During this round of data collection, the proposed preliminary framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of EMS at the UFS was evaluated by a validation panel.
- Chapter 8 concludes the study report by revisiting the research questions to concisely describe how each research question was addressed in pursuit of answering the overarching research question. The proposed final framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State is presented as an outcome of the study. The significance, limitations and recommendations for further research then conclude the chapter and the report.

1.9 SUMMARY

This chapter has provided an outline of the study that guided the research. The chapters that follow will elucidate and elaborate upon the different aspects that were addressed in this chapter.

The study commenced with a literature review followed by an empirical investigation. First, Chapter 2 will provide contextual information with regard to contemporary perspectives pertaining to the movement toward addressing the need for graduate attribute development in undergraduate curricula. Figure 1.2 provides an illustration of the sequence of activities and interrelated themes of the study.

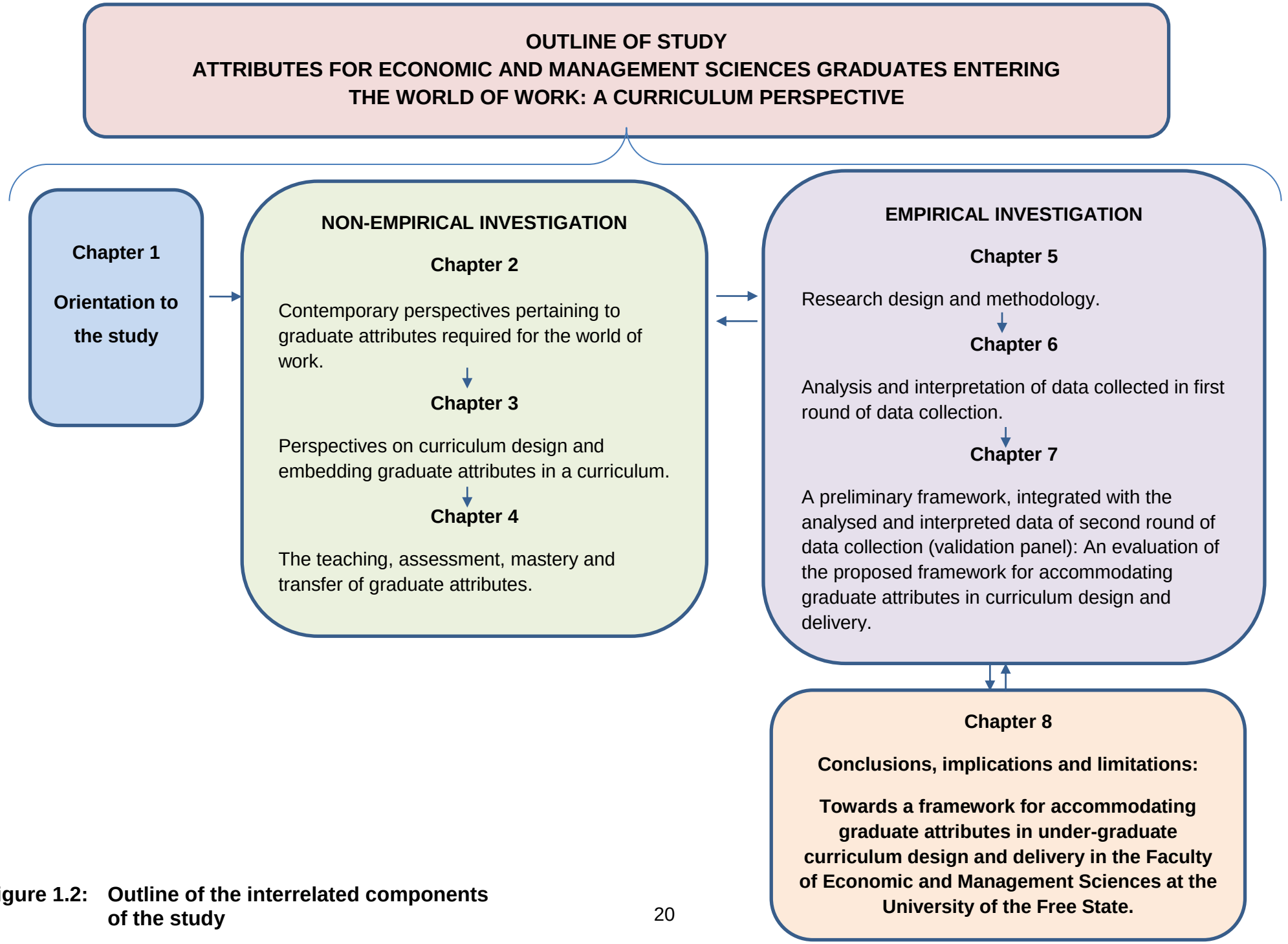


Figure 1.2: Outline of the interrelated components of the study

CHAPTER 2

CONTEMPORARY PERSPECTIVES PERTAINING TO GRADUATE ATTRIBUTES REQUIRED FOR THE WORLD OF WORK

2.1 INTRODUCTION

Growth in participation in higher education, decrease in government funding, pressure to generate new sources of income, globalisation, and stakeholder demand for quality education, student diversity, changing government policies, and changes in the world economy are some of the many challenges facing universities globally. Combined with this there is an obligation on higher education institutions to deliver graduates who are able to satisfy the requirements of real-world work.

The literature points to a strong focus on the need for graduates to be equipped with the attributes to succeed and manage in the world of work. To address this need adequately, key role players such as industry (employers), universities, students, government and professional bodies need to be actively involved in processes for optimal undergraduate curriculum design. The graduate attributes are named and grouped differently (and used interchangeably) in the literature (e.g. employability skills, key skills, competencies, level descriptors, life roles, critical outcomes) but in essence appear to be very similar (see section 2.2).

The purpose of this chapter is to contextualise the study by means of addressing the first research question: *What are the contemporary perspectives pertaining to graduate attributes required for preparing Economic and Management Sciences students for the world of work?*

The discussion commences with an analysis of terminology and concepts and the interpretation of graduate attributes. Thereafter, recent research outcomes, a brief overview follows of the changing world of work and changes impacting on higher education. The subsequent gap between what higher education delivers and the needs of the world of work is explored. Attention is paid to the necessity for the development of graduate attributes in both the international and national higher

education arena. The interrelated themes discussed in the chapter are illustrated in Figure 2.1.

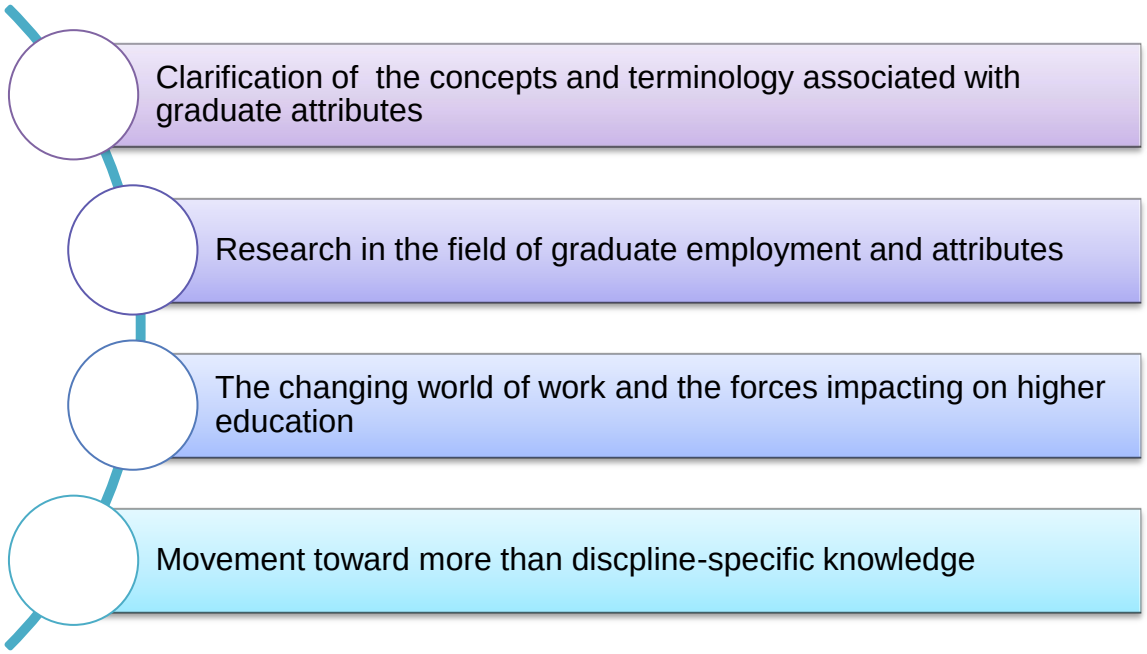


Figure 2.1: Themes addressed in Chapter 2

In the literature review reported on in this chapter content analysis was used to identify and interpret concepts and terminology associated with graduate attributes, as well as recent research themes related to graduate attributes and the world of work (see 2.2.1 and 2.3.1).

2.2 VARIOUS DESCRIPTIONS OF AND COMMONALITIES WITH REGARD TO GRADUATE ATTRIBUTES

In an endeavour to clarify the wealth of terminology used in different contexts to describe attributes and skills that graduates require and need to develop, a content analysis of relevant literature was done.

2.2.1 Concept analysis, definitions/descriptions

The following documents were studied to explore the definitions, commonalities, differences, and key arguments to guide and inform the particular study with regard to the terminology used for attributes required by graduates entering the world of work:

- Articles related to graduate attributes (including those related to business and management degrees).
- Documents as well as publications from government and organisations (advisory bodies) commissioned by governments in Australia, Europe, USA, Canada, and South Africa (specifically where graduate attributes have received particular attention or has been prioritised, and initiatives are well established).
- Publications by renowned and well-published authors who are regarded as experts in the field of employability and graduate attributes in higher education.

The terminology associated with graduate attributes in the literature includes (amongst others) the following:

- Graduate attributes and 'graduateness'
- Employability and employability skills
- Key, pervasive, generic, core, and soft skills
- Transferable skills
- Technical, vocational skills
- Competence and core competencies
- Level descriptors.

Table 2.1 provides an overview of relevant terms, their descriptions/definitions/ characteristics, and the literature sources consulted in this regard. The definitions and descriptions of interrelated terminology can be viewed in the table below:

Table 2.1: Terminology associated with graduate attributes

Term	Description, definition, characteristics	Author/Source
Employability	A set of achievements – skills, understanding, and personal characteristics – which helps graduates to become employable and successful in a chosen career. A set of generic achievements, in many cases enriched with specific vocationally useful elements; 'employability' is not something, static but something that a person can develop throughout life.	Širca, Nastav, Lesjak and Sulčič (in report by Cleary *et al.* 2007:21) Yorke (2006:2)
	Employability refers to the potential a graduate has for obtaining, and succeeding in, graduate-level positions. There is a need to recognise that the co- and extra-curricular achievements of students contribute to a graduate's employability. Employability is taken to be a more complex construct than that of 'core' or 'key' skills. It is linked to a range of discourses and has many facets which range from the understanding of one or more subject disciplines to 'soft skills' (such as working effectively with others). It also encompasses both academic intelligence and 'practical intelligence'.	Yorke (2006:2)
	From the perspective of employers, 'employability' often seems to refer to 'work-readiness', that is, possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organisational objectives soon after commencing employment.	Mason 1999 (in Mason, Williams and Cranmer 2006:2)

Employability (cont.)	Employability is viewed as being embodied by a graduate who is: Work ready – with a set of skills, knowledge, and experience to move seamlessly into work after university; Career ready – with transferable skills and knowledge to manage their own way through the changing world of work, and Future ready – with skills and capabilities to continue to learn, contribute, and be adaptable as citizens of the changing world and their communities.	Victoria University 2007 (in McLennan and Keating 2008:3)
	Employability goes well beyond the simplistic notion of key skills, and is evidenced in the application of a mix of personal qualities and beliefs, understandings, skilful practices and the ability to reflect productively on experience … in situations of complexity and ambiguity.	Yorke (2006:13)
	Employability is influenced, in the main, by four broad and interrelated components: • skilful practices (communication, management of time, self and resources, problem-solving and lifelong learning); • deep understandings grounded in a disciplinary base (specialised expertise in a field of knowledge); • efficacious beliefs about personal identity, self-worth and metacognition (self-awareness and the capability to reflect on, in, and for action).	Yorke and Knight (2006:5)
	Employability is more than developing attributes, techniques, or experience just to enable a student to get a job, or to progress within a current career. It is about learning and the emphasis is less on 'employ' and more on 'ability'. In essence, the emphasis is on developing critical, reflective abilities, with a view of empowering and enhancing the learner.	Harvey (2003:2)
Employability skills	A set of achievements, understanding, and personal attributes that make individuals more likely to gain employment and be successful in their chosen occupations.	Little 2003 (in report by Cleary *et al*. 2007:21)

	A set of attributes, skills, and knowledge that all labour market participants should possess to ensure they have the capability of being effective in the workplace – to the benefit of themselves, their employer and the wider economy.	CBI (2009:8)
	According to the Organization for Economic Co-operation and Development (OECD) employability skills: • are multi-functional – they meet a range of different and important demands of daily life. They are needed to achieve different goals and to solve multiple problems in different contexts; • are relevant across many fields – for example for participation in school, the labour market, political processes, social networks, and interpersonal relationships, including family life, and for developing a sense of social wellbeing; • refer to a high order of mental complexity – they assume a mental autonomy which involves an active and reflective approach to life; • are multi-dimensional – they are composed of know-how, analytical, cultural, and communication skills, and common sense.	The OECD-sponsored DeSeCo Definition and Selection of Competencies (in report by Cleary *et al.* 2007:11)
	Skills required not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprises' strategic directions.	Australian Chamber of Commerce and Industry and the Business Council of Australia 2002 (in The Allen Consulting Group 2006:11)

	Employability skills can be seen as a useful **subset of graduate attributes** and not the other way around. Implicit in these attributes is an understanding that career and employability necessarily comprise a lifetime learning and development process.	Business Industry and Higher Education Collaboration Council 2007 (in McLennan and Keating 2008:3)
Knowledge	Knowledge is the theoretical and/or practical understanding of a subject: facts and information.	RSA DNT- *Competency framework for financial management* (2010:4)
	The European Qualifications Framework (EQF) defines knowledge as the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories, and practices that is related to a field of work or study. In the context of this framework, knowledge is described as theoretical and/or factual.	Hoffmann, Hampe, Müller, Bargstädt, Heiß and Schmitt (2010:641)
Skill	A skill (also sometimes called a talent) is the innate or learned capacity to achieve pre-determined results consistently with the minimum outlay of time, energy, or both; for example, the ability to deal with complex numbers in accountancy would constitute a skill in this context.	RSA DNT- Competency framework for financial management (2010:4)
	The ability to do something well. Learning to do something well is different from being a certain kind of person.	*Oxford Dictionaries* (2014)
	The EQF defines skills as the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of this framework, skills are described as cognitive (involving the use of logical, intuitive, and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools, and instruments).	Hoffmann *et al.* (2010:641)

Technical/ Vocational Skills	The specific skills needed to work within an occupation or occupational groups.	Performance and Innovation Unit (in Knight and Yorke 2004:24)
Key /generic-/transferable-skills	The transferable skills that can be used across all occupational groups.	Performance and Innovation Unit (in Knight and Yorke 2004:24)
	Generic skills represent the so-called transferable skills that can support study in any discipline.	Yorke and Knight (2006:4)
	Generic skills are developed in association with technical skills because they serve as a vehicle for the development of technical skills. Second, generic skills are rarely applied in isolation, but are applied in association with other generic skills.	The Allen Consulting Group (2006:12)
Pervasive qualities and skills	The professional qualities and skills that all chartered accountants are expected to bring to all tasks.	SAICA (2010:18)
Attribute	An attribute is a quality, property, or characteristic of somebody or something;	The Allen Consulting Group (2006:12)
	The desired attributes identify the qualities of character required to be an effective and successful performer in a specific job; for example, professionalism in conducting an Internal Audit engagement would constitute an attribute in the context of this study.	RSA DNT- *Competency framework for financial management* (2010:4)
Graduate attributes	'… the qualities, skills and understandings a university community agrees its students should develop during their time with the university'.	Bowden, Hart, King, Trigwell and Watts (2000)

Graduate attributes (cont.)	Graduate attributes are not discipline-specific, but are intended to reflect broader aspirational, social, ethical or humanitarian characteristics that a society desires of its university graduates.	Cleary *et al*. (2007:12)
	Graduate attributes (or outcomes, or capabilities) have been associated with university education.	Barrie (2004:261-262); Cranmer 2006 (in Willcoxson, Wynder and Laing 2010:66)
	Knowledge, skills, competencies, and values are combined to represent graduate attributes.	Griesel and Parker (2009:3)
Graduateness	'Graduateness' covers the generic qualities that might be expected of any graduate. The knowledge and understanding graduates possess contribute to 'graduateness'.	Glover, Law and Youngman 2002 (in Chetty 2012:4)
Level descriptor	Level descriptors are broad qualitative statements against which more specific learning outcomes can be developed, compared, and located.	Higher Education Qualifications Sub-Framework (CHE 2013a:18)
	'Level descriptor' refers to that statement describing learning achievement at a particular level of the National Qualifications Framework that provides a broad indication of the types of learning outcomes and assessment criteria that are appropriate for a qualification at that level.	SAQA (2012:4)
	Conceptual confusion exists with regard to the interrelated concepts of competence, competency, competences, and competencies. There has been debate about the difference between competency (plural competencies) (American approach) and competence (plural competences) (British approach).	Swigon (2011:433)

Competence/ Competency	'Competency' (competencies in the plural) is most often used to denote characteristics of an individual that are associated with superior performance in a job. Similarly, 'competence' (competences in the plural) is most often used to describe what a person needs to know and be able to do in order to undertake the tasks associated with a particular occupation.	Winterton 2009 (in Swigon 2011:33)
	Competence also involves adoption of a professional role that values accountability to the public and leadership in professional practice, the public sector, the corporate sector, and education.	SAICA (2010:18)
	The term 'competency' refers to the "knowledge, skill, ability or characteristics associated with high performance on the job, such as problem solving, analytical thinking or leadership"	Mirabile 1997 (in Sonteya and Seymour 2012:44)
	The EQF defines competence as the proven ability to use knowledge, skills and personal, social and/or methodological abilities in work or study situations and in professional and personal development. In the context of the EQF, competence is described in terms of responsibility and autonomy.	Hoffmann *et al.* (2010:641)
Competences/ Competencies	The concept of 'competencies' generally has been associated in documents with the requirements of vocational training and professional bodies.	Barrie (2005); Cranmer 2006 (in Willcoxson *et al*. 2010)
	Potentially useful abilities which have been shaped, but not exclusively, by higher education.	Teichler (2011:30)
	'Competencies' refers to a mix/collection of skills, related knowledge, and attributes to perform a job/task according to a defined standard. People demonstrate **competence** by applying their competencies within the **work setting.**	RSA DNT - *Competency framework for financial management* (2010:4)
Capability	Capability is the integration of knowledge, skills, personal qualities and the ability to learn to deal effectively with unfamiliar and familiar situations or tasks; a view similar to that of the term 'competency'. "Competence delivers the present based on the past, while capability imagines the future and helps to bring it about ... competence is about dealing with familiar problems in familiar situations."	Stephenson 1997 (in Hodges and Burchell 2003:17)

The following assumptions were eventually made from the analysis of the vast amount of interrelated terminology as shown in Table 2.1:

- It is generally accepted that graduates need to acquire the theoretical and technical knowledge that is specific to a discipline. However, there are additional skills, attitudes, understandings and characteristics required from graduates to obtain employment, be successful in their chosen careers and occupations and contribute to the realisation of organisational goals (and the economy at large).
- These skills, understandings, and characteristics are not static and should ideally be developed and enhanced throughout the individual career. Lifetime (or lifelong) learning and developmental processes are important concepts related to skills development of graduates.
- The terminology further focuses on the concept of skilful practices, deep disciplinary understanding, efficacious beliefs, metacognition, and transfer of skills and knowledge.
- Transfer plays a vital role and relates to the application of various skills and problem solving in multiple contexts in life. This concept is complex and not always directly observable. Higher education should aim to enhance transfer through curriculum design, teaching-learning practices, as well as assessment.
- The generic or general nature of the skills (employability, key, pervasive, generic, core, soft, and transferable skills, etc.) implies that they can be used (transferred to) and applied in a wide variety of life and organisational contexts.
- It is important to note that personal differences and levels of preparedness indicate that certain skills may be better developed in some individuals than in others.
- The terminology also points to broad statements in governing documents about learning achievement at a particular level. Terminologies vary in terms of their breadth, stipulations, and associated competencies that are generally associated with the requirements of professional training and specific

professional qualities. The latter may again present the problem of conceptual confusion.

With the above-mentioned assumptions in mind, the concept of graduate attributes was accepted for the purpose of this study for the following reasons:

- Graduate attributes can **promote the employability** of graduates.
- *"Graduate attributes are not discipline-specific, but are intended to reflect broader aspirational, social, ethical or humanitarian characteristics that a society desires of its university graduates."*
- Furthermore, *employability skills are indirectly or explicitly addressed by each university's graduate attributes* (Cleary *et al*. 2007:12).
- The term has been associated with university education; hence, it refers to the qualities, skills, and understandings that a university community agrees its students should develop during their time at the university (Bowden *et al.* 2000).

In short, for the purposes of this study, the researcher defines graduate attributes as the non-discipline specific characteristics university graduates should develop during the time spent on their university education, which in turn will promote employability, and cultivate social responsibility and lifelong learning. These attributes include, but also go further than discipline specific knowledge and skills.

Contribution to the study

Although the collection of definitions above points to broader qualities, the setting (context) and timeframe (during university studies) make the use of graduate attributes most appropriate for the overarching research question of the study, namely:

Which graduate attributes are required to prepare EMS students appropriately for the world of work and how can these attributes be accommodated in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the UFS?

The discussion now will focus on the nature and understanding of graduate attributes and how they manifest in university settings.

2.2.2 The nature and understanding of graduate attributes

The term ‘graduate attributes’ recently has been used fairly extensively in South African and international literature, and the definition by Bowden *et al.* (2000; see Table 2.1) seems to be widely accepted (Barrie 2007:440; Bridgstock 2009:32; Chetty 2012:3; Nair and Patil 2008:75; Van Schalkwyk, Herman and Muller 2010:1). The interpretation and understanding of graduate attributes, both in terms of nature and role, are central to the implementation and use by academics and institutions.

Several countries already have developed frameworks and/or guidelines for universities to clearly define, monitor and articulate graduate attributes in their curricula. In Australia, for instance, universities have almost a decade of experience working with the concept of graduate attributes and providing a framework of generic attributes for graduates (Cleary *et al.* 2007).

Graduate attributes are determined at university level and then identified at faculty, discipline, qualification, and subject levels through a range of approaches, including consultations with academic staff, employers, students, and professional bodies (Cleary *et al*. 2007:2).

Some universities have taken highly structured approaches to mapping graduate attributes across the curriculum to ensure that these attributes can be readily seen across an entire programme or qualification. This enables the identification of gaps and alignment of graduate attributes with discipline-specific content. When the aforementioned detailed curriculum mapping for employability skills or graduate attributes is not done, it is not possible to readily see how a given qualification addresses the development and assessment of employability skills (Cleary *et al.* 2007:2).

Graduate attributes are identified and agreed upon within universities through a range of methods. Many attributes are designed to add a university ‘stamp’ to the graduate (e.g. social justice, international perspective, intercultural understanding). Lists of graduate attributes most often include a **subset** of skills, termed generic

skills, core skills or clusters of skills and abilities (for example, communication skills and critical thinking skills) (Nair and Patil 2008:88). To this end, input from graduates, employers and professional associations often is obtained - the importance of this will be discussed in more detail in 2.3.1.

It is also understood that attributes are described and applied within a broader logic, because different occupations require employees to use these related skills in quite different ways and with different levels of sophistication. The purpose of developing employment skills is to become competent within a particular context or set of contexts at a particular standard of performance (The Allen Consulting Group 2006:12).

Barrie (2006:219-220) explains that variation may exist in the conceptual understanding that academics have of graduate attributes. Reasons for this variation include the diversity of descriptions of graduate attributes, as well as the dissimilarity or inconsistent implementation of teaching and learning processes of graduate attributes in curricula. The conceptual understanding of graduate attributes thus will influence perceptions with regard to the value attached to, relevance and implementation of the development of graduate attributes in curricula.

Research done by Barrie (2006:223-228) regarding conceptions among academics with regard to graduate attributes revealed the following:

- Four increasingly complex, qualitatively distinct understandings or categories of description emerged from the analysis:

  a) Precursory conception

  Some academics express an understanding of generic graduate attributes as basic precursory abilities students bring to university and which provide a minimum base to which the discipline knowledge of a university education can be added.

  b) Complement conception

  Graduate attributes are viewed as additional general functional abilities and personal skills that can usefully complement the discipline-specific learning outcomes of university education. They are generic skills acquired as the result of a university education and therefore are understood to be

outcomes that are part of the university syllabus, but separately and secondary to the learning of disciplinary knowledge.

c) Translation conception

Generic attributes are understood to be more than useful additional general skills; rather they are specialised variants of such general skills and are essential in the application of discipline knowledge and the translation of university learning to unfamiliar settings. These attributes thus are useful in the transformation of the products of university learning.

d) Enabling conception

Graduate attributes are regarded as enabling abilities and aptitudes that lie at the heart of scholarly learning and knowledge. They have the potential to transform the knowledge they are part of, support the creation of new knowledge, and transform the individual.

Walker (1997:5) likewise suggests that 'key skills' be included in curricula for the following reasons. These key skills:

- serve a remedial purpose for access to higher education study.
- enhance the academic subject.
- are functional for employers.
- play a preparatory role in continuing education/ lifelong learning.
- support socialising for civic responsibility/ social conformity.
- play a regulatory role in quality assurance and the maintenance of academic standards.
- are empowering for individuals in their relationships and actions.

Walker (1997:5) continues to explain that different stakeholders may have several of these rationales in mind at the same time. These rationales thus may be operating simultaneously.

Teichler (2009:8-9) also expands on the 'generalist' versus 'specialist paradigms'. According to him views vary substantially with regard to the extent to which education should be general or specialised in order to serve the preparation for employment and work best. These views also relate to the extent to which education should address 'key skills' identified by various stakeholders.

Knight and Yorke (2004:32-34) place emphasis on graduate attributes being more than skills wish lists. They comment on the fact that although there are reservations, at large, academics value what graduates and employers declare they need from university education. Academics do value graduate attributes, but have legitimate concerns with regard to the implementation and integration of these into existing curricula. These concerns are related to time, quality of discipline-specific knowledge, and new teaching-learning practices. Integrating these graduate skills is described as 'skills intrusion' in the curriculum.

With the discussion above in mind, it seems that the interpretation, understanding and perceived value attached to graduate attributes may bring about considerable implications for curriculum design and subsequent teaching-learning practices. To investigate the latter, research trends and themes related to graduate attributes are discussed in section 2.3.

2.3 RESEARCH RELATED TO GRADUATE ATTRIBUTES

Certain research trends and themes that are relevant to graduate attributes are identified and briefly elaborated upon in the discussion below.

2.3.1 The foci of research

Johnston (2003) performed a critical evaluation of research in the field of graduate employment in the United Kingdom. She remarks that research for policy purposes dominates graduate employment research. Research often favours positivistic, large scale, quantitative methods. Research that is connected to complex processes and human perception is needed.

Johnston (2003:424) purports that in terms of the research on which vast amounts of institutional and national policies are based, the key-skills area lacks thoughtful

empirical studies. Many educational initiatives are focused on the implementation of key skills. This is a very uncertain area and should be investigated at a much more sophisticated level than has happened up to date. The skills agenda is heavily under-theorised, especially in terms of aspects of transfer of skills from one context to another.

Another important consideration pointed out by Johnston (2003:423) is the experiences of graduates in their early employment years. Studies investigating these experiences of graduates would be useful, in that they would help to fill in some gaps in research and policy understandings of how higher education is serving graduates, and how graduates are faring and feeling after they have completed their higher education. We then would be able to see more clearly how employee reality relates to employer rhetoric about what is happening in their workplaces and how employees are responding. Such investigations of graduate perceptions could inform policy and research debates at a critical time, namely a few years after the greatest expansion of higher education.

A sample of recent literature (those dated 2009-2013 were considered as recent) was consulted and analysed in an attempt to identify examples of recent categories/themes of research and publications with regard to graduate attributes. Twenty-four (24) appropriate examples are reported on. The categories identified, relevant examples, and literature sources consulted are summarised in Table 2.2.

Table 2.2: Categories/themes of recent research and publications related to graduate attributes (2009-2013)

Category/theme	Authors	Short description
Documents supplied and commissioned by government (nationally)	DBSA - Development Bank of South Africa (2010)	10-Point-plan for higher education and training: Skills for inclusive growth.
	RSA DHET - Republic of South Africa. Department of Higher Education and Training (2012)	Green Paper for post-school education and training. The paper focuses, amongst others, on the provision of high quality university education for increasing numbers of South Africans, and the empowerment of all graduates to address the needs of the economy and the country.
	Griesel and Parker (2009)	This document reports on the outcomes of a baseline study undertaken by Higher Education South Africa (HESA) as a leadership organisation representing the public higher education institutions in South Africa. The views and expectations of employers and their evaluation of the quality of graduates produced by our higher education institutions are explored. The document provides useful data to inform debate and engagement with industry, and provides an empirical benchmark against which to conduct periodic future reviews.

Table 2.2 Categories/themes of recent research and publications related to graduate attributes (2009-2013) (cont.)

Category/theme	Authors	Short description
Documents supplied and commissioned by international governments and organisations (internationally)	Ireland - Department of Education and Skills (2011)	National strategy for higher education in Ireland up to 2030. The report pays attention to graduate skills for the twenty-first century and the skills to be pursued as learning outcomes of higher education.
	Commonwealth of Australia (2009)	The document pays attention to the transformation of the Australian higher education system. The Australian government proposes a 10-year reform agenda for higher education and research to boost Australia's national productivity and performance as a knowledge-based economy. The agenda aims to put students at the centre of this reform, as well as the improvement of the quality of the university sector by education for the graduates as required by a global economy based on knowledge, skills and innovation.
	Altbach *et al.* (2009) Report prepared for the United Nations Educational, Scientific and Cultural Organization (UNESCO)	*Trends in Global Higher Education: Tracking an Academic Revolution*. The report examines the main drivers of change and their impact on higher education. The document points out that greater attention is paid to students' need to develop skills, knowledge, and attitudes so as to operate effectively in more complex, fluid, and ambiguous environments. The document also discusses the purpose of higher education which is particularly significant in developing regions. Emerging economies require both specialists trained for science and technical professions, and strong leaders with generalist knowledge who are creative, adaptable, and able to give broad ethical consideration to social advances.
Competency frameworks	RSA DNT - Republic of South Africa. Department of National Treasury (2010)	*Competency Framework for Financial Management*. The purpose is to develop a Capacity Building Model for Financial Management (CBMFM) that will provide the South African government sector with a systemic approach to building financial management capacity that is both integrated and sustainable.

Table 2.2 Categories/themes of recent research and publications related to graduate attributes (2009-2013) (cont.)

Category/theme	Authors	Short description
Competency frameworks (cont.)	Meyer (2012)	The new national Human Resource Competency Model (SA Board for People Practices) that sets the benchmark for human resource (HR) professionalism in the modern South African work environment.
	Moolman (2012)	This South African study produced a competency framework and directives for enhancing the employability of hospitality management graduates. The value of this study lies in a competence framework that can play an important role in curriculum development. The framework can be applied as a set of standards to review the employability of graduates and can support and engage students in the process of enhancing their employability. The framework may serve as a clear indication of what employers desire from graduates. Although the study focused on hospitality management graduates, it may inform other higher education institutions with regard to embedding graduate attributes in higher education curricula.
Employer views on graduate attributes and employability skills	Ipate and Parvu (2010)	Results of three fairly recent large scale studies in the United Kingdom on the relevance and importance of employability skills and attributes in employers' decision-making concerning the employment of graduates were analysed and discussed.

Table 2.2 Categories/themes of recent research and publications related to graduate attributes (2009-2013) (cont.)

Category/theme	Authors	Short description
Graduate views	Mason, Williams and Cranmer (2009)	Information gathered at university-department level, combined with graduate survey data to assess the impact of different kinds of employability skills initiatives on the graduate labour market performance was used in the research. It was found that structured work experience and employer involvement in degree course design and delivery had clearly positive effects on the ability of graduates to secure employment in 'graduate-level' jobs. However, a measuring of departmental involvement in explicit teaching and assessment of employability skills was not found significantly related to labour market performance. The lack of impact of the measuring of teaching, learning and assessment of employability skills raised questions about the level of resources devoted to this activity.
	AAGE - Australian Association of Graduate Employers (2010)	The AAGE Development Survey (High Fliers research) was based on research conducted during 2010 with 1 754 graduate employees in Australia. The survey aimed at providing the graduate recruitment industry with information on employee profiles, satisfaction levels, and expectations for the future.
Literature reviews, guidelines for practice, and theoretical foundations	CHE - Council on Higher Education (2011)	A guide intended to assist those involved in programme development and in the curriculum development and adaptation required by the Higher Education Qualifications Framework (October 2007).The publication provides a theoretical foundation for work-integrated learning while making use of a large number of local and international case studies for illustration and examples.
	Cord and Clements (2010)	The paper aims to provide an expanded understanding of 'caring' in work placements. The stages of the transition process of students are discussed and seven principles of practice that contribute to successful student transition and enhance programme success are outlined.

Table 2.2 Categories/themes of recent research and publications related to graduate attributes (2009-2013) (cont.)

Category/theme	Authors	Short description
Literature reviews, guidelines for practice, and theoretical foundations (cont.)	Chetty (2012)	A focused review of the literature in order to highlight the various dimensions of 'graduateness' with particular emphasis on its relationship to graduate employability.
	Bridgstock (2009)	A model of required graduate attributes that acknowledges the importance of self-management and career-building skills required for lifelong career management and enhanced employability is presented along with certain important considerations for the implementation of effective university career management programmes.
Case studies of curriculum mapping and embedding of skills. Engaging industry and practitioners in the curriculum	Jameson, Strudwick, Bond-Taylor and Jones (2011)	Case study related to practitioner (industry) contribution to the curriculum. Perspectives on possible advantages and the challenges of involving practitioners in the curriculum are shared. The results of the case study (example) point to providing educational experiences that address economic and political demands whilst taking into consideration institutional realities and goals.
	Coldham (2011)	Course teams were brought together to focus on the nature of work that would be relevant to their discipline, and to ask who might benefit from this as a means to reconsider conventional thinking around curriculum design and to expand thinking around activities that could integrate real-world activity with learning.
World of work and higher education	Helyer (2011)	*Aligning higher education with the world of work*. Changes affecting higher education and demands made by the changing world of work are reported on. Various approaches to and examples of aligning higher education and the world of work are discussed.

Table 2.2 Categories/themes of recent research and publications related to graduate attributes (2009-2013) (cont.)

Category/theme	Authors	Short description
World of work and higher education (cont.)	Teichler (2011)	The publication reports on the mobility of graduates, labour relevance, and professional emphasis across all programmes. The document is based on a review of information related to the Bologna process that involved 29 European countries that had agreed on a comparable three-cycle degree system for undergraduates (bachelor degrees) and graduates (master's and PhD degrees). The role of higher education with regard to the world of work and the concept of employability are discussed.
Views from academic staff members about the integration, teaching, and assessment of graduate attributes	De la Harpe and David (2012)	Teaching staff across 16 Australian universities were surveyed regarding their beliefs about graduate attributes and their willingness and confidence to teach and assess them.
	Jones (2009)	This study examined the teaching of generic attributes in five disciplines (physics, history, economics, medicine, and law) in two Australian universities. It was found that the notion of generic attributes (as a result of differences in interpretation and the epistemic culture of disciplines) is highly complex. While attributes such as critical thinking, problem solving and communication are valued by teaching staff, they are often implicit in teaching.
Unemployment studies	ILO (International Labour Organization) and International Institute for Labour Studies (2012)	*World of Work Report 2012*. The report highlights the need for an approach that recognises the importance of placing jobs at the top of the policy agenda and the need for coherence among macroeconomic, employment, and social policies.
	Altbeker and Storme (2012)	*Graduate unemployment in South Africa: A much exaggerated problem*. This publication reports on unemployment rates in South Africa and emphasises that the labour market is desperate for skills and high quality graduates.

It was further decided, for the purposes of this research, to analyse another ten (10) (not essentially recent) sources that are important within the Economic and Management Sciences context in higher education environments (such as business schools), in order to identify additional important themes to be addressed in the particular study. The relevant information gained from the analysis is summarised in Table 2.3 by stating the sources, the themes covered, the country or institution of origin, and the major findings.

Table 2.3 Research related to graduates from business schools

Study	Themes covered	Location	Findings
Hodges and Burchell (2003)	• Employers' views on how well business graduates are prepared for the workplace.	New Zealand	• Graduates need to be able and willing to learn in business roles. • Competencies that are important for the 'bottom line' are competencies such as customer service orientation, order, quality and accuracy; interpersonal communication, and problem solving.
Cochrane (2006)	• The integration of information literacy skills in student learning in an undergraduate degree programme	School of Management and Economics, Queen's University Belfast, Northern Ireland, UK	• Skills integration appears to be a better way to promote learning and skills acquisition than the generic model of stand-alone modules. • Learning context, however, is paramount. Skills integration and stand-alone skills development modules can cater for specific learning needs. • Students are expected to develop communication, numeracy, problem-solving, teamwork, ICT and learning to learn skills in addition to discipline-specific knowledge.

Table 2.3 Research related to graduates from business schools (cont.)

Study	Themes covered	Location	Findings
Green, Hammer and Stephens (2006)	• Case study of theory and practice of embedding graduate skills within business school curricula.	Griffith University, Brisbane, Australia	• Teaching practices and their evaluation are as important as research in the development of an educated approach to graduate skills development. • Course design can encourage students to develop, amongst others, written, communication, problem identification and critical evaluation skills as a way of enhancing and deepening their disciplinary learning.
Botes, Pelser and van Rooyen (2007)	• Evaluation survey of the UFS B.Com. programme among alumni and their line heads.	University of the Free State, South Africa	• Significant percentages of both alumni and line heads suggested that the degree courses lacked practical training (application of theory) and were insufficient with regard to compilation and writing of documentation. • Alumni also indicated training to be insufficient with regard to verbal communication and dealing with human relationships in the workplace.

Table 2.3 Research related to graduates from business schools (cont.)

Study	Themes covered	Location	Findings
Thompson, Treleaven, Kamvounias, Beem and Hill (2008)	• Study of the integration of graduate attributes in business education using an online system to facilitate the process. The latter was done with the aim to align learning outcomes better with assessment tasks as well as graduate attribute development.	University of Sydney	• There is substantial evidence to argue that the participation of academic staff members and an academic consultant in this study generated changes to teaching practice, particularly in the capability of staff to embed graduate attributes within assessment tasks and align them with learning outcomes. • An improvement in aspects related to student learning outcomes was achieved. • Student views on feedback from academic staff rendered positive and negative views. • Students' participation in the assessment processes revealed strong evidence that students had a thoughtful and reflective approach to their own self- assessment and to their attribute development.

Table 2.3 Research related to graduates from business schools (cont.)

Study	Themes covered	Location	Findings
Stoner and Milner (2010)	• Analyses of focus group interviews with first-year students participating in a project to integrate the development of employability skills within small group classes of two compulsory courses.	University of Glasgow, UK	• Students reported difficulty in managing their time, engaging in modelling exercises and problem-solving, and were reluctant to take responsibility for (and have a positive attitude toward) 'learning to learn'. • The need for strategies to build students' capacity for skills across their whole degree experience. Strategies need to consider the interrelationships between personal experiences and skills, including the management of confidence, decision-making and handling incongruent information. • Students need to be motivated to develop their skills by considering aspects such as students' social contexts and time to develop in environments that are relevant to them.
Willcoxson *et al.* (2010)	• Evaluation of a course and programme-mapping process.	University of the Sunshine Coast, Queensland, Australia	• Course and programme-mapping processes may provide 'assurance of learning' at a programme level. • Course and programme mapping directly links graduate attributes and programme goals to well-aligned objectives and teaching and assessment activities. • Generic skills should be developed in an integrated fashion throughout the various subject areas rather than be treated separately.

Table 2.3 Research related to graduates from business schools (cont.)

Study	Themes covered	Location	Findings
Lawson, Fallshaw, Papadopoulo, Taylor and Zanko (2011)	• Typology of approaches to Professional Learning (PL) derived from a national study of good practices in business faculties in Australian universities.	Faculty of Business, University of Technology, Sydney College of Business, Melbourne Faculty of Business and Law, Victoria University Faculty of Business, University of Technology, Sydney (Australia)	A literature review, a document analysis of faculty mission statements, focus groups with academics, development of professional learning (PL) case studies and industry advisory group input resulted in the following: • A series of good practice principles. • A set of enablers and impediments that need to be considered when implementing PL activities. • Guidelines on teaching approaches to developing specific professional capabilities in students. • Assessment tips to support designing professional learning activities/approaches.
Daud, Sapuan, Abidin and Rajadurai (2011)	• This study examined the perceived (by managers) gap in industry between important dimensions of graduate attributes and the actual performance of business graduates once employed. Graduates' attributes were analysed in terms of their knowledge, skills, abilities, and personality.	Universiti Tenaga Nasional, College of Business Management and Accounting and IKIP International College, Malaysia	• Results in this study indicate that managers attach different weightings to different aspects of the graduates' performance. • Curriculum development efforts, therefore, should be directed towards attributes that are expected of the graduates. The latter will allow for corrective actions which might improve perceived problem areas.

Table 2.3 Research related to graduates from business schools (cont.)

Study	Themes covered	Location	Findings
Wilton (2011)	• Evaluation of graduates' own assessment of skills development during their degree programme and their subsequent employment outcomes.	University of the West of England, Bristol, UK	• Skills often demanded by employers will not always carry equal weight in the labour market suggesting a tendency towards preference for particular kinds of graduates in the labour market. • Some skills might be considered important in the competition for graduate-level employment, such as written communication, while scarcer skills (for example, advanced IT skills) may be superior in the pursuit of certain jobs. • Outcomes differed between the social and educational groups. The development of employability skills in higher education appears far from a remedy for unequal labour market opportunities. The findings raise important concerns about the efficacy of the policy focus on the explicit development of employability skills as an effective means to address social group disadvantage in the graduate labour market.

Contribution to the study

Although many important studies and publications prior to 2010 will be cited throughout the chapter, the preceding discussion and examples of recent empirical evidence have led to the following important considerations for this particular study:

- Research based on graduate attributes and subsequent skills associated with these attributes need to be done according to a sound theoretical foundation. The theoretical knowledge includes theoretical models and frameworks related to curriculum design, teaching and learning, and assessment, as well as transfer. The research could appropriately inform policy documents.
- Higher education policies and frameworks as well as professional competency frameworks provide important information regarding the directives for higher education institutions (discussed in more detail in 2.5).
- The experiences and perspectives of graduates in the early years of employment may be very valuable in providing new insights into how higher education may be serving its students.
- It is important to consider national and international demands and changes in the labour market (including unemployment), as well as employer needs and perspectives. Furthermore, the inclusion of representatives from the labour market (employers and practitioners) may contribute to appropriate curriculum design as well as effective teaching-learning practices.
- The perspectives of academic staff regarding the teaching-learning and assessment of graduate attributes and the subsets of skills related to these attributes are paramount to a scholarly approach to skills development and curriculum design. Academic staff can provide valuable insights into institutional realities and reasonable (practicality of) objectives.
- Informed curriculum design and mapping processes may help to align graduate attributes and learning objectives with effective teaching-learning and assessment practices, which in turn may enhance transfer to applicable contexts.

This particular study aimed to include and combine the above mentioned research considerations in the study in an attempt to contextually explore:

- Contemporary perspectives pertaining to graduate attributes required for preparing Economic and Management Sciences students for the world of work.
- Curriculum design/mapping models that may assist in addressing and embedding graduate attributes into Economic and Management Sciences curricula.
- Educational considerations pertaining to the mastery and transferability of graduate attributes in higher education.
- The collection and assessment of evidence of the development and attainment of graduate attributes.
- Different stakeholders' perceptions pertaining to graduate attributes required to prepare undergraduate Economic and Management Sciences students of the University of the Free State for the world of work. These include perceptions such as which graduate attributes are considered to be valuable (and why), as well as how these graduate attributes should be taught and assed.

Together with the interpretation, understanding, and research considerations related to the concept of graduate attributes, it is now vital to consider forces that impact and necessitate the development of graduate attributes through curriculum design and educational considerations. These forces (changes and challenges) are addressed in the sections that follow.

2.4 THE CHANGES AND CHALLENGES IMPACTING ON HIGHER EDUCATION AND ITS GRADUATES

Various international and local forces and challenges have an impact on higher education and ultimately on the graduates produced by higher education institutions. The changes and challenges include, amongst others, economic pressure, the knowledge economy, unemployment rates, changes in labour market requirements, the quality of basic education, as well as access to and the quality of higher education. These challenges contribute to a perceived gap between what employers require and what graduates have to offer. The challenges and changes are explored in more detail below.

2.4.1 Global graduate labour market trends and challenges

The worldwide recession and economic pressures have had a profound impact on higher education. The Confederation of Business Industry (CBI) in the United Kingdom (CBI 2009:2) states that graduates will be leaving university and entering the labour market at the worst time in many years, when businesses are under pressure and unemployment is rising. The result is an increase in the competition for jobs and a strong focus on the need for graduates to be equipped with the necessary attributes to succeed and manage in the world of work has ensued (Henly in Johnston and Watson 2009:21).

Graduates searching for jobs at a time of higher unemployment rates and reduced graduate recruitment will need to convince prospective employers that they will be a productive addition to the workplace. A danger also exists that employers providing work placements (such as work-integrated learning), or engaging with universities in other ways might reduce these activities to focus on their core business (CBI 2009:11).

The graduate labour market has been significantly transformed both in the composition of the graduate labour supply and in the diversity of occupations that graduates subsequently enter. In the United Kingdom, for example, the supply of business and management graduates to the labour market has grown significantly (Higher Education Statistics Agency in Wilton 2011:85).

According to a summary presented by the International Labour Organisation (ILO 2012:10) and International Institute for Labour Studies, labour markets have not fully recovered from the global crisis that erupted in 2008. There still is a deficit of approximately 50 million jobs, and it is unlikely that the world economy will grow at a sufficient pace over the next few years to close the existing job deficit and also to provide employment for the more than 80 million people expected to enter the labour market during this period.

It is significant, however, that emerging and developing countries have followed a strategy of boosting domestic demand in order to compensate for weaker prospects of exporting to advanced economies. There are signs that in some of the developing countries, such as India, Latin America, South Africa, and, more recently, China, wages have grown to catch up with productivity. Nevertheless, even in these countries, labour markets and real investment are not immune to the global economic weakening (The International Labour Organisation [ILO] and International Institute for Labour Studies 2012:1).

South Africa joined the BRICS (Brazil, Russia, India, China and South Africa) Bloc in 2010. The BRICS membership has nourished Africa's economic emergence and elevated the continent's contemporary global relevance. It is stated that the considerable growth potential of BRICS will impact considerably on the future of emerging markets and developing economies, especially in the case of Africa (Nkoana-Mashabane 2013). With the above in mind, however, it is important to note that it is clearly stated that South Africa's BRICS membership must be understood within context if the country's wishes to achieve growth in spite of the current challenges presented in the country and in the continent (Nkoana-Mashabane 2013).

South Africa, like the rest of the continent, faces the challenges of poverty, unemployment and inequality. Africa in general faces socio-economic and demographic challenges as its youth population continues to increase. Along with the increase in the numbers of the youth population the limited relevance of the education and training systems and the low quality of education provision in many African countries are often identified as contributory factors to the high rates of youth unemployment and under-employment. It is reasoned that education and training systems should be re-engineered for sustainable socio-economic development.

Youth should be equipped with the skills demanded by their communities and economies (Swarts, Clark, Hooker, Palmer and Wachira 2011:1). Spowart (2012: page 5 of 20) reiterates the above by stating that it seems absurd that a country with a high unemployment rate has graduates without work, and that professionals need to be imported or attracted to the country.

Reisen (2013:28) argues that the high private-sector job vacancy rates existing concurrently with high youth unemployment indicate the existence of skills mismatches. Reisen is of the opinion that this skills mismatch can be addressed by improving the quality of public schooling, reinforcing vocational training and improving the relevance of secondary and tertiary education to the private sector. The latter becomes an essential prerequisite for any country seeking to improve industrial competitiveness.

In addition, the economy is becoming increasingly service-oriented (i.e. less industrialised) and knowledge driven. The knowledge economy is characterised by production and services based on knowledge-intensive activities that contribute to an accelerated pace of technological and scientific advance as well as equally rapid obsolescence (Powell and Snellman 2004:201).

The differentiation of an organisation from others in many instances boils down to its people. Associated with the people in an organisation are necessary attributes such as initiative, creativity, problem-solving skills and the ability to work with others. Individuals and organisations are required to be reflexive and embrace continuous or lifelong learning (Usher 2002:144-145). Lingenfelter (2012:22) contends that in a knowledge economy, the 'end' of education is not the acquisition of a fixed body of knowledge, but the ability to apply knowledge and skills to problems of life and to explore new frontiers.

To provide outstanding services to clients, organisations need to recruit and retain the best-suited people (Butler and Rose 2011:6). The knowledge economy indeed implies that high numbers of highly educated persons are viewed as crucial for coping with professional tasks of the future (Teichler 2009:16).

2.4.2 South African graduate labour market trends and challenges

According to Wolf (2002 in Kruss 2004:674), the relationship between higher education and economic growth is neither straightforward nor causal, but complex and conditional. It is therefore important to consider the arguments that follow.

Altbeker and Storme (2013:1-16) argue that in South Africa, the popular view that the possession of a university degree no longer guarantees success in the job market, simply is not true. This statement emanates from the analysis of unemployment data at the Department of Economics of the University of Stellenbosch (South Africa). The results of this research along with some policy relevant conclusions led to some of the following key findings:

- The number of degree holders in the labour market grew from 463 000 in 1995 to 1,1 million in 2011.
- Few people with university degrees are unemployed; just under five (5) per cent in 2011. Such low levels of unemployment can usually be ascribed to individuals moving between jobs and, therefore, are as close to full employment in this sector as an economy can get. This finding is not surprising, as South African employers (public and private) desperately need skilled and educated workers. Unemployment increases progressively as one goes down the educational scale. Any post-school qualification therefore increases an individual's job prospects.
- Most of the growth in graduate employment has been in the private sector, with the proportion of graduates working in the public sector falling from 50 per cent in 1995 to about 35 per cent in 2011.
- It is likely that unemployment rates differ for graduates of different universities, due to real and perceived differences in the quality of their degrees.

Nevertheless, Reisen (2013: 32) purports that at the end of 2011, approximately half of the young labour force participants in South Africa were unemployed. Skills deficiency and lack of work experience among young individuals weaken a country's ability to increase its domestic share of added value and restrain income growth.

Taking into account the world-wide changes in the labour market, the employment picture in South Africa, as well as the need for skilled and educated employees, it

therefore seems that the *quality* of education and, more specifically, the quality of higher education, need particular attention.

According to the Department of Higher Education and Training (RSA DHET 2010: 15-16) the quality of basic education is very poor. Children are exposed to an educational experience that is deficient in quality - resulting in dropout, repetition, poor grades, inappropriate subject choices, and, ultimately, low levels of preparedness for the next stage in education.

It therefore may be expected that the quality of school leavers from the basic education system will affect South African universities. There is an indication that higher education institutions have to compensate for the under-preparedness of entrants if they want their graduates to remain competitive against global higher education standards (RSA DHET 2010:19).

In addition, the National Skills Development Strategy III, compiled by the Department of Higher Education and Training (RSA DHET 2010:13), also points out that, although the enrolment and participation rates in the university sector are higher than those of the vocational education and training sector, the university sector still is not producing enough appropriately skilled and qualified people in disciplines central to social and economic development. The strategy proposed by DHET (RSA DHET 2010) represents an explicit commitment to encouraging linking skills development to career paths, career development and promoting sustainable employment and in-work progression (RSA DHET 2010:4-5, 13).

A report by the School of Economics, University of Cape Town (2006:iii) similarly points out that as far as entry-level positions are concerned, the limitation is not necessarily the quantity of graduates, but rather the quality of these graduates. The problem therefore relates to a skills deficit in terms of quality rather than a skills shortage in terms of numbers (UCT 2006:iii).

Griesel and Parker (2009:3) explain that the expectation indeed is for higher education to engage proactively with the skills needs of the economy, and, through research, promote knowledge generation and innovation. This may address the many pressing imperatives that constrain South Africa as a developmental state and young democracy. Moreover, in the light of the global economic crisis that was

precipitated in 2008, it is even more important that South Africa should produce more skilled graduates who are able to compete within the global work force. The CHE (2013b:204) emphasises the importance of commerce degrees in the economic development of the country as a whole, and therefore, the introduction of more suitable curricula appear to be urgent.

2.4.3 Changes in the global higher education environment

In global higher education, massification over the past decades has radically changed the traditional patterns of knowledge production, dissemination and application (Altbach *et al.* 2009).

In Europe, for example, rapid expansion of higher education over the past two decades has resulted in questions being raised about the quality of the graduate labour market and the ability of graduates to meet the needs of employers (Bridgstock 2009:31-32; Elias and Purcell 2004 in Andrews and Higson 2008:411; Teichler 2009:15-16).

The global rise in enrolments that started in the 1970s to 1990s has continued and the world's student population could reach an estimated 150 million by 2025. Strong population growth in Africa, Asia and Latin America, along with increased enrolment in primary and secondary education, has boosted demand at the tertiary level (Meek, Teichler and Kearney 2009:7).

Meek *et al*. (2009:13) further explicate that as a result of massification, institutional diversification has become essential in order to deliver the development of a nation's cohort of skilled human resources. New dynamics have emerged in higher education in terms of demand, diversification of delivery, changing lifelong learning needs, growth in the use of information and communication technology, enhanced networking and social engagement. These dynamics are evident in the economic sector and community at large.

As mentioned earlier, the world has witnessed the advancement of the knowledge society and its principal engine, the Knowledge Economy. As a result, all countries, regardless of their level of development, have had to review their capacities for accessing and benefiting from the high-level knowledge which shapes social change.

For those with weak or non-existent capacity in this area, the risk of marginalisation has accelerated sharply (Meek *et al.* 2009:7).

Wilton (2011:86) equally affirms that in order to promote and justify the rapid and continued expansion of higher education, first, the high-skill labour requirements of a knowledge economy needs to be attended to, and second, opportunities in both education and employment should be increased for groups previously under-represented in higher education.

2.4.4 Changes in the South African higher education environment

Concomitant with the worldwide changes and expectations in the economic and social environment, the South African higher education and training fraternity also has been characterised by major changes.

Changes brought about in the higher education environment over the past two decades range from the implementation of policy frameworks and regulatory mechanisms deliberately developed to steer the transformation of the sector, to the radical restructuring of the higher education landscape and a reduction in the number of public higher education institutions. The expectation is that each institution will develop particular niche areas of expertise within a differentiated landscape in order to engage appropriately with the challenges of our times (Griesel and Parker 2009:2).

The challenge in South Africa is to redress past inequalities and to transform the higher education system to serve a new social order, to meet pressing national needs, and to respond to new realities and opportunities (RSA DoE 1997:1). Many underprepared students enter higher education, and according to Brüssow (2007: 5), institutional and government commitment is critical in providing early intervention and academic support for students from disadvantaged background. Interventions are important, not only to ensure that these students are successful in obtaining a qualification, but also in order for higher education to contribute to the development of skills in South Africa.

The above-mentioned discussion implies that universities across the globe experience significant pressure to be responsive to the direct needs of the economy and society.

Figure 2.2 below illustrates some of the major changes in the global and local higher education environments and indicates the subsequent pressure caused by the perceived gap between what the world of work requires and what universities deliver (discussed below).

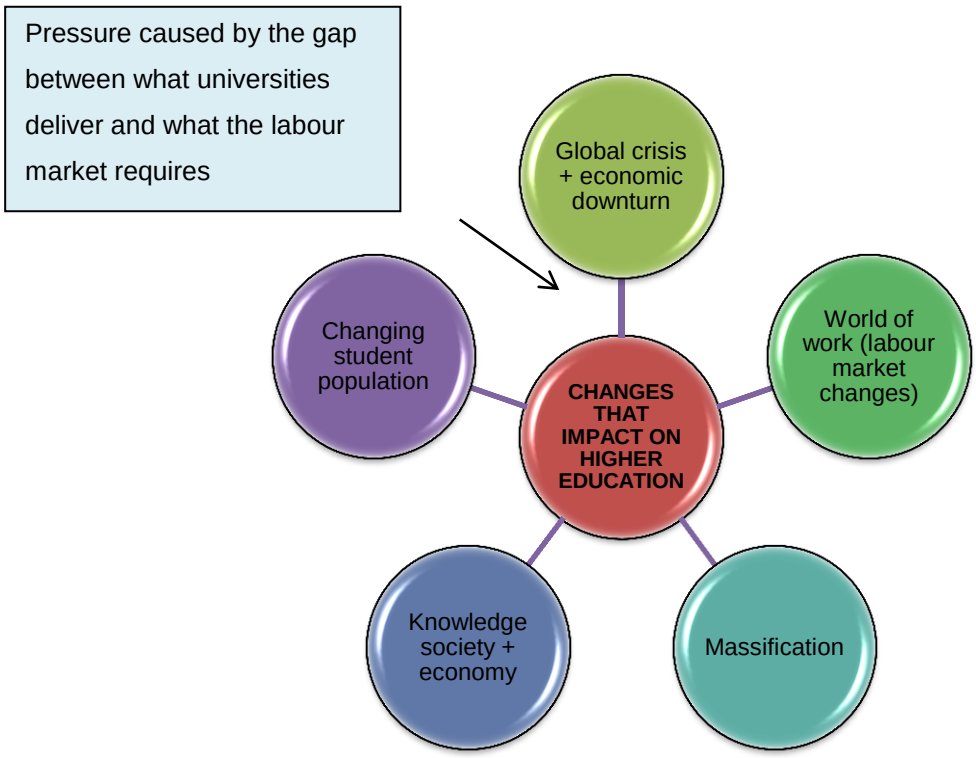


Figure 2.2: Changes impacting the global and local HE environments

2.4.5 The gap between what universities deliver and what the world of work requires

Serious concerns have been expressed about an increasingly wide 'gap' between the skills and capabilities of graduates, and the requirements and demands of the work environment (Garraway 2009:230). This 'gap' (also expressed as tension) is also communicated as a common misunderstanding about the roles of higher education and the labour market (Griesel and Parker 2009:1). Traditionally, teaching and learning in universities have been organised around disciplinary knowledge and

governed by academic interests; thus academics focus on comprehensive disciplinary and technical knowledge (Venables and Tan 2009:17-18).

Employers sometimes voice their concern about the quality of graduates exiting from universities, while higher educationists feel that employers are not fully appreciative of what qualities and skills these graduates do possess. Employers, committed to addressing current business needs, emphasise that graduates must not only have the requisite disciplinary and technical skills, but also the ''soft'' skills corresponding with job-readiness (discussed in more detail in section 2.5).

Pressure is exerted on higher education from both government and employers to produce graduates who are employable in the sense that they have the attributes, capabilities, and dispositions to work successfully (Griesel and Parker 2009:1). Governments and professions also require universities to demonstrate accountability for outcomes (Willcoxson *et al.* 2010:65).

Similarly, increasing numbers of students, who view their further studies as part of the natural transition process from school to work, have influenced a shift in programme focus to the development of more work-related skills (Venables and Tan 2009:17-18). Saunders and Zuzel (2010:1) posit that one of the key reasons why many students invest in university education is the improvement of their employment prospects. Nair and Patil (2008:88) also proclaim that if students typically enrol in university courses to commence on or make progress in a career, student success in achieving these goals is a prime indicator of universities' teaching and learning performance.

There exists an emergent and significant global trend to move away from the separation of university and work, and the alignment between higher education, and employment has become a focus of government initiatives in many countries (Garraway 2009:230; Griesel and Parker 2009:1). Such alignment and engagement between higher education and industry implies research, teaching and assessment in partnership with business and communities (Edmondson, Valigra, Kenward, Hudson and Belfield 2012).

Partnerships between employers, public education institutions, private training providers and SETAs (Sector Education and Training Authority) are prioritised in an attempt to integrate education and training (RSA DHET 2010:3).

In a report dealing with graduate employability skills by Cleary *et al*. (2007:2), results from interviews with Australian employers revealed that employers were of the opinion that universities were providing students with a strong knowledge base, but that graduates lacked the ability to apply that knowledge intelligently in the work setting. Employers further expressed a willingness to engage more deeply with universities, particularly in the provision of work-related experiences for undergraduates. Staff members interviewed in universities also regarded it as important to build strong links with industry and employers.

Work placements, or experiential learning programmes, continue to be nominated, both by academics and employers, as one way which students may follow to implement their technical knowledge and acquire generic workplace skills (Hernandez-March, Martin del Peso and Leguey in Cord, Sykes and Clements 2011:20). Even so, employers do recognise that universities will never be able to provide them with a graduate who can step into a role and be completely work-ready. Employers often provide structured programmes to induct new graduates and to orient them to the activities of the business (Cleary *et al.* 2007:37).

The Confederation of Business Industry (CBI) in the United Kingdom (CBI 2009:10) similarly argues that the purpose of higher education is not solely about turning out work-ready graduates for employers, but also to drive forward the boundaries of knowledge and to encourage intellectual curiosity in their graduates. In addition, employers should take a degree of responsibility for the training and education of the graduates that they recruit. It is further argued that training needs may differ among graduates because of individual levels of development.

Additionally, Griesel and Parker (2009:19-20) explain that a degree of realism needs to be sustained on both sides, about how far higher education can be expected to 'bridge the gap', and the role that only employers can play in providing on-the-job learning and continuing development. These problematic issues are complex and should not be oversimplified. Nonetheless, it remains essential to engage constructively with employer perceptions of quality across institutions.

In summary, the discussion above briefly explored some of the inevitable changes and challenges that the higher education environment currently is facing. The pressure caused by the perceived 'gap' between what employers and/or the labour market requires and what higher education institutions deliver, continues to fuel debate. There is a definite movement toward acknowledging the importance of equipping graduates with more than discipline-specific knowledge and skills and the need for employability and employability skills. This is discussed below.

2.5 THE NEED FOR MORE THAN DISCIPLINE-SPECIFIC KNOWLEDGE AND SKILLS

The Council on Higher Education (CHE 2011:1,7) justly states that universities should offer a broad and critical education that enables students to engage with both the world of science and the world of work, especially in the context of social justice, human health, and environmental sustainability. This report states: "University teachers should be concerned to ensure that the students that graduate from their programmes are prepared for the world in which they will live and work."

In the light of the above-mentioned statement, the next section focuses on the growing need to equip students with more than discipline-specific needs. Global and national views from the higher education arena and the world of work are explored.

2.5.1 International movement toward more than discipline-specific knowledge and skills

Employers, professional societies, government, higher education funding bodies and students have growing expectations that universities will equip students with not only relevant knowledge specific to their chosen discipline, but also with appropriate work-ready skills (Fraser and Killen in Van Schalkwyk 2007:955; Garraway 2009:230; Maharasoa and Hay 2001:140; Nzimande 2011:1 ; Nettleton *et al.* 2008:1 of 11).

Likewise, industry representatives seem to be satisfied with the technical or discipline-specific skills of graduates, but for some there is a perception that employability skills are under-developed (Cleary *et al.* 2007:2). Helyer and Lee (in Helyer 2011:1) also emphasise that employers cite the crucial nature of employability

and subject-based skills as well as the need for employees who understand how to learn, and build upon the usefulness of what they learn by making connections and solving problems.

In response to the above-mentioned needs of various stakeholders, many countries have started to prioritise efforts to prepare students better for the world of work. Some of the wealth of examples of these efforts are outlined below:

- Australian universities are required, at a minimum, to include in their operational plans a statement of the generic outcomes of a university education, as a condition for funding. The government also has suggested that in future quality assurance will focus on evidence that universities are actually achieving these claimed graduate outcomes (Barrie 2006:216). During 2008, policy statements of graduate attributes were gathered from all Australian universities' public websites and the statements were mapped in order to be helpful for universities seeking to revise and further develop their graduate attribute statements (University of Sydney 2011:Online).
- In Europe there has been an increased focus on the importance of the concept of employability. The changes to higher education brought about by the Bologna Process have given employability particular emphasis (Teichler 2011:27-31). The intention of the Bologna Process is to allow the diversity of national systems and universities in Europe to be maintained, while the European Higher Education Area improves transparency between higher education systems. The process implements tools to facilitate recognition of degrees and academic qualifications, mobility, and exchanges among institutions. The transformations are based on ten simple objectives which governments and institutions are currently implementing. All participating countries have agreed on a comparable three-cycle degree system for undergraduates (bachelor degrees) and graduates (master's and PhD degrees) (The official Bologna Process website 2010).

  A significant report in this regard is the *Dublin Descriptors* that provides generic descriptors of expected results and abilities, connected to qualifications gained as part of each of the Bologna cycles (Cleary *et al.* 2007:21). England, Scotland and Wales have national approaches to

employability skills in the higher education sector (Cleary *et al.* 2007:21). The Higher Education Funding Council for England (HEFCE) has developed measures of university performance which include indicators of graduate labour market outcomes (HEFCE in Mason *et al.* 2006:4).

- The government of Canada encourages and funds the development of 'essential skills' and offers support with regard to the implementation of these skills (Government of Canada 2013:Online). The Conference Board of Canada also has done extensive research among educators and employers and has published *Critical skills required of the Canadian workforce*, *Employability skills 2000+,* and resources to guide both industry and education institutions in the implementation and integration of these skills (The Conference Board of Canada 2014:Online).

- In the United States of America the Secretary's Commission on Achieving Necessary Skills (SCANS), US Department of Labour, has published skills, described as SCANS Competencies, which are used as reference for implementation in various institutions (Packer and Brainard 2003:1-11). The Association of American Colleges and Universities (AACU) has published the *Essential Learning Outcomes* (part of the Liberal Education and America's Promise Campaign [LEAP]) built on multi-year dialogue with hundreds of colleges and universities about goals for student learning, analysis of a set of recommendations, and reports from the business community; and analysis of the accreditation requirements for engineering, business, nursing, and teacher education (AACU 2011:6-7).

- A report by the Bangkok branch of UNESCO (2012:53-55) emphasises the importance of employability skills in Asia and particular attention is paid in the report to graduate unemployment and skills mismatch. The major programmes and projects that have been implemented to counter this graduate unemployment and skills mismatch include, amongst others, international benchmarking to upgrade policies, standards and guidelines, technical panels, regional quality assessment teams, accreditation, a faculty development project, and institutional quality assurance though monitoring and evaluation.

It is therefore evident that graduate attributes and employability receive attention worldwide and it has become important to investigate the manifestation of this in South Africa.

2.5.2 Movement toward more than discipline-specific knowledge and skills in South Africa

Given the pressing needs of the South African economy, the notion of a 'skills revolution' has been clearly expressed by the former Deputy President Mlambo-Ngcuka in 2006 (Griesel and Parker 2009:4):

> *The phenomenon of unemployed graduates, who are without abilities to self-employ and self-determine, after spending three to four years of post-secondary education is an indication to all of us of the challenge in our education at a tertiary level … the curriculum developers are not paying enough attention to issues of relevance and ensuring that we all pay attention to the skills and competencies learners require when they come out of higher education … we need a skills revolution in the curriculum of tertiary education.*

Regulatory documents (from government, and professional associations) were consulted in an attempt to identify the possible role and views of graduate attributes and their comparative importance to the overarching goals of higher education in South Africa. These documents provide structures for standards generation and quality assurance.

First, inferences were made from the analysis of the following documents released by the Minister of Education and the University of the Free State:

- The Education White Paper 3 (RSA DoE 1997).
- National Plan in Higher Education (RSA MoE 2001).
- South African National Qualifications Framework (SAQA 2010; SAQA 2012).
- The Higher Education Qualifications Sub-Framework (CHE 2013a).
- Framework for Institutional Quality Enhancement in the Second Period of Quality Assurance (CHE 2014).
- The UFS Teaching and Learning Policy (UFS 2008).

From this analysis it was found that higher education plays a vital role with regard to the following matters:

- South Africa's transition from apartheid to a new democracy: The challenge is to redress past inequalities and to transform the higher education system to serve new realities and opportunities.
- Existing practices need to be reviewed in the light of this new era. There is a need to enhance the quality of education and training through the review of ideas, policies and practices, based on a commitment to the common good. The goals include to improve the quality of undergraduate educational provision, increase the number of quality graduates, and to develop a higher education system that can share good practice and solve shared problems as part of a wider educational community.
- The social, cultural and economic development of the country and promotion of social responsibility and awareness at a national level are paramount.
- The challenges facing the higher education system in the twenty-first century include the needs of the labour market in a knowledge-driven and dependent society. The knowledge society has transformed the way in which people work and curricular and methodological changes should be made to be responsive to the information revolution, knowledge production, and the types of skills and capabilities required for new technologies.
- The development of skills and competencies that form the foundations for lifelong learning include the following: critical thinking, analytical, problem-solving and communication skills, the ability to deal with change and diversity, and, in particular, the tolerance of different views and ideas. The South African Qualifications Authority (SAQA 2001:9, 24) stipulates that the learning outcomes of all South African qualifications should include critical cross-field and developmental outcomes or generic skills to promote lifelong learning as well as specialised (discipline-specific) knowledge, skills, and reflexivity. The latter implies the full personal development of each learner.
- The advancement of efficient progression within education, training and career paths.

- Progressive knowledge and generic competence development at each NQF level.
- “Enhanced student learning with a view to increasing the number of graduates with attributes that are personally, professionally and socially valuable” (CHE 2014:ii).

Second, the following documents released by professional associations related to degrees offered by the Faculty of Economic and Management Sciences at the University of the Free State were also consulted and analysed:

- South African Institute for Chartered Accountants, Competency Framework (SAICA 2009).
- RSA DNT - Competency Framework for Financial Management (RSA DNT 2010).
- The National Human Resources Competency Model (Meyer 2012).

In line with the inferences (key themes/matters identified) made from the regulatory documents released by the Minister of Education, the following key deductions were made from the above-mentioned competency models and frameworks:

- Qualifications have a general-academic or professional, career-directed purpose. However, it is important to note that students do not merely gain knowledge; instead, such knowledge has to be integrated with skills.

- The development of discipline-specific competencies alone will not meet the needs of the different sectors that graduates enter. Whilst for most practitioners in the field, technical competencies in accounting or other financial disciplines are the predominant component of their work; other competencies which are complementary to those of a technical nature are also required.

- The frameworks and models can inform the education, assessment and training programmes and enhance the development of appropriate content and teaching and learning strategies.

- Frameworks and models should take international standards into account, but they should be integrated with South African contextual needs and demands.

- Although described differently (such as ‘behavioural competence’, ‘professional skills’, ‘personal attributes’ and ‘pervasive skills’) there seems to be overlaps with regard to what is required in addition to discipline-specific knowledge in the descriptions found in the respective models and frameworks.

Contribution to the study

The discussion above has pointed to a clear trend, both internationally and nationally, toward the prioritisation of offering a broad, critical education that will equip students to navigate the world they will work in. Many examples of the importance of graduate attributes in different countries, including South Africa, were provided.

It is clearly important to prepare lifelong learners that are able to work effectively in a knowledge-driven economy and are competent to apply/transfer their knowledge and solve problems in different contexts.

Framework and policy documents provide valuable information regarding the outcomes and transformation of higher education that can inform and drive curriculum design and change. The exploration of the views of all role players (labour market [employers], graduates that have entered the labour market, government and professional associations) therefore is important.

If higher education develops and addresses graduate attributes appropriately, it may play an important transformational role with regard to the preparedness of South African graduates to contribute to the achievement of the democratic goals of South Africa and the world of work.

2.6 CONCLUSION

This chapter was aimed at addressing the first research question: *What are the contemporary perspectives pertaining to graduate attributes required for preparing EMS students for the world of work?* In following this directive, the chapter commenced with the clarification of concepts related to graduate attributes. Graduate attributes point to broader qualities and the setting (context) and timeframe (during university) make the use of the term graduate attributes most appropriate for the study. Subsequently, the interpretation, understanding and perceived value attached to graduate attributes are discussed, which in turn hold implications for curriculum design and subsequent teaching-learning practices.

Examples of recent research completed with regard to graduate attributes indicate that research founded on sound theoretical knowledge and perspectives from as many important stakeholders as possible consequently will provide assistance in answering the overarching research question:

Which graduate attributes are required to appropriately prepare EMS students for the world of work and how can these attributes be accommodated in undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?

In addition, this chapter explores some of the inevitable changes and challenges that the higher education environment is currently facing. The perceived ‘gap’ between what employers/labour markets require and what higher education institutions deliver, continues to fuel debate. Higher education must be responsive to the needs of the social and economic environment. A definite movement toward acknowledging the importance of equipping graduates with more than discipline-specific knowledge and skills becomes evident from the discussions in this chapter.

If higher education develops and addresses graduate attributes appropriately, it may play an important transformational role with regard to the preparedness of South African graduates for the national and international labour market.

Before the embedding of graduate attributes in undergraduate curricula can be considered, it is vital to explore influential perspectives with regard to curriculum (including contextual challenges) and curriculum design as a process. Various

approaches are also taken to the inclusion and development of graduate attributes in university curricula. These perspectives, approaches, guidelines and implications related to curriculum design are discussed in more depth in Chapter 3. Chapter 4 then pays attention to the teaching-learning, assessment, mastery and transfer of graduate attributes and addresses the educational perspectives, considerations and possible methods for the collection of evidence of the development and acquisition of graduate attributes.

Finally, Figure 2.3 illustrates the interrelated themes discussed in this chapter and how they relate to one another.

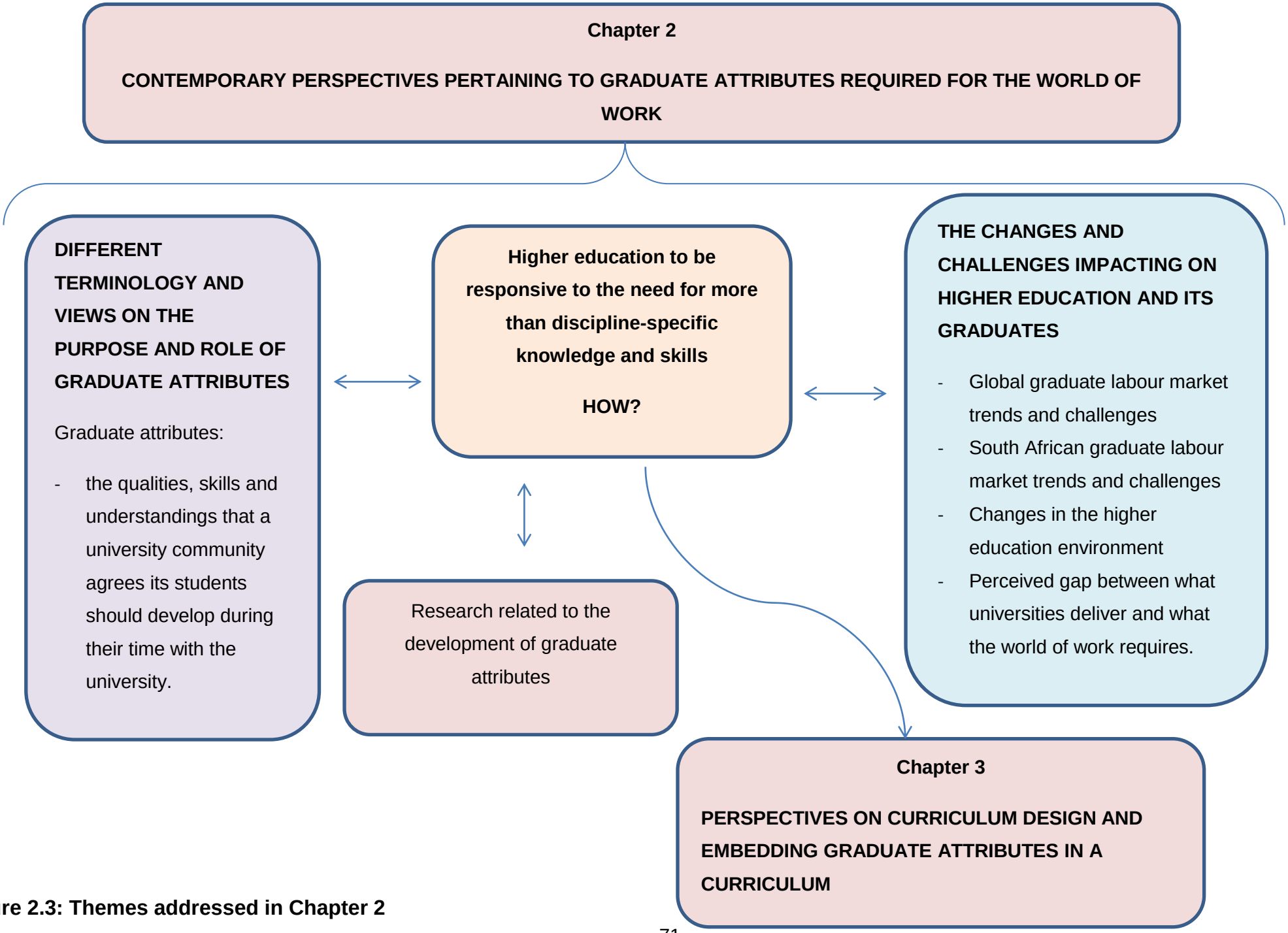


Figure 2.3: Themes addressed in Chapter 2

CHAPTER 3

PERSPECTIVES ON CURRICULUM DESIGN AND EMBEDDING GRADUATE ATTRIBUTES IN A CURRICULUM

In Chapter 2 the contemporary perspectives pertaining to graduate attributes required for preparing EMS students for the world of work were taken under scrutiny. That chapter provided an analysis of terminology and concepts, and the interpretation of graduate attributes. Recent research findings, a brief overview of the changing world of work and changes impacting on higher education were discussed. The perceived gap between what higher education delivers and the needs of the world of work was explored. It became evident that it is necessary to pay attention to the development of graduate attributes in both the international and national higher education arena.

3.1 INTRODUCTION

It is important to raise the level of ‘educatedness’ and ‘graduateness’ in the South African society with a view to social and economic development as well as establishing democracy and responsible citizenship. Graduate attributes beyond technical and professional expertise therefore are of major significance. It is now widely recognised and expressed that the rapid and sometimes fundamental change occurring locally and globally makes it essential for higher education curricula to be enhanced to meet contemporary national, regional and global conditions (CHEb 2013:36).

The CHE (2013b:36) explicates that regardless of the root cause of the contemporary goals not being achieved in South Africa, the current higher education curricula do not leave room for the above-mentioned goals to be met. Specific constraints are inherent in the structures of the established undergraduate degree and diploma programmes, particularly in the fundamental parameters of the starting point, related assumptions about prior knowledge, the duration of programmes, as well as the pace and flexibility of progression pathways.

Given the importance of the development of graduate attributes in/during the course of higher education, the purpose of this chapter is to throw light on how curriculum design and mapping models may assist in addressing and embedding graduate attributes in undergraduate curricula. The aim with the discussions in this chapter, therefore, is to address the second research question:

- *How can curriculum design/mapping models assist in addressing and embedding the graduate attributes that have been identified into EMS curricula?*

The purpose of this chapter can be viewed as twofold: Although the chapter seems extensive, it is vital to take into consideration the factors that can impact the embedding of graduate attributes into curricula. The chapter, first, commences with the clarification of relevant concepts and the exploration of influential views and challenges with regard to curriculum and curriculum design (sections 3.2 and 3.3). In the second instance, the focus narrows to embedding graduate attributes in curricula. The themes in this subdivision include the challenges pertaining to embedding graduate attributes, curriculum mapping, and sources of information and support in the embedding and design process (section 3.4). Finally, the chapter concludes with the presentation of possible directives that may aid embedding graduate attributes in undergraduate economic and management sciences curricula (Bachelor's of Commerce degrees) (section 3.5). Chapter 4, which follows subsequently, will be devoted to the teaching, assessment and evidence of graduate attribute development, and its transfer.

Figure 3.1 provides an illustration of the central and interrelated themes discussed in this chapter.

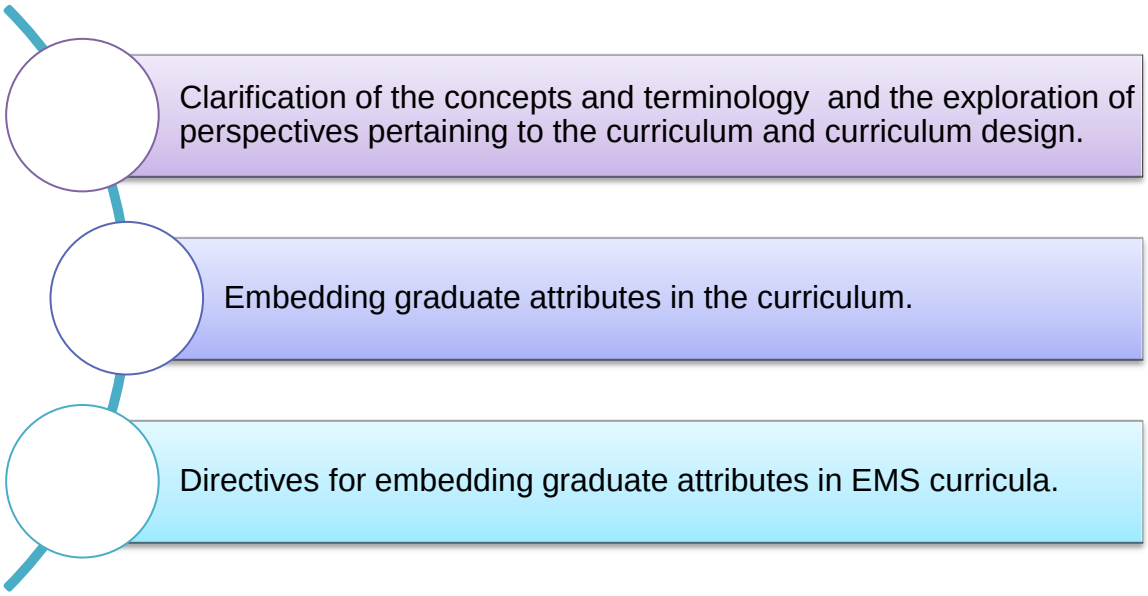


Figure 3.1: Themes addressed in Chapter 3

3.2. CONCEPT CLARIFICATION

Before significant curriculum design perspectives can be explored, it is important to appreciate what the concepts related to the curriculum entail.

3.2.1 The term curriculum

According to Botha (2009:159) curriculum is a complex, multi-dimensional concept and the context in which a curriculum is considered determines which theoretical understandings are appropriate. The context may range from single modules, programmes, institutions and national higher education curricula (evident in official requirements from the South African Qualifications Authority [SAQA], the Higher Education Quality Committee [HEQC], etc.). In the context of this study the higher education curriculum may be described as being the curricula of programmes provided in the higher education sector.

Ross (2005:8) claims that curricula exist over a wide domain, and it may include any socially constructed or prescribed activities, selected in some way from the culture of a specific society, that result in the transformation of the individual. Jansen (2009:126) reiterates this view by arguing that the curriculum is not only the text inscribed in the course content for a particular qualification, but an understanding of

knowledge encoded in the dominant beliefs, values and behaviours that are deeply embedded in institutional life.

In fact, there is no common understanding of what the concept ’curriculum’ entails, and academics at higher education institutions view, interpret and implement curricula within the same field in different ways (Du Toit 2011:59; Latucca and Stark 2009:2-3). Du Toit (2011:59) alludes that although there is a vast amount of opinions as to what the concept of curriculum entails, it is interesting to note that there is little difference between the various definitions. Yet, Latucca and Stark (2009:3) argue that it is important to have a common framework/understanding of the term for productive discussions among staff members in addressing the aspects of curricula.

The word ‘curriculum’ has a Latin origin which is translated as ‘racetrack’, ‘course to be run’ or ‘to be running’ (Pinar 1975 cited in Lovat and Smith 2003:18). A curriculum, therefore, is a description of what is to be learned (Ross 2005:8), or what is to be overcome to reach the goal, as a race course implies hurdles and an effort to finish successfully. This description will contain the WHAT, the HOW and the WHEN of what is to be mastered. Knowledge, skills, attitudes and values are the WHAT that needs to be learned or discovered. It is central to the curriculum and thus needs to be considered during the planning of a curriculum. The skills for contributing to knowledge creation include, among others, problem solving, collaboration and critical thinking. Effective teaching and learning answers the HOW question regarding learning (Du Toit 2011:62).

The aforementioned is in line with the findings of the analysis of global and national views from the higher education arena and the world of work in Chapter 2. The discussion highlights the need for more than discipline-specific knowledge and skills (see 2.5).

Posner (2004:6-12) likewise acknowledges that it is difficult to be clear about what exactly a curriculum is, but provides seven useful concepts of what a curriculum entails. The concept of 'curriculum' in this author's view can be elucidated as the:

- Scope and sequence of intended outcomes, distinguishing between the ends and means of education, guiding instruction and assessment.
- Syllabus, which is a plan for an entire course, including both ends and means.
- Content outline, which is relevant in a context where the purpose of education is to transmit information.
- Standards, which refer mainly to learning outcomes, and processes towards achieving learning outcomes.
- Textbooks, used as guides to both the ends and the means of the curriculum.
- Course of study, referring to a series of courses (modules) that the students must get through.
- Planned experiences, which include all experiences which students have to go through, both curricular and extra-curricular.

Scott (2008:19) identifies four dimensions of a curriculum, namely the aims or objectives, content or subject matter, methods and procedures, as well as evaluation and assessment. Concomitant with other experts' views, this indicates that a curriculum should be an extensive explication of the '(race) course' the student has to complete to be successful.

In order to support this view Latucca and Stark (2009:4-5) may be referred to. They proclaims that if the curriculum is viewed as an academic plan, it encourages the consideration of all the major elements relevant in guiding the students through the course of their studies, instead of paying attention merely to singular aspects such as specific content or specific instructional strategies. In their view the following elements should be considered:

- *Purposes,* which include the knowledge, skills and attributes to be mastered.
- *Content,* which is described as the disciplinary and generic matter selected to convey the knowledge, skills and attitudes.
- *Sequence,* comprising an arrangement of the subject matter and experiences that are intended to lead to specific outcomes for students.

- How the plan will address the needs of a specific group of *students*.
- *Instructional resources,* described as the materials and setting to be used in the teaching and learning process.
- *Evaluation* strategies used to determine whether the decisions about the elements of the academic plan are effective.
- *Adjustments,* which are enhancements to the plan, based on experience and evaluation.

Six co-existing types of curriculum are commonly referred to in the literature. They include:

- The official (planned, and forms part of the formal curriculum) curriculum which is documented and includes the scope and sequence charts, syllabi, guides, standards and lists of objectives or outcomes (Carl 2012:37; Glatthorn, Boschee and Whitehead 2009:186; Posner 2004:12).
- The operational curriculum (forms part of the formal curriculum), which includes what is taught, how it is communicated to students and the outcomes for which students are held accountable. The operational curriculum consists of the taught and tested curricula (e.g. assessments given to students), irrespective of their consistency with the official curriculum (Kelly 2009:12; Glatthorn *et al.* 2009:186; Posner 2004:13).
- The experiential (received curriculum) that is expressed as the curriculum experienced by the students in reality (Kelly 2009:11).
- The hidden (implicit) curriculum that is associated with what is intentionally or unintentionally passed on through the processes of education and do not form part of the outcomes and activities that have been made explicit (e.g. beliefs, norms, perceptions, meanings and feelings) (Doll 1996:15; Posner 2004:13; Ross 2005:8; Lovat and Smith 2003:34-36).
- The null curriculum - that which is not taught, and any consideration why it is not taught. The null curriculum has two major dimensions that include the intellectual process that is included or neglected, and content or subject areas that are present or absent in curricula (Eisner 2002:97-98).

- The extra-curriculum (informal curriculum), which includes planned voluntary experiences outside modules, which are made known (Kelly 2009:12; Posner 2004:13-14).

In summary, it is evident that a curriculum consists of various components that, although described differently, in essence are very similar and are equally important to consider when conducting curriculum design or re-design. In the light of the context of the study (attributes for Economic and Management Sciences graduates entering the world of work: A curriculum perspective) it is also important to understand what curriculum inquiry means.

3.2.2 The curriculum as a field of study and inquiry

Bitzer (2011:33) describes curriculum inquiry as a particular form of educational research that addresses different kinds of educational research questions, including finding solutions to pressing educational problems, the formulation of policies, and the development or redevelopment of programmes or courses. Kelly (2009:23) asserts that curriculum as a field of study is the academic and intellectual exploration of all the factors that need to be taken into account in order to devise an educational curriculum, that is, a course of study.

Bitzer (2011:13) further explicates that higher education curriculum inquiry is not always performed by educational experts, but are mostly attempted by educational practitioners who wish to address a particular curriculum issue in their modules and programmes, or solve a particular institutional or systemic problem. A wide range of investigation methods and forms of curriculum inquiry exists, which include action research, biographical studies, case studies, comparative case studies, critical theory research, documentary research, mixed and multi- method research and more. Kelly (2009:24) also argues that curriculum studies as field of study has emerged as a study of education in its own right and should no longer be viewed as only a sub-branch of any other discipline such as psychology, philosophy and sociology.

One of the purposes of curriculum inquiry is to investigate how curricula may serve student learning better. Higher education curriculum researchers are confronted with practical and theoretical questions (body of knowledge and practical activity) in terms

of which selection of knowledge should be represented in higher education, and how knowledge may be constructed, facilitated, mediated and mastered (Bitzer 2011:36; Kelly 2009:24-25).

Bitzer (2011:39) raises the issue of the rapid increase in knowledge production, from which the question of the lifelong learning curriculum and a more holistic view of the influences affecting the learning paths of individuals ensues. Recently, a considerable amount of research has been dedicated to the issues of institutional involvement in workplace learning, work-ready professionals, graduate attributes, international work-integrated learning, community-based student placement, as well as balancing student learning and commercial outcomes in the workplace (see Chapter 2, section 2.3).

With reference to and in the context of this particular study, curriculum inquiry will take place to investigate which graduate attributes are required to prepare EMS students appropriately for the world of work, and how these attributes can be accommodated in undergraduate curriculum design and delivery in the Faculty of EMS at the UFS.

3.2.3 Curriculum development

Curriculum development can be regarded as an overarching term that suggests a continuous process that refers to structure and systematic planning methods from design to evaluation. Curriculum development consists of a number of phases, namely curriculum design, curriculum dissemination, curriculum implementation and curriculum evaluation. The purpose of each phase in reality is development, and thus curriculum development is implicitly integrated (Carl 2012:38). In this particular study, emphasis will be placed on curriculum design as a tool to encourage the development of graduate attributes and, ideally, to promote the preparedness of graduates for the world of work. The curriculum design and evaluation process forms the focal point of this study.

3.2.3.1 Curriculum design

As a component/phase of curriculum development, a working definition of the concept of curriculum design that suits this research study is that it is the dynamic (non-static) interaction between the principles of design, that include situation analysis, formulation of aims, goals and objectives/outcomes, selection of learning content, designing learning experiences, teaching opportunities and strategies, as well as planning for assessment (of student learning) and evaluation (of the curriculum). Curriculum design may relate to the creation of a new curriculum or the adaptation (re-planning, re-design) of an existing curriculum after careful analysis. Curriculum design may take place at macro, meso and micro level (Carl 2012:66-67; Krüger 1980 cited in Geyser 2004:148).

3.2.3.2 Curriculum dissemination

Carl (2012:42) describes curriculum dissemination as the phase of curriculum development during which all those involved in the curriculum are prepared for the intended implementation (this includes the distribution of information and the pre-service and in-service training of those involved in the implementation of the curriculum).

3.2.3.3 Curriculum delivery/implementation

Curriculum implementation is the phase in which the curriculum design is applied in practice (Carl 2012:42).

3.2.3.4 Curriculum evaluation

During the curriculum evaluation phase of curriculum development, it is not only the success and effectiveness of the curriculum that is evaluated, but also the effect of the curriculum on the students. Curriculum evaluation should be a continuous process that takes place during and after each phase of the development process. The process refers to a value determination of the standard and outcomes (broad, subject, or lesson) of the relevant curriculum (Carl 2012:42,142). In view of the afore-mentioned and with the magnifying glass on the particular study, the curriculum review and mapping process discussed in this chapter form part of such a curriculum evaluation process.

3.2.4 Embedding

Oxford Dictionaries (2014:Online) defines the word embed as 'to fix (an object) firmly and deeply in a surrounding mass'. In the context of this particular study the aim is to explore how the development of graduate attributes can be integrated firmly within all the components of the undergraduate EMS curricula. Graduate attributes, however, are not static objects, but 'living' outcomes of the curriculum.

3.2.5 Instructional design

Gustafson and Branch (2002:17) defines instructional design as a creative, iterative and active process that comprises a system for developing education and training programmes in a consistent and reliable fashion.

Instructional design is the systematic process by which instructional materials are designed, developed, and delivered. The terms instructional design, instructional technology, educational technology, and instructional systems design are often used interchangeably (Instructional Design Central 2012). The concept forms part of the bigger curriculum development process and receives more attention in Chapter 4.

3.2.6 Curriculum mapping

In this study the mapping of graduate attributes receives particular attention. Curriculum mapping is described as the process of recording the content and skills that are actually taught, and match those with what is supposed to be, or perceived to be taught and assessed (Udelhofen 2005:xviii). Madiba (2011:376) describes curriculum mapping as a practice that involves the recording of decisions that are taken in the process of curriculum design and delivery, as well as the monitoring and evaluation of these decisions by the relevant stakeholders. Curriculum mapping can also be viewed as a tool for curriculum inquiry (Madiba 2011:383).

Udelhofen (2005:xviii-xix, 3-4) further proclaims that curriculum mapping is both a concept and a system through which on-going reflection and continuous improvement of curricula in an institution can be enabled and supported. Curriculum mapping supports the collaborative inquiry process by encouraging professional conversations and joint responsibility with regard to the curriculum, instruction, and

assessment. The latter seems to correlate with the process of curriculum review and design.

Curriculum mapping also is viewed a process by which relevant role-players (such as teaching staff, coordinators and educational developers) document the curriculum associated with programmes and modules. This process reaches from the exit-level outcomes that appear in programme description documents to content, teaching plans, assessment plans, and the resources utilised (Madiba 2011:375).

In this chapter, the possible value of curriculum mapping will be explored as an instrument for the purposeful embedding of graduate attributes in undergraduate curricula.

3.2.7 The term ‘programme’

The South African Council on Higher Education (CHE) explains the term ‘programme’ as a set of purposeful and structured learning experiences that leads to a qualification. Programmes may be discipline-based, professional, career-focused, trans-, inter- or multi-disciplinary in nature. A programme has recognised entry and exit points [CHE 2013a:12]. With reference to an outcomes-based system, a programme is designed to enable students to achieve pre-specified exit-level outcomes. It is the purpose of the programme which gives rise to its learning outcomes and structure; however, it is important to note that students do not merely gain knowledge; instead, such knowledge has to be integrated with skills (RSA DoE 2002:31).

Undergraduate and post-graduate diploma and degree programmes should have a an interdisciplinary focus, be coherent in nature, be purpose-driven, prepare the student for employment, make movement between programmes possible, and facilitate an integrative adding-on of skills and values to the knowledge base (UFS n.d.01; RSA DoE 2002).

The clarification of the term ‘programme’ is important as some universities (specifically international universities) refer to programmes as courses and to modules (subjects) as units.

3.2.8 Learning outcomes at different levels

According to the South African Qualifications Authority (SAQA), outcomes are the contextually demonstrated end-products of the learning process (SAQA 2001:70). The section below distinguishes between the terminologies related to learning outcomes.

3.2.8.1 Intended learning outcomes

Biggs and Tang (2011:113-120) make use of the term ‘intended learning outcomes’ as statements made about what and how students are required to learn. Intended learning outcomes are stated at three levels, namely institutional, programme, and module level. Institutional outcomes are referred to as graduate attributes or graduate outcomes, and should be taken into account in the formulation of programme and module outcomes. These different levels of outcomes must be aligned.

Biggs and Tang (2011:113-120) explain that at institutional level graduate attribute outcomes or statements tells us what the graduates of the university are expected to know and do, while at programme level the intended outcomes refer to what graduates of a particular programme should know and be able to do. Likewise, outcomes statements at module level (often referred to as course outcomes) refer to what students should know and be able to do on completion of a particular module.

3.2.8.2 Exit-level and critical cross-field outcomes

The South African Qualifications Authority in South Africa is a juristic body that oversees the implementation and development of the National Qualifications Framework (NQF) (and the applicable, particular level-descriptors – see Chapter 2 for definition) of the country, and provides various instructions for degree programmes. In doing so SAQA makes use of the terms ‘exit-level’ and ‘critical cross-field’ outcomes.

Exit-level outcomes are defined as outcomes that indicate what the student will be able to do and know as a result of completing a specific qualification (SAQA 2005:8). Exit-level outcomes have a bearing on the successful completion of the academic career of a student; therefore outcomes to have been attained before a programme

can be exited and a qualification awarded. Those students in more advanced outcomes-based programmes are expected to demonstrate substantial high-quality learning as a result of their educational experience (Spady 1994:18). Exit-level outcomes correlate with the intended programme-level outcomes as described by Biggs and Tang (2011).

SAQA (2000:18) describes critical cross-field outcomes as the qualities which have been identified in the National Qualification Framework for the generic development in students within the education and training system, regardless of the specific area or content of learning, that is, those outcomes that are deemed critical for the development of the capacity for life-long learning (including problem solving, teamwork, communication, etc.). The critical cross-field outcomes are closely related to graduate outcomes/attributes at institutional level.

3.2.9 Learners and students

In the context of this study and especially pertaining to curriculum perspectives the word ‘students’ is used. It is, however, important take note that in many of the original curriculum texts the word ‘learner’ is used because the focus and views were aimed at curricula in schools. This study and the views presented here have implications for higher education curricula and thus the researcher opted to use the word ‘students’ throughout.

3.2.10 Lecturers and university teachers

In the context of this study and especially pertaining to curriculum perspectives the word ‘teacher’ is used and refers to the university teacher. It is again, however, important take note that in many of the original curriculum texts the word ‘teacher’ is used because the focus and views were aimed at curricula in schools. This study and the views presented here have implications for higher education curricula and thus the researcher opted to use the word ‘teacher’ that refers specifically to the *university teacher* throughout.

3.3 CURRICULUM PERSPECTIVES

Ornstein and Hunkins (2009:13) justly state that “Curriculum knowledge is widely scattered and either unknown or unread by those who teach or practise curriculum.” The commonly accepted curriculum foundations are philosophical, historical, psychological, and social. Cultural, political, and economic foundations may be integrated within or apart from the social foundations. It is very difficult to analyse all these areas and views in depth. It is further argued that the lack of unity in the fields likewise suggests flexibility and richness.

The discussion regarding the influential curriculum perspectives will commence with a short introduction to the distinctive types of views pertaining to the curriculum. The characteristics of these views become evident in the discussions of the different kinds of curricula proposed by influential curriculum theorists. A brief discussion with regard to the types of curriculum design, the design process, the role of constructive alignment, and technology follows the different views. Finally the discussion concludes with curriculum challenges in South Africa and the possible implications for embedding graduate attributes in undergraduate curricula. The format and themes of the discussion are depicted in Figure 3.2.

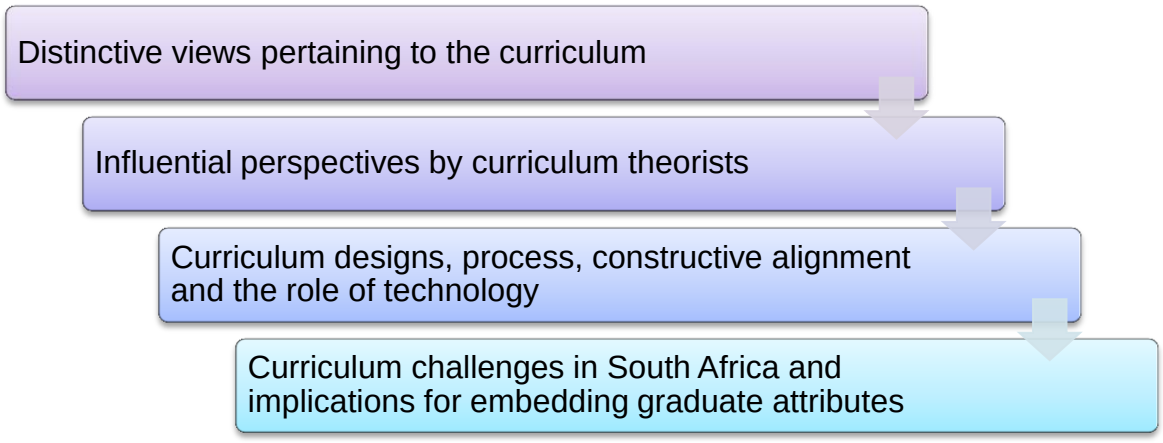


Figure 3.2: Themes addressed with regard to curriculum perspectives

3.3.1 Distinctive views pertaining to the curriculum

Bitzer (2011:50) states that the informed use of educational perspectives are useful in testing and contesting curriculum practices. The discussion below will focus on these views.

3.3.1.1 Traditionalist and progressivist views

Du Toit (2011:65) explains that a distinction can be drawn between the views of educationists, namely the traditionalist and 'progressivist' views. These opinions may not be restricted (one or the other approach), but can accommodate both traditionalist and progressivist viewpoints.

Traditionalists view curricula as plans and place emphasis on those procedures needed for such plans. From this perspective, rationality and logic are important in the curriculum planning and development process. Educational practice is viewed as a scientific approach rather than an art where goals, content, and instructional experiences can be pre-planned and teachers can be trained to present the curricula efficiently (Ornstein and Hunkins 1998:184). Doll (1996:39) remarks that traditionalists view subject matter as important in itself and that it mainly should be taught for later use. People are viewed as essentially the same and should basically have the same curriculum. The world should be accepted as it is and conformed to.

On the other hand, progressivists place emphasis on *how* to think instead of *what* to think. The curriculum is viewed as interdisciplinary in nature and content/subject matter should form part of the learning process, rather than be sources of ultimate knowledge. The teacher serves as a guide in the learning process (Ornstein and Hunkins 1998:44-45; 2009:46-47). Here the subject matter serves as a medium for teaching skills, intellectual processes, attitudes and appreciations. It is acknowledged that individuals differ markedly from each other and therefore require differentiated curricula. The world is viewed critically and is subject to change (Doll 1996:39).

3.3.1.2 The orientation toward product and process

Kelly (2009) distinguishes between three broad perspectives of curriculum. According to the first perspective, curriculum is viewed as content, in the second perspective curriculum is viewed as product, and thirdly, curriculum is seen as process. In the perspective where curriculum is viewed as content, education and training are regarded mainly as the transmission of information; the content is fixed and static, and the teacher transmits knowledge to students who are passive receivers of information. The content is decided upon first and then education is considered - the inherent value thus lies in the knowledge itself and not in the manner in which it is approached and viewed by the student (Kelly 2009:56-58).

Kelly (2009:64-65) further explains that when curriculum is viewed as product, it refers to education and training aimed at achieving a final product (communicated as intended standards, outcomes, aims and objectives). The related policy documentation disregards the conceptual distinction between education and training and instruction, or teaching is essentially omitted. Obtaining a qualification is often viewed as a final product of the curriculum (Geyser 2004:147). It seems that if the focus mainly is on the result and achievement of objectives, and the teaching and learning process as well as the development of the student as a whole, does not receive adequate attention, these views may result in surface learning (surface learning is discussed fully in Chapter 4).

From the descriptions above, it is evident that curriculum viewed as *content and product* correlates to a large extent with traditionalist views.

The process view of curriculum regards education as a process that promotes not only the development of the individual, but the evolution of knowledge and human society as well (Kelly 2009:93,98).

The characteristic of the curriculum viewed as process (and development) (Kelly 2009:99-113) is concisely interpreted and summarised along with Geyser's (2004:147) interpretation of the respective viewpoints below:

- The curriculum may be broken down into aim and objectives, but the objectives should also be translated into procedural principles in curriculum development practices.
- Students become actively involved in the construction of their own knowledge and assessment is regarded as an integral part of learning.
- Individual autonomy in educational practice is promoted where the individual needs to develop those capabilities that will enable them to make the personal decisions and judgement that autonomous living requires. Deep learning must occur which enables students to apply their knowledge and skills in new and different contexts.
- Although content is selected, the content must be presented in a manner that promotes critical thinking and reflection. Content becomes dynamic and is not static.
- Teachers are freed from having to follow step-by-step predetermined routes to achieving results. A dynamic, complex interaction between the teacher and the taught exists and teachers need to have adequate levels of competence.
- The curriculum becomes student-centred in which the focal point is the students' needs, interests and growth.
- The curriculum should be dynamic and adaptable to changing conditions and needs.

Curriculum viewed as process and development correlates to a large extent with the progressivist views. Again, in practice these views regarding the curriculum are not static or restricted and may include valuable elements of content, product and process perspectives.

Figure 3.3 illustrates the different educational views, but emphasises that a black-and-white distinction between these views cannot be made in reality. The figure demonstrates that both 'groups of viewpoints' have potential value for curriculum design.

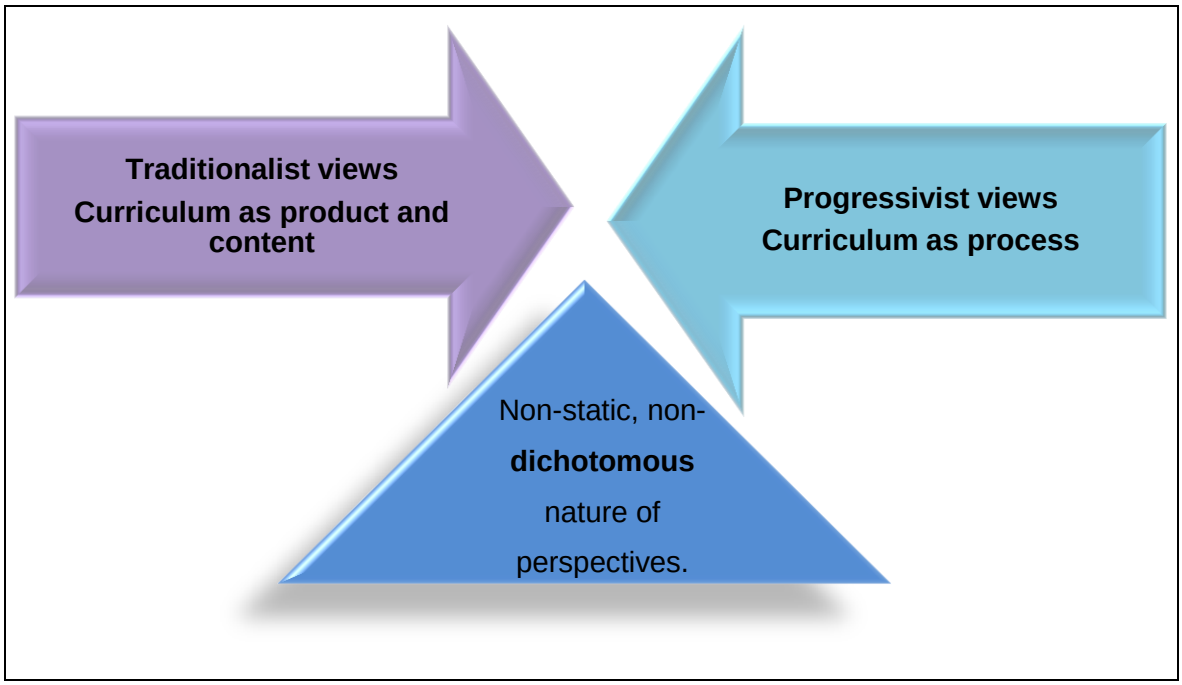


Figure 3.3: The dynamic nature of curriculum perspectives

3.3.2 Influential perspectives by curriculum theorists

It is important in this discussion to take cognisance of influential viewpoints regarding curriculum and the perspectives from influential curriculum theorists.

3.3.2.1 Theoretical perspectives on curriculum

Posner (2004:45-64) identifies five theoretical perspectives on curriculum. These perspectives provide information on how views differ in terms of how learning occurs, what objectives are important, the kinds of content to be explored (and the organisation thereof), the evaluation of educational progress, and the relationship between institutions and society at large.

The five perspectives are the traditional, experiential, the structure of disciplines, behavioural and constructivist perspectives:

- The traditional perspective involves the view that the purpose of education is the transmission of the cultural heritage of a dominant culture although the curriculum objectives may attempt to accommodate other cultures to achieve 'cultural literacy' for the modern world (in line with curriculum viewed as product). This

may raise questions about the experiences of those students not born in the dominant culture. Dewey criticised this perspective by stating that its primary objective of education was the passive transmission of information from one generation to the next. Further critique acknowledges that although the concept of the core curriculum or 'common substance' is a valuable component of this view, there also should be acknowledgment of the importance of the development of skills. Influential traditional perspectives include, amongst others, the work of Harris, Hirch and Bennett (Posner 2004:45-48; Ornstein and Hunkins 2009:84).

- Experientialism is based on the view that reality is not external to the individual. Reality is viewed as the composite of both the individual's internal reaction and external reactions to reality. Dewey, the father of experientialism, promoted curricula that contribute to the healthy growth, academic and intellectual development as well as vocational and social development of the individual. The central idea thus is the balanced development of the individual. The curriculum is subject to constant adaptation to foster the development of each student's experiences; in turn supporting high quality, student-centred educational experiences. Moreover, this view promotes the development of skills such as independence and problem-solving. Influential perspectives with regard to experientialism include, amongst others, the work of Dewey, Parker, Herbart, Froebel and Rousseau (Kridel 2010:Online; Posner 2004:48-53). This theoretical approach seems to be in line with the process approach and view of curricula discussed above.

- Structure of disciplines: The structure of disciplines perspective turned the focus of the curriculum back to that of subject matter, the disciplines of knowledge and the way in which scholars understand the discipline structure. The structure of disciplines aims to explain the fundamental ideas about a specific subject or several subjects in a discipline; there is a focus on students' participation in scientific inquiry and the dominant, informative role of university scientists. According to the structure of disciplines perspective, the purpose of education is to develop the human intellect and knowledge based on the central ideas related

to a specific academic area. Influential perspectives with regard to the structure of disciplines include, amongst others, Zacharias and Bruner (Posner 2004:53-58).

- Behavioural: According to those following the behavioural perspective, the focus should not be on content, but on what students should be able to do (the behaviour they learn as a result of the instruction). The educators need to take into consideration the conditions of learning as they plan for instruction. Behaviourist views favour the organised curriculum (planned instructional steps), so that students can master the subject matter, and the reinforcement of desired behaviour plays a central role. These perspectives have been criticised for being too rigid and relying too heavily on the conditioning of behaviour. Influential behavioural perspectives include, amongst others, the work of Skinner, Thorndike, Bobbitt, Charters, Tyler, Taba and Bloom (Posner 2004:58-60; Ornstein and Hunkins 2009:89-90, 109). The above-mentioned, if applied rigidly without flexibility, appears to correlate with product-orientated views of the curriculum.

- Constructivist: The constructivist perspective is based on the view that thinking and reasoning are internal processes and that curricula need to allow students to construct their own knowledge, based on what they already know. Students should be able to apply their knowledge to purposeful activities (in different contexts) that require decision-making, problem-solving, judgments and reflection. This perspective reasons that the mind integrates new ideas into existing structures and accommodates new ideas by reorganising the existing structures. The constructivist perspective differs from the behavioural perspective in the sense that the focus is not mainly on what the teacher can do to elicit response, but rather on the student becoming a key, active participant in generating meaning and understanding, resulting in metacognition (Lovat and Smith 2003:129; Posner 2004:61-63; Ornstein and Hunkins 2009:129).

  In addition to the afore-mentioned, a distinction is made between cognitive and social constructivism. Cognitive constructivism came directly from Piaget's work according to which the theory is based on individual cognitive development; ideas

are constructed in individuals through a personal process. Schemas are constructed through the process of assimilation and accommodation of information, and each individual learns at his or her own pace. Teachers should determine with what students experience difficulty and act accordingly (Powell and Kalina 2009:241-249).

The theory of social constructivism was founded by Vygotsky, who believed that social interaction is an integral part of learning, and therefore classroom environments need to be created to promote interaction between the teacher and students, as well as among students and their peers. Vygotsky further supported scaffolding of the students that assumes that students learn more effectively when they have others to support them, hence, cooperative learning promotes deeper understanding. Teachers should construct learning activities that promote dialogue about the content and promote critical thinking and internalisation of what has been learnt. Social constructivism emphasises the recognition and accommodation of student diversity. It is argued that language precedes knowledge or thinking (Powell and Kalina 2009:241-249). Influential constructivist perspectives include, amongst others, the work of Piaget, Ausubel, Anderson, Vygotsky and Dewey (Posner 2004:61-63; Ornstein and Hunkins 2009:129).

Constructivist perspectives are in line with process-orientated views of the curriculum in that the intrinsic process and values are taken into account, the content is used to facilitate the accomplishment of outcomes in a flexible and adaptable fashion.

The elements of the perspectives described above become evident in the views of the curriculum theorists discussed concisely in 3.3.2.2.

3.3.2.2 Influential curriculum perspectives regarding purpose and content

According to Du Toit (2011:65) a number of curriculum theorists were instrumental in designing models that paved the way for curriculum practitioners and researchers. Higher education institutions have used these models or variations thereof in their curriculum planning and design.

For the purpose of this research, it is important to explore these influential perspectives in order to determine the position of graduate attributes in curricula and how these attributes can be addressed and embedded through curriculum review, design or re-design.

The discussion below provides interpretations of the assumptions, viewpoints and orientations as well as the relevant steps/questions (where applicable) raised by the respective theorists.

a) John Franklin Bobbitt

Bobbit views the goal of education to be to cultivate citizens to enable them to make a living. The focus falls on the development of the student's intellectual capacity and students should be prepared to be productive in civil life, enabling the student to work effectively with others in everyday life (Bobbit 1924; Du Toit 2011:65-66; Ornstein and Hunkins 2009:89-90).

The steps involved in the curriculum development process by Bobbit (1924) are interpreted Du Toit (2011:65-66) and Ornstein and Hunkins (2009:89-90) as follows:

- The daily activities of an efficient adult are studied to determine what is needed to be competent in that specific work environment (e.g. knowledge and skills).
- The information collected is prioritised into objectives.
- Students are selected (by means of observation, tests, etc.), based on ability and interest.
- The curriculum is then tailored for each set of students to train them for their roles in adult life.
- The students are studied once they have entered adult life to determine whether the curriculum equipped them adequately for the activities that they need to complete on a daily basis.

- It indicates a scientific method where curriculum design takes place from top down and with hardly any input from the student.

Bobbit's approach correlates with the traditionalist perspective.

b) Ralph Tyler

The Tylerian perspective proclaims that the curriculum comprises five widely agreed upon dimensions, namely a framework of assumptions about the student and society; aims and objectives; content together with its selection, scope and sequence; modes of transaction, and evaluation (Du Toit 2011:67-68; Tyler 1973; Ornstein and Hunkins 2009:214).

This approach entails a logical, linear model (taking a deductive approach), classified as the aims-objective model that is product driven (where the end is decided prior to the means to reach it), and particular attention is paid to behavioural objectives. Furthermore there are essential standards against which the success of the programme may be measured and evaluation forms an integral part of teaching and learning. The evaluation of the accomplishment of objectives, for example, may include student success and progression rates (Du Toit 2011:67-68; Tyler 1973:123; Ornstein and Hunkins 2009:214).

Tyler's ideas are rooted in progressivism (emphasis on needs of the student), scientific procedures (principles are applied in varying situations) and behaviourism, where the objectives are the most important consideration. The model is often criticized of being overly simplistic, having a lock-step approach. The model, however, was intended to serve as a starting point for curriculum scholars and does comply well with this original intention (Du Toit 2011:67-68; Tyler 1973:1-123; Ornstein and Hunkins 2009:214).

Tyler's approach focuses on four questions (Tyler 1973:1):

- What educational purposes should the school seek to attain?
- What educational experiences can be offered that are likely to attain the purposes?
- How can the educational experiences be effectively organised?
- How can the attainment of educational experiences be determined?

- The aims and objectives are initially informed by sources such as students, contemporary society and subject specialists.

In Tyler's' model, 'purposes' refer to general objectives. Tyler's view can be classified to contain elements of both progressivist and of traditionalist views. Tyler (1973:46) states that the most useful form for stating objectives is to express them in terms which identify both the kind of behaviour to be developed in the student and the area of life in which the behaviour will operate. The latter model may have significant value for embedding graduate attributes in undergraduate curricula.

c) Hilda Taba

Taba's model is viewed as an expansion of Tyler's model and is known as the grass-roots approach. A bottom-up approach is followed by working inductively with teachers in the design of the curriculum – curriculum design is not done only by curriculum developers/experts. It is envisaged that the curriculum will support students to become critical thinkers and the objectives therefore do not only address in-depth content, but also skills and attitudes. The focus is on multicultural education and the cross-discipline design of the curriculum. Action research and evaluation (qualitative and quantitative measurement) during the educational process is highly valued. Again, curriculum design is conducted mainly by experts and teachers and the student is not directly involved in the process (Carl 2012:73-74, 210; Du Toit 2011:68-69; Ornstein and Hunkins 2009:214-216; Taba 1962:47-65, 244-328).

The grassroots model, as described by Ornstein and Hunkins (2009:214-216), consists of the following inductive steps:

- Diagnosis of needs (the curriculum designer identifies the needs of the students)
- Formulation of objectives
- Selection of content
- Organisation of content
- Selection of learning experiences
- Organisation of learning activities
- Evaluation and means of evaluation

Taba's perspectives also may be viewed to contain facets of traditionalist viewpoints with a shift towards the progressivist.

d) John Dewey

Dewey (1939) is viewed as the leader in progressivism in education, specifically the progressive curriculum. It is part of the pragmatist movement where absolutism with regard to knowledge is rejected, rather, knowledge is subject to change, modification and evolution and learning is viewed as a lifelong process. Dewey emphasised the importance of the role of education in contributing towards a democratic society. The experiential approach (one learns by doing) to curriculum development is supported. The curriculum must be experiential and inquiry-orientated where students are actively involved by continuously investigating and constructing meaning to understand their world better. However, Dewey (1939) points out that educational experiences should be meaningful and serve the students' growth and development (Dewey 1939:48-52; Du Toit 2011:69-70; Kelly 2009:35; 109-110, 241, 269; Ornstein and Hunkins 2009:192, 198-199). The latter model is also in line with curriculum viewed as process and development discussed in section 3.3.2.1.

The curriculum also is viewed as holistic and trans-disciplinary where social and cognitive learning is valued with emphasis placed on student participation in the process of curriculum design. Dewey was concerned about the transmission of second-hand knowledge to the student and felt that the curriculum should focus on content (subject matter), as well as the student and the students' previous experiences. Dewey's views are described as student-centred, that is, the teacher creates opportunities for students to grow and develop (Dewey 1952:40-44; Du Toit 2011:69-70; Kelly 2009:108-109; Ornstein and Hunkins 2009:192, 199).

e) Lawrence Stenhouse

Stenhouse proposed a process model and viewed the curriculum as 'a means to an end.' The curriculum is regarded as a system in which educational aims are realised, and includes contents, methods, and learning experiences. The knowledge underpinned in disciplines should be developed by means of inquiry-based learning that should drive curriculum development. The student should not be the passive receiver of knowledge, but learn to think in the discipline by constructing meaning as

he/she interprets the text (actively involved). Meaning thus exists in the process of interpretation and not in the object of knowledge. The latter seems to correlate with the assumptions of John Dewey (Carl 2012:28; Du Toit 2011:71; Kelly 2009:93; Lovat and Smith 2003:129-132; Stenhouse 1980:250).

The teacher is viewed as an extended professional that values self-development as both professional and teacher. The teacher thus should continuingly reflect on his/her own practice. Further, Stenhouse (1980) supports the notion of curriculum research and the teacher as the researcher to determine the intended and unintended outcomes of the curriculum. The process-based curriculum concerns understanding and not grading or assessment as product; rather the inclusion of integrated assessment is proposed. Stenhouse highlights the importance of the interdependence of learning, setting of standards and authentic assessment. Stenhouse's views correspond well with the progressivist orientation (Du Toit 2011:71; Kelly 2009:17; 94, 113, 138-139; Lovat and Smith 2003:129-132; Stenhouse 1980:245).

This viewpoint has considerable value for graduate attribute development with regard to integrated authentic assessment where the assessment of students is relevant to the 'real word' in which the students will be employed. In addition, the emphasis on curriculum research, evaluation and reflective practice may aid the curriculum review processes with reference to the development, acquisition and transfer of graduate attributes.

f) Paulo Freire

Freire criticised traditional scientific views and described the role of the teacher to be one that regulates the way the student should conceive the world. Those with more specialised knowledge therefore decide on behalf of those with less specialised knowledge. This progressive, emancipatory approach proposed the need for the educator and students to critique and reflect on their own critical consciousness. Reality thus is viewed as a process and not a rigid given (Du Toit 2011:72; Ornstein and Hunkins 2009:200).

Students and teachers are co-investigators by means of dialogue through methods such as problem posing, and the dialogue manifests through reflection and action.

Students are involved in the formulation of the themes to be used in the curriculum as opposed to traditionalist approaches, for example, those of Bobbit and Taba (Du Toit 2011:72; Ornstein and Hunkins 2009:200).

In his book, *The Politics of Education: Culture Power and Liberation,* Freire (1985) explains that when readers do not critically engage with the content, it leads to mere memorisation of facts. He acknowledges that although students are challenged by the process of engaging with the content, a deeper understanding is important (and he provides specific criteria for the act of study). Freire states that "To study is not to consume ideas, but to create and recreate them" (Freire 1985:1-4).

Curriculum planning thus follows a bottom-up approach and there is no end product such as a learning outcome that a student must demonstrate; rather a critical reflection and action upon reality. This view forms part of the radical (romantic) education movements and designs, according to which standard curricula are viewed as imperialistic and oppressive. These curricula address social and economic inequality and injustice, and foster respect for diversity (Du Toit 2011:72; Kelly 2009:54; Ornstein and Hunkins 2009:200).

Awareness of the attributes of the aforementioned perspective may be valuable for graduate attribute development in the South African democratic context and promote critical thinking and reflection among students. It also seems that Freire recognises the difficulties experienced by students in the learning process, which also manifests in South African higher education.

Comments and deliberations with regard to curriculum perspectives

Based on the brief exploration of curriculum perspectives above, the following deductions are made:

a) The perspectives discussed above show examples of the progression from mainly traditionalist (and mainly content- and product-orientated) to progressivist (and largely process-orientated) views. The respective curriculum perspectives manifest in the various models of curriculum design discussed in section 3.3.3.
b) Interestingly, many of the perspectives discussed above do not overtly reject objectives in curricula, but *how* they are addressed and the practices utilised. Many of the contemporary models for curriculum design reflect the components (objectives, learning experiences, and evaluation) and the questions that form part of Tyler's model. However, the components of curriculum dissemination and implementation (as described by Carl 2012) are not explicitly included in Tyler's model, but appear in adapted models (van Tonder 2000:71).
c) In agreement with comments from Kelly (2009:78, 80, 89-90), although the so-called objective-driven models are criticised for being too linear, the objectives provide direction and a system for instruction. Kelly argues that although objective-driven models appear to be value-neutral (and thus provide some degree of objectivity), they often lead to practices that communicate certain ideologies and practice (although not overtly stated). Although objectives give direction, the intrinsic values and learning pace and process of student learning may differ significantly and it is imperative that those involved in the implementation of the curriculum be able to adapt the learning experiences and strategies where needed. This points toward 'how' the learning as a *process* is facilitated (discussed in more detail in Chapter 4).
d) Another advantage of objectives and outcomes approaches lies in the fact that intended outcomes can be communicated in official policy and professional association/body documentation of a specific country. The latter may aid the justification of higher education funding. In South Africa graduate attribute outcomes are also communicated through critical cross-field and developmental outcomes in respective policy and guiding documentation. How these outcomes are developed, taught and assessed is of cardinal importance for the outcomes to be truly achieved. Conceptual confusion may also occur with regard to the terms

curriculum aims, goals, objectives and outcomes that are used interchangeably in the literature.

e) The views presented by Vygotsky, Dewey and Stenhouse are evident in the teaching practices encouraged in the South African and international context, and many of the principles for good teaching and learning practice are associated with the theoretical views discussed above.

f) Progressive, process-orientated perspectives encourage the development of the student as a whole and require the teacher to be a skilled practitioner. Further, social and cultural development of the student becomes important with specific reference to the understanding of social justice/democracy matters (Kelly 2009: 91, 112-113). The latter development has significant value in terms of graduate attribute development and acquisition.

g) Process views are value driven (Kelly 2009:90-91), as ideological stances and awareness are made explicit. Continuous reflection and evaluation, as well as a proactive search for solutions form part of the fundamental principles of process-orientated views.

In summary, with the context of this study in mind, Yorke and Knight's (2006:6) opinion that good curriculum design will continue to help students to construct understandings of the subject matter and maintain the more recent interest in developing a number of skilful practices, is applicable. Curriculum designs should also show consideration for the development of positive efficacy beliefs, metacognition and other complex achievements that employers value. Du Toit (2011:75) warns against the danger in the absolutism of views that could lead to indoctrination instead of education. The latter holds implications for embedding and the development of graduate attribute outcomes into the curriculum and is discussed in more depth in section 3.4. Du Toit (2011:72) provides a useful continuum that depicts the essence of the contributions of the curriculum theorists discussed above. It is, however, important to view the continuum along with the comments from the researcher and applicable deliberations reported on from the literature. This continuum is illustrated in Figure 3.4.

	Bobbitt	Tyler	Taba	Dewey	Stenhouse	Freire	
Top-down							Bottom-up
Functionalism							Progressivism
Teacher-centred							Learner-centred
Product							Process
Scientific							Emancipatory
Concrete							Abstract
Cognitive learning							Cognitive and social learning
Educate for the future							Educate for now

Figure 3.4: Continuum of curriculum theorists' contributions to curriculum design

Source: Du Toit (2011:70)

Contribution to the study

The various curriculum perspectives discussed in this section have both educational strengths and weaknesses; nevertheless they all have value. Kelly (2009:29) justly states that it is important to "sort through the ideas, theories and insights to identify, and if possible, resolve logical and conceptual mismatches and its resultant practical incoherence and confusion."

It further seems that there is worth in adopting holistic perspectives, whereby students actively engage with structured content related to the discipline, build knowledge and in turn attain skills that can be applied in different contexts. The end result of the latter should ideally result in graduates that possess the attributes to make a positive contribution to the social, economic and political environment.

The next section will explore some useful models for curriculum design.

3.3.3 Perspectives on curriculum design

There are voluminous models for curriculum design offered in the literature. The models discussed below were selected based on the premise that they may suitably inform and guide the embedding (as well as mapping and review) of graduate attributes in curricula, and may aid the process of establishing directives for the latter. There are several commonalities between the mapping of graduate attributes (see section 3.4.2) and the processes of curriculum design discussed below.

3.3.3.1 Three basic curriculum designs

According to Ornstein and Hunkins (2009:191), the components of the curriculum can be organised and integrated in a variety of ways. However, most curriculum designs are modifications of and/or interpretations of three basic designs. These designs are described as subject-centred, student-centred and problem-centred designs. An overview of these designs is provided in Table 3.1-3.3:

Table 3.1: Subject-centred designs

Subject-centred designs Knowledge and content are accepted as integral part of the curriculum.	
Design	**Description**
Subject	The curriculum is designed according to how essential knowledge has developed in various subject areas. The design rests on the assumption that subjects are best outlined in textbooks and the teacher assumes the active role of lecturing, using recitation and large group discussion. Discussions are taken from simple to complex ideas. Logic is emphasised.
Discipline	A discipline includes specific knowledge with a specific community of persons, a domain, tradition, mode of inquiry, conceptual structure, specialised language, heritage of literature, etc. The methods by which scholars study the content of their fields suggest the ways in which they will learn the content.
Broad fields	The separate subject does not exist any longer. Content that fits together is logically integrated (referred to as the holistic curriculum). The design draws on emergent clusters of problems and questions that engage students in constructing and reconstructing information. The broad fields design, however, seems to partially relate to the

	learner/student-centred approach where students share in the responsibility of the learning process, as well as the selection of content, teaching, learning and assessment activity that aid the individual progression of the student (see learner/student-centred designs below).
Correlation	The design finds a midway between separate subjects and total content integration designs and attempts to find a way in which content is related, but subjects maintain their distinct identities.
Process	The design stresses the learning of subject-specific and general procedures applicable to all disciplines, such as critical thinking. Students learn through knowledge acquisition as well as the construction of frameworks by which derived knowledge is organised. Process designs may be the most dynamic in future and quite likely fuse with designs that are viewed as student-centred.

Source: Compiled from Ornstein and Hunkins (2009:191-196)

Table 3.2: Learner/Student-centred designs

Learner/Student-centred designs Students are the focus of the programme.	
Design	**Description**
Child/ Student-centred	Students must be active in their learning environments and learning should not be separated from the students' lives. Learning should be based on the students' interests and needs that should be carefully considered and have educational value. Students learn by doing.
Experience-centred	The design closely resembles student-centred designs, but argues that a curriculum framework cannot be planned for all students. Students thus are not curriculum makers. However, students' experience and interests should be studied and reflected upon to inform curriculum design. The teacher's task is to create a stimulating learning environment in which students can explore and come into contact with knowledge, and observe others' learning and actions. Learning is a social activity.
Romantic/ radical design	Radical curricularists believe that curricula have been used to control students and indoctrinate them, rather than educate and emancipate. Individuals therefore must learn ways of engaging in a critique of knowledge. Learning is a reflective process, not externally imposed, and knowledge does not reside in a module plan or syllabus. Curricula with a radical design

	address social and economic inequality and injustice, and foster respect for diversity.
Humanistic	The design promotes the concept of confluent education that encourages participation, power sharing and joint responsibility. The focus is on the whole person and the integration of thinking, feeling and acting. Curricular content should elicit emotion and thought. The curriculum design should allow students to make decisions about social good and encourage them to participate in the community.

Source: Compiled from Ornstein and Hunkins (2009:197-202)

Table 3.3: Problem-centred designs

Problem-centred designs	
Problem-centred designs focus on real-life problems of individuals and society and are intended to address unmet needs of community and society, thus they are based on social issues. There is a dual emphasis on the content as well as he students' development.	
Life situations	There are three main assumptions that are fundamental to life-situations design, which are: dealing with persistent life situations is crucial to a society's successful functioning; students will see the relevance of content if it is organised around aspects of community life, and if students study real-life situations, this will directly involve them in the improvement of society. Subject matter and life situations are integrated and students learn to apply problem-solving procedures; curriculum relevance is increased.
Recon-structionist	Curricula should be aimed at reconstructing society which will promote social, political and economic development. The purpose of such a design is to engage students in critical analysis of local, national and international communities to address and encourage industrial and political change. This particular design seems to relate to the romantic and radical design in the sense that societal issues and themes are of significant importance.

Source: Compiled from Ornstein and Hunkins (2009:203-206)

Interestingly, the designs discussed above mirror many of the influential viewpoints from curriculum theorists discussed in section 3.3.2.

3.3.4 The curriculum design process

The CHE (2011:14) proclaims that if the aim of a curriculum is to prepare students for the world of work, those involved with curriculum planning and design should engage with and develop an understanding of the nature and current state of knowledge in the discipline and professional practice, philosophies of education, theories of teaching and learning, educational research findings, the role and forms of assessment and feedback, students' characteristics and learning needs, interests and abilities, the practical, ideological and policy context of the academic department, institution, and higher education system, as well as the profession.

Outcomes-based education and constructivism have been used extensively in educational strategy (and the South African education system) over the past decades. The basic principle underlying the constructivist philosophy is that knowledge is constructed by students based on their experience. This view is supported by influential perspectives from theorists such as Dewey and Stenhouse (Du Toit 2011:73). Killen and Hattingh (2004) point out that outcomes-based education has four basic principles which correspond with the work of Spady (1994), which are:

- The education should provide clarity of focus so that outcomes can be reached by students and teachers in a clear and systematic fashion.
- Curriculum design should begin with the end in mind and requires a clear definition of the significant learning that students are to achieve, and clear alignment of planning, teaching and assessment.
- Teachers should have high expectations of all students (not only a significant few) to achieve the outcomes.
- Teachers in addition must aim to provide expanded learning opportunities for all students. This requires and acknowledges that not all students learn in the same way and at the same speed.

The last statement particularly holds important considerations for curriculum design in the current South African higher education system where many students enter the higher education system underprepared. The discussion below explores some useful (systematic) models for curriculum design that seem to address some of the

responsibilities that rest on the shoulders of those staff members and stakeholders tasked with curriculum design or redesign.

Viewed holistically there are similarities and discernible differences among the models discussed below. The prevalent and significant themes that emerged from the investigation are summarised in section 3.3.7.

3.3.4.1 Diamond's model for curriculum development and design

Robert Diamond has made a very large and valuable contribution to higher education literature with reference to the design of courses and instructional design in higher education (Diamond 2008:xxiii). Diamond's model is designed for use at both module and programme levels. Figure 3.5 illustrates the process by making use of two overarching and interlinked phases. Phase 1 (project selection and design) considers the internal and external environmental factors that have an influence on the second phase (production, implementation, and evaluation for each course).

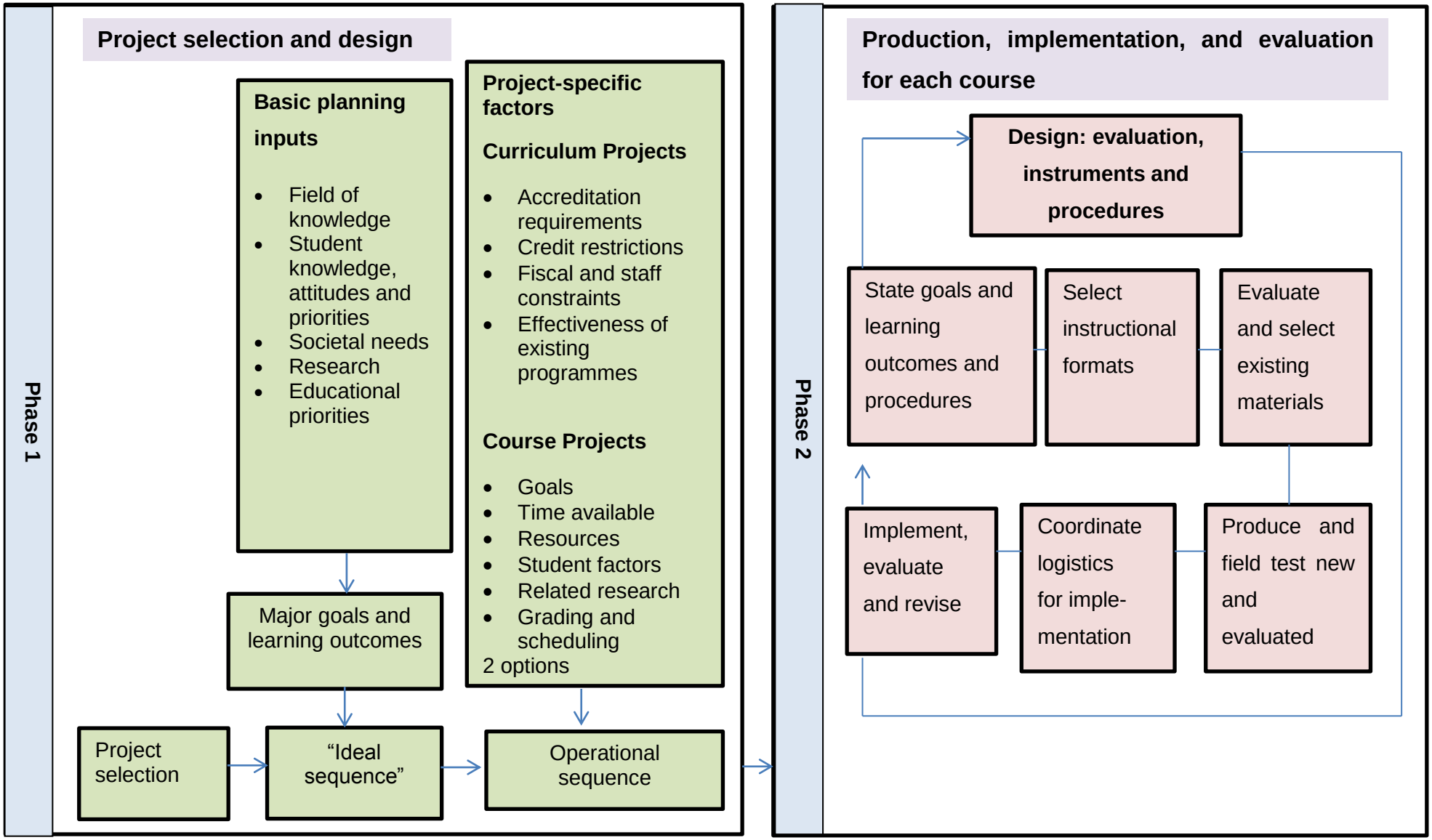


Figure 3.5: Process for the development of educational programs

Source: Diamond (2008:42)

a) Goals and needs analysis

Planners start by identifying general instructional goals (core competencies), as well as more specific module goals and then unit-by-unit goals. Data is then are gathered including student characteristic data such as backgrounds, abilities and preferences, data on the educational priorities of the institution or programme, and the requirements of the professional field. In addition, the kinds of institutional, programme-level, module-level and external influences need to be taken into account (Diamond 2008:42-44, 83-90; Lattuca and Stark 2009:140).

b) Team-based approach

This approach emphasises that curriculum design is team-based where the team ideally will include experts in instructional design, technology, assessment, a facilitator of the process (may be from an academic support unit), and the subject expert. The facilitator should have experience in the design process and should understand teaching, learning, technology and assessment. The facilitator should identify limitations and strengths of the design using information such as the data gathered during the needs analysis (Diamond 2008:44-47; Lattuca and Stark 2009:140).

c) Instructional activities, assessment and alignment

The instructional developer helps the instructor (teacher) to think innovatively about the structure, outcomes and evaluation strategies. This process concludes with the choice of instructional activities and material that will facilitate the envisioned learning (Diamond 2008:187-196; Lattuca and Stark 2009:140).

Diamond's model further places emphasis on the cohesive curriculum, the alignment of institutional goals, down to the assessment of student skills, both prior and after graduation. The value of constructive alignment is discussed in section 3.3.4.4 along with the position of technology in the curriculum in section 3.3.5.

d) Resources

It is also important that before the implementation of any strategies happens, the resources, student needs and the amount of administrative support that will be needed have to be determined. Research on teaching, learning and assessment has

to inform the design decisions made (Diamond 2008:44-47, 187-196, 199-213; Lattuca and Stark 2009:140).

In summary, based on the process presented by Diamond (2008), Latucca and Stark (2009:141) identify four questions that may assist role players in the process of curriculum design. These questions are:

- What are the specific purposes and learning outcomes?
- What is the best sequence for teaching the content and skills identified?
- What is the relationship among the concepts to be taught and how are the concepts related to student understanding and experience?
- What is the best way to evaluate the success of the plan?

These questions partly correspond with the questions presented in Tyler's framework, as well with as the subsequent work of Taba (see 3.3.2.2). Likewise, a logical process is followed but does not imply inflexibility or rigid application.

3.3.4.2 Stefani's modified logical model of curriculum development

The Cowan model presented in the discussion below was originally presented by Cowan and Harding (1986:103-109). Although the name states that this model is a logical model for curriculum *development*, it comprises the components referred to in the curriculum *design* process and therefore the model is discussed as a model that illustrates processes within curriculum design. The model has a logical rather than a sequential basis, with emphasis on process rather than on product or content.

Stefani (2009:40-53) has presented a modification of the original logical model. Stefani considers the importance, position and role of graduate attributes in curriculum design and this makes her interpretation of curriculum design important to this particular study.

According to Stefani (2009:41) a learning-outcomes approach to curriculum design is still fairly new and many academics initially find it difficult to express learning outcomes in such a manner that they become meaningful to both staff and students. Figure 3.6 illustrates components of the modified logical model for curriculum development.

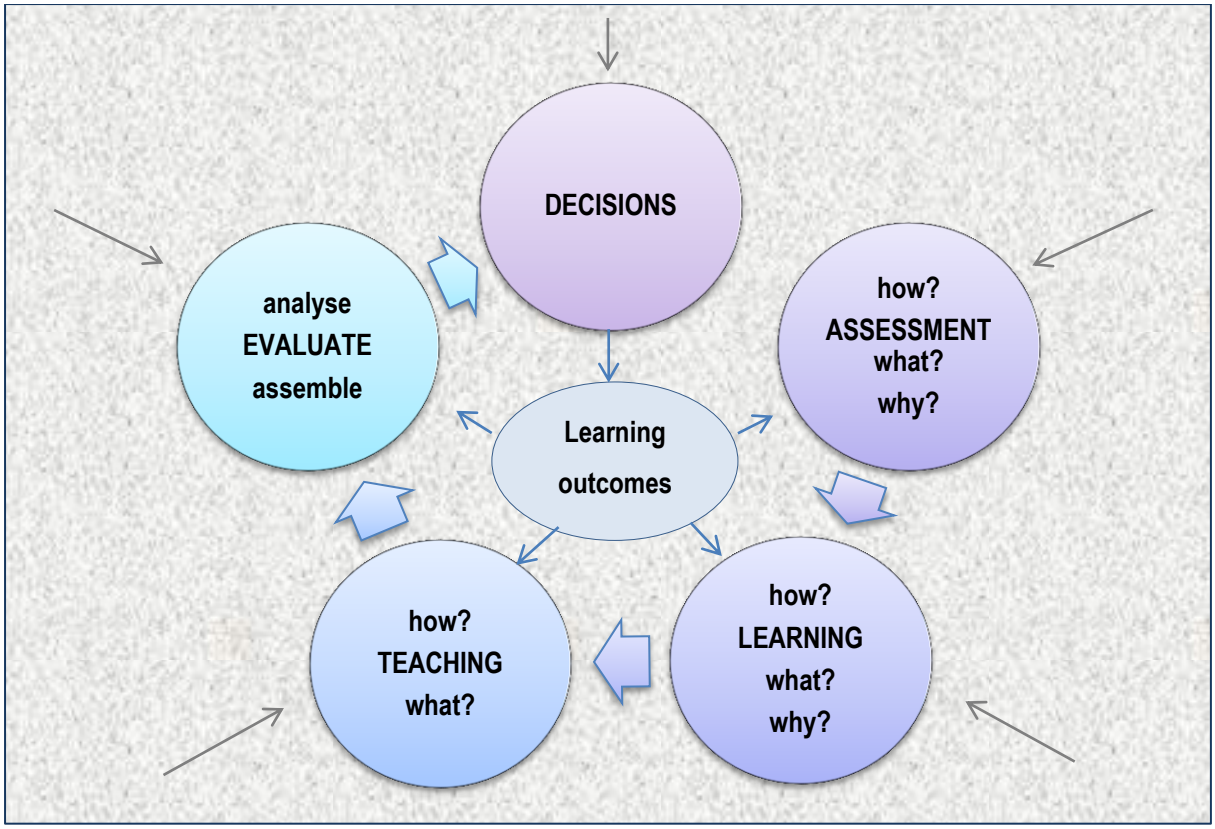


Figure 3.6: A modified logical model of curriculum development

Source: Compiled from Cowan and Harding (1986) and Stefani (2009)

a) Institutional culture

Stefani (2009:40) explains that academic staff is expected to have an understanding of the culture of the institution in which they operate. This includes knowledge and understanding of the mission and vision of the organisation, the aspirations, the ethos and values. The latter will unavoidably influence the curriculum.

b) Staff perceptions and understanding

The conceptualisation of curriculum and curriculum design is important because it impacts the way in which teaching and learning are viewed as well as the related and consequent discourse. The latter in turn influences the learning experiences of students. The conceptions of academics with regard to 'the curriculum' can range from a focus on content or subject matter to more refined understandings that encompass learning, teaching and assessment processes.

Stefani (2009:40) continues by explaining that the more attention is paid to curriculum development (and consequent design), the more likely students will be

provided with transparency and explicit alignment of intended learning outcomes of programmes and modules.

c) Institutional graduate attribute statements

Higher education institutions communicate the intended graduate attribute statements as part of their mission statements and policies. The attributes are articulated differently, but share commonalities. As mentioned earlier, examples of these statements will be compared with the graduate attributes identified in the data gathering process in Chapter 6. The institutional graduate attribute statements therefore serve as a guiding document for more specific disciplinary-based learning outcome statements and curriculum design. Academics within faculties, schools and departments need to design the curriculum, the teaching methods and strategies (educational opportunities) and assessment that purposefully promote the shared expectations communicated by the institution (Stefani 2009:41).

d) Learning outcomes

The learning outcomes are placed at the centre of this model (termed *aims* in the original model), intended to enable those involved in curriculum design to define outcomes clearly and in an understandable language, in order for students to be able to understand outcomes and reflect on their own learning. The placement at the centre is also intended to encourage academic staff to consider how they will facilitate student learning to achieve the intended learning outcomes (Stefani 2009:52). The latter appears to be in line with Spady's (1994:1) description of outcomes in outcomes-based education. Outcomes are described as high quality demonstrations of culminated, significant learning in context, with the outcome not being a mark, but the end product of a clearly defined process.

e) The how, what and why of teaching, learning and assessment

The decisions with regard to the questions about the how, what and why compel those involved in the design process (specifically academic staff) to question and reflect on their practice and inform curriculum choices, approaches and the facilitation of student learning (Stefani 2009:52).

f) External and internal influences

In the original model the grey area (see Figure 3.6) around the development activity diagram is not a coincidence and in fact represents the constraints within which any development (and design) operates. These constraints or influences have a powerful influence on possibilities within the institutional and learning community context (Cowan and Harding 1986:107; Stefani 2009:50). Within this grey area, the arrows pointing inward indicate inputs from peers and other stakeholders such as employers or representatives of professional bodies who have a vested interest in the curriculum being provided. These inputs are discussed in more detail in section 3.3.4.4.

This logical model of curriculum design corresponds well with Biggs's model of constructive alignment of teaching, learning and assessment (Biggs and Tang 2011). Biggs's model shows that students tend to think about assessment first as opposed to their teachers or tutors often considering assessment as the last piece of curriculum design that needs to be considered (Stefani 2009:54). Constructive alignment receives more attention in section 3.3.4.4.

According to Carl (2012:76) there are many similarities between internationally developed models for curriculum design and those design contributions made at national level (in South Africa). These models include the work of Walter (1978), Krüger (1980) and Cawood, Carl and Blackenberg (1986) cited in (Carl 2012:76). Carl (2012:77) reports on the fact that although the many models may seem to have much in common, the problem often occurs that some of the components are either not critical or comprehensive enough. Carl (2012) presents a curriculum design model that has been adapted for the current South African context, and therefore this model is discussed in section 3.3.4.3.

3.3.4.3 Carl's model of curriculum design

Carl's model has been tailored to the South African context and can be used at any curriculum level (macro, meso and micro). However, it is assumed that all the components will not necessarily be applicable at every level.

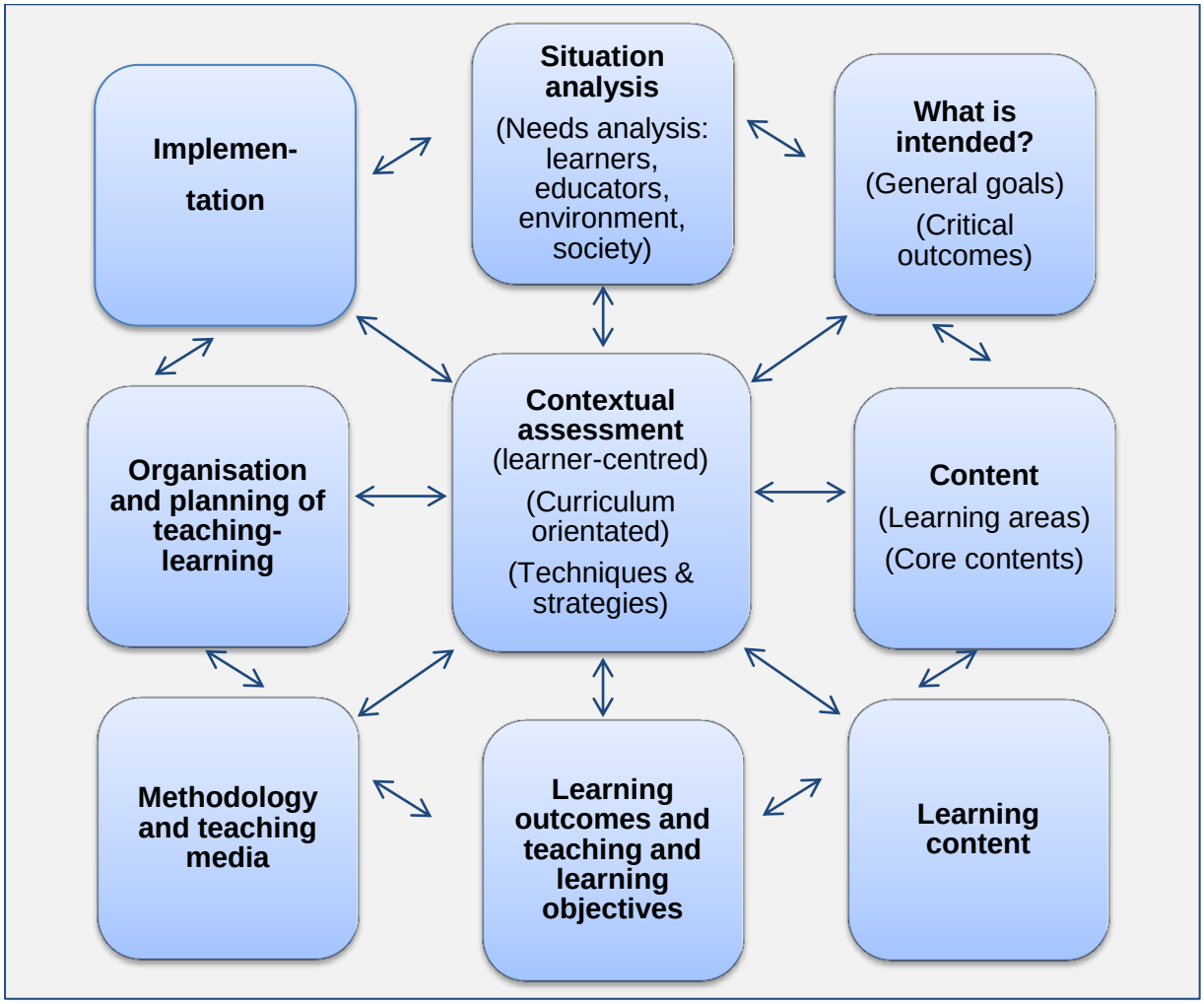


Figure 3.7: Carl's model of curriculum design

Source: Carl (2012:78)

The value of Carl's model lies in the possibilities of adaptation (thus the possibility for review and change) at the various curriculum levels and effective overall curriculum development is stimulated as the evaluation process takes place continuously (Carl 2012:78).

The inter-related components in this model are described briefly below:

a) Situational analysis

The process of situation analysis is one of evaluation that involves the gathering and interpretation of all the information that may have an impact on curriculum development and, in this case specifically, curriculum design. The results of this on-going situational (or needs) analysis inform design decisions. Aspects such as national, regional and institutional needs, the student population, content requirements and availability, infrastructure, the curriculum and subject-specific knowledge, skills and experience of the teacher and the broader community receive attention during the situation analysis (Carl 2012:79-81).

b) Goals, aims, outcomes and objectives

Goals and objectives are formulated at macro, meso and micro levels. General goals are broad, long-term statements indicating the total extent of an educational undertaking. Furthermore, a particular aim is a broad differentiation made around subjects or themes within a certain terrain. It is more specific than general goals. In South Africa exit-level and critical cross-field outcomes seem to be similar to the goals and aims discussed above (Carl 2012:82-90).

In South Africa, an outcomes-based approach to education is taken. In this context, learning outcomes focus on what the student should know, understand, do and can become. Lastly, an objective is a precise description (from the lecturer's view) of what is required from the student at the end of a certain time (including level of and conditions for achievement), and range from skills, methodological and content objectives. Objectives should not be regarded as rigid and should have some flexibility and adaptability (Carl 2012:82-90). As mentioned elsewhere in this chapter, students may provide valuable inputs when learning objectives are determined. Specific learning outcomes in modules seem to be very similar to objectives as discussed above (the difference being that they are student-centred, while objectives are lecturer-centred).

c) Content

The selection of content is one of the most fundamental curriculum functions and responsible actions should be taken based on educational criteria. These criteria and include amongst many others that selected content should be realistic; relevant; stimulating, current; take into account the ability and knowledge of the students; promote the development of cognitive, affective and psychomotor skills; correspond with the set objectives, and promote integration with other discipline-specific content. Most curricula are still put together on a subject basis, but there is an increasing tendency and need for content that can promote the development of knowledge, skills, concepts, attitudes and values (Carl 2012:91-94).

d) Organisation and planning of teaching-learning, teaching methodology and media

There is a relationship between learning experiences, learning opportunities and the methods used for teaching. It is a known fact that the presentation of content alone will not ensure learning. The curriculum developer should be knowledgeable about the available methods for teaching that will facilitate interaction between the teacher and the student so that the determined aims can be achieved. Teaching strategies may range from lectures, discussions, group work, self-activity and many more. Within the outcomes-based approach it is important to make use of leaner-centred methods (Carl 2012:95-98). Principles and guidelines for teaching (instruction) and learning are explored in more depth in Chapter 4. The use of technology as an aid to teaching methods and strategies is explored in more detail in section 3.3.5.

e) Continuous evaluation/assessment

The successful implementation of the curriculum that has been designed, relies heavily on the actual application by all the relevant role players at all levels. Successful implementation relies on, amongst others, clear communication, support and rewards (Carl 2012:135-138).

Carl (2012:99) makes it explicit that for the purpose of this model for curriculum design the concepts of evaluation and assessment are seen as synonymous processes as both are used to make value judgements of the success of teaching and learning or any educational activity. However, is vital to note that the Department of Education views them as different processes. Further, it is important to understand

that *comprehensive curriculum evaluation is seen as a component of the overall curriculum development process* proposed by Carl, but also takes place on a continuous basis as explained below (Carl 2012:140) .

Evaluation/assessment takes the form of curriculum-orientated and student-orientated evaluation and is an on-going process from design to implementation (at macro, meso and micro level). During these processes it is determined to what degree the curriculum is successful at a larger scale (curriculum review and redesign processes happen within this continuous phase), or to what extent student objectives have been achieved. It is therefore essential for those involved in curriculum development (in all phases including the design phase) to be cognisant of the applicable methods and the application thereof (Carl 2012:99-108; 135-138).

In terms of students-orientated assessment at micro-level there are various types and methods (e.g. summative, formative assessment, etc.) of assessment used to determine the effectiveness of the discipline/subject curriculum performed by teachers (Carl 2012:99-108). Assessment and the assessment of graduate attribute development receive more attention in Chapter 4.

In summary there are different motivations for the choice and use of specific curriculum models. Carl (2009:75) justly states: “Whatever model or process is used in planning action, it appears essential to plan any curriculum design systematically and thoroughly” as the future effective implementation and evaluation depend heavily on planning. Different models need to be investigated so that informed decisions can be made regarding the assumptions and purpose of the applicable curriculum.

Madiba (2011:373-374) contends that in South Africa, the SAQA template mainly a programme description document, has been used as the chief tool to facilitate curriculum design and training. Madiba explicates that the descriptions in the SAQA template do not say much about the actual teaching and learning. The Higher Education Qualifications Framework (HEQF) was promulgated in 2007 in response to the need to improve capacity in producing programme descriptions. Programme descriptions have mainly resided in yearbooks to inform students on how the curriculum is compiled and what routes would lead to meaningful qualifications.

Another challenge is the creation of sound links between the exit-level outcomes and critical cross-field outcomes (that include graduate attributes) that appear in programme descriptions and the content that is taught. Furthermore, a significant division remains between programme descriptions and that what in actual fact has been planned, and that which is implemented in classrooms (Madiba 2011:374).

As mentioned earlier in the chapter, constructive alignment is an essential component of the curriculum design process. The concept is discussed in more detail in the section below.

3.3.4.4 Biggs' model of constructive alignment

Constructive alignment is essential in outcomes-based teaching, learning and assessment. The principles that drive this process are situated within the constructivist theory and the alignment between the intended outcomes, learning activities and assessment. Constructive alignment is described as a balanced, aligned system in which all components (outcomes, teaching and learning activities, assessment) support each other (Biggs and Tang 2011:22-23; 109-111).

a) Intended learning outcomes

At module level, the intended learning outcomes as defined in section 3.2.8.1 should stipulate the action verb at the suitable level of understanding or of the performance intended, the topic content that the verb is intended to address, as well as the context of the content discipline in which the verb is to be deployed. Bloom's taxonomy and the SOLO taxonomy offer action verbs that aid the description and level of understanding intended (Biggs and Tang 2011: 120-125).

b) Teaching

Biggs (Biggs and Tang 2011) elaborates on the critical components of the teaching of the intended learning outcomes (the curriculum that is taught), to be amongst others: the teaching methods and strategies used to facilitate student learning; the assessment processes used and the reporting of results; the climate created during interaction with students; the institutional climate with its respective rules and procedures, as well as the reflective practice of the teacher.

In an aligned curriculum, students thus are provided with clear learning outcomes, teaching and learning activities that are aligned with the learning outcomes (appropriate for the level of understanding required), and well-designed assessment with assessment criteria for guiding and giving feedback to the student (CHE 2011:13).

b) Learning

Constructive alignment suggests that learning and meaning are constructed by the student through the process of their active involvement. Learning thus is not only a result of the teaching process, but rather develops from the student's interaction with the activities and experiences. The curriculum should therefore be designed in such a way that the activities and experiences are likely to support the student's achievement of the desired learning outcomes (Biggs and Tang 2011:97-109).

c) Assessment

The development of assessment tasks that are aligned with the learning outcomes is a key element in the process. Constructive alignment aims to promote deep and transformational learning, as opposed to a surface memorisation of content, purely for the sake of the completion of an assessment task. In essence, the content of the programme becomes less important than the activities that lead to the achievement of learning that is demonstrated through the thoughtful engagement with new tasks, the development of knowledge, skills and professional awareness (Biggs and Tang 2011:24-27).

Constructive alignment (if accomplished effectively) within modules and units will support horizontal and vertical alignment within programmes (Taylor 2009:779). Curriculum planning and mapping enable academic staff members to determine the extent of horizontal alignment (whether the intended programme, course or subject outcomes are appropriate for the level, curriculum modality, planned teaching, learning and assessment activities). When such a mapping exercise is done across the levels of the programme, it is possible to check whether the main outcomes have been addressed, and it is described as vertical alignment (CHE 2011:13; Taylor 2009:779). Curriculum mapping is described in more in detail in section 3.4.2.

3.3.5 Curriculum design and technology

Keeping the current educational climate in mind, the exploration of curriculum design would be incomplete without taking into consideration the embedding and possible value of e-learning technology into the student learning experience.

Teachers and students should learn to use technology effectively in order to equip students to live, learn and work in the current increasingly complex, information-driven and knowledge-based society (UNESCO 2008:1).

According to Hannum (2008:222), the research suggests that 'how' technology is used to deliver instruction (a systematic design process) matters much more than what technology is used. Reeves and Reeves (2013:113) argue that the fundamentals of and principles for effective teaching and learning remain paramount, regardless of how a subject is delivered. This will hold true for blended and distance learning modes of delivery at the University of the Free State as well.

Curriculum design practices and orientations consequently become imperative as these comprise the entire process of the analysis of learning needs and outcomes and objectives, as well as the decisions made with regard to methods of delivery to attain those outcomes and objectives. Technology should be used effectively by all staff members involved in the development, design and implementation of curricula.

Hannum (2008:220-223) states that although there are multiple benefits of using technology such as enhanced learning, increased engagement, increased access, greater job relevance, promotion of deep processing and understanding, there also is the danger of misapplying technology. Misapplication, for example, may take the form of placing content online or on learning management systems and expecting it to replace traditional classroom instruction, or changing the mode of delivery, but not revising the content. Hannum further explains that quality instructors do more than dispense content; they motivate, they modify instruction to meet the needs of the student and they design the entire learning experience.

Reeves and Reeves (2013:127) surmise that it is essential to examine the alignment of all components in the blended learning environment, including content, objectives, instructional design, student tasks, teacher roles, technology, and assessment.

Posner (2004:95-96) states that technology can change how content is covered by creating new disciplinary areas (e.g. computer sciences), reconfiguring disciplinary course content (e.g. computer-aided mechanical drawing), new ways of processing information (e.g. word processing and spread sheets), and tools to share information (e.g. the internet and consequent learning management systems).

In Chapter 4 certain principles of good quality teaching and learning are explored and attention is paid to how the use of technology can promote and be applied to these principles. The development of graduate attributes as learning outcomes in programmes will be promoted by good quality teaching-learning practices, and the use of technology as an aid may impact greatly on the quality of the learning.

As curriculum design is heavily dependent on and influenced by context, it is vital to consider the curriculum challenges in the South African context and the implication thereof for embedding and the development of graduate attributes.

3.3.6 Perspectives on curriculum challenges in South African higher education and the implications for graduate attributes

As already mentioned, it is essential to consider the curriculum challenges that South African higher education is facing in order to critically consider the implications for embedding graduate attributes in undergraduate curriculum design, evaluation or re-design.

Botha (2009:159-179) identifies a number of curriculum issues that South African universities are facing. She highlights the fact that curriculum is a multi-dimensional concept and that the context in which a curriculum is considered determines which theoretical understandings are appropriate. Botha (2009:159-179) presents the curriculum issues in a six-cluster framework that is discussed in this section. The work of Breier (2001) and other authors are discussed along with the clusters in the form of important questions associated with these concerns. The discussion will be followed by possible implications these challenges may hold for the inclusion and development of graduate attributes in curricula (see contribution to the study).

3.3.6.1 Cluster 1: Vocational and liberal education

The merging of higher education institutions in South Africa resulted in three types of institutions, namely universities of technology (the focus on links with industry and some professions), universities (with a research focus and links to some professions), and comprehensive universities (research, links to industry and a wider range of professions). These merges brought about the restructuring of curricula and a distinction was made between university-type and technikon-type (the newly established universities of technology) curricula. The restructuring of curricula was done in response to the social and economic needs of the country (Botha 2009:160-163).

Although strong distinctions are not made, vocational/technical curricula refer to the practical application of what is learnt, and this distinction is very useful when dealing with curriculum design. Some universities show a tendency towards a distinction between education for the professions (e.g. nursing, law) as compared to education for other purposes such as the development of all aspects of the human being (e.g. languages, human movement science) (Botha 2009:161). However, Jansen (2004:5-18) notes that all three types of institutions are offering both professionally focused and 'liberal'-type programmes. He further argues that the curriculum is often treated as subordinate to the larger financial and organisational changes as a result of mergers. The curriculum, however, forms the crux of teaching and learning in higher education institutions.

3.3.6.2 Cluster 2: Progression from certificate to diploma or degree

The mergers of higher education institutions brought technikon-type programmes and university type programmes much closer to each other than in the past. The latter led to prospective students requesting to further their studies at universities with the recognition of previous qualifications (lifelong learning), as well as knowledge and skills gained without formal qualification in order to satisfy admission requirements (referred to as recognition of prior learning) (Botha 2009:165; SAQA 2013:6-7).

Today institutions therefore will consider the recognition of prior learning (RPL) for admission to a programme. This concept primarily has been developed to address the skills backlog in South Africa and to afford people who could historically not gain reasonable access to formal higher education with the opportunity to do so (Botha

2009:165, Kistan 2002:169). Amongst others, the curriculum, programmes, assessment procedures, staff, learners, and the mode of delivery are all affected by the recognition of prior learning policy.

The higher education curriculum is determined by the scope and sequence of intended outcomes, distinguishing between the ends and means of the curriculum, thus guiding instruction and assessment. The curriculum, therefore, may provide valuable information that may guide the recognition of lifelong learning and prior learning (Botha 2009:165).

With the above-mentioned issues in mind, the following valuable question by Breier (2001) comes to mind:

Continuous retraining and reskilling seem to have become increasingly important in terms of employment and other needs. How would curricula address these needs?

3.3.6.3 Cluster 3: Mass education and selective education

Botha (2009:166) explains that with the democratisation of South Africa came the awareness of /need for increased access to higher education. This is prioritised by the National Plan for Higher Education (RSA MoE 2001) to:

- provide increased access to higher education and to produce graduates with skills and competencies necessary to meet the resource needs of the country, and
- promote equity in terms of access and to redress past inequalities through ensuring that the student and staff profiles are representative of the South African society.

However, the mass education debate presents a variety of complexities. Botha (2009:166-168), Jaffer, Ng'ambi and Czerniewicz (2007:131-142) identify the following factors associated with the complexity of increased access, namely free education and the concomitant funding implications; funding based on throughput rates; the quality of higher education, given the profile of the students entering the higher education system; recognition of prior learning alongside formal admission requirements; the function and role of the South African university in relation to the overall skills need of the country; the need for foundation/bridging programmes to

assist the underprepared; and the implications (educational, financial, human resource, infrastructure) of large class sizes as a result of widening access.

3.3.6.4 Cluster 4: Contact and distance education

Although only one distance education university (i.e. University of South Africa merged with Technikon South Africa) was decided upon with the merger of higher education institutions in South Africa, some of the contact universities still involve themselves with distance education to some extent (Botha 2009:168).

Because it is perceived that distance education is less costly (and receives less funding), contact universities do not get overinvolved with distance delivery. However, those involved with distance education will agree that this type of delivery has its own unique challenges and costs. There also are several variations with regard to how programmes are delivered, such as contact sessions, self-study, block sessions, tutor delivery and e-learning (Botha 2009:169).

E-learning increasingly is being used in both on- and off-campus projects. It is argued that if distance education is assisted by technology, a South African university would be able to render a service to a student anywhere in the world. The latter may then raise the question as to whether alumni of a South African university will be capable to enter the workforce anywhere in the world (Botha 2009:169; Du Toit 2011:64).

Jaffer *et al*. (2007:142) argue that the challenges are situated in identifying and conceptualising ways that educational technology can usefully contribute to student learning experiences, curriculum, and pedagogical designs. The role of educational technology has to be reconsidered within the broader educational scope that is driven by educational needs, rather than being technologically driven.

With the above-mentioned challenges in mind, the following valuable questions by Breier (2001:2) come to mind:

- What are the effects on higher education in view of the increasing popularity of distance modes of delivery?
- What can and cannot be promoted in a distance education curriculum?
- How can higher education curricula and specifically the facilitation of learning be enhanced by emerging technologies?

3.3.6.5 Cluster 5: Internationalisation, localisation and Africanisation

Another curriculum issue presented by Botha (2009) relates to the need for curricula that address both internationalisation and localisation (Africanisation) in South African universities.

Internationalisation is defined as the "process of integrating the international dimension into the teaching-learning, research and service functions" of a higher education institution (Knight 2001:229; Knight 2004:5-6). To many, it means the inclusion of an international, intercultural, and/or global dimension in the curriculum and teaching learning process (Knight 2004:5-6).

An example of internationalisation is the agreements and joint projects involving institutions on the continent across South African borders, and other countries. As a result of these agreements and many other foreign students applying to study in South Africa, there is an ever-growing component of registered foreign students and academic staff from other countries on our campuses (Altbach *et al*. 2009:34-35; Botha 2009:170; HESA 2009:8). This also is a reality in the Faculty of Economic and Management Sciences at the University of the Free State.

Internationalisation is influenced by globalisation and these phenomena will have an influence on the higher education curriculum (e.g. the content, teaching-learning processes, etc.). The curriculum will impact on the degree to which students gain a deeper understanding of international issues and develop intercultural skills, therefore it will be impacting on general graduate attribute development and employability (Knight 2001:235).

In contrast, the concept of localisation involves all the dimensions of the process whereby a university aims to retain its local character in order to achieve certain academic, economic, political and cultural aims. Africanisation is one example of localisation and has received extensive attention in academic literature in recent years (Botha 2009:170). There are an extensive number of perspectives regarding the concept of Africanisation and it seems to be a contentious, complex and dynamic curriculum issue in South Africa. The researcher will thus attempt to shortly describe the concept and its relative importance with regard to curriculum design in South Africa. Seepe (2004:40 cited in Botha 2009) describes Africanisation as "the process for translating the African identity and vision in education". Vorster (1995:9) explains

that Africanisation can be viewed as a request to Africans, Europeans and non-Africans. The first appeal relates to Africans sustaining African aspirations, decent, cultural heritage, own ideas, rights, interests and ideals, self-concept and own rationality in an intercultural environment. The second request relates to non-Africans to respect and accommodate Africans' efforts to the manifestation of the first appeal.

Neale-Shutte and Fourie (2006:123,128) justly argue that it is important for African universities to find a balance between internationalisation and Africanisation through the establishment of their own identities and development of their own position/niche.

With the above mentioned information in mind, the following valuable questions by Breier (2001:2-3) warrant attention:

- What kind of curriculum would prepare students for participating in a global economy?
- How should curricula accommodate the effects of massification and changes in student populations?
- How should quality in the curriculum be responsive to the needs of the economy, the development of society at large and communities in particular?
- To what extent should the curriculum be responsive to the needs of the economy, the development of society and communities in particular?
- How compatible is global citizenship with national identity formation and what is the role of higher education in this regard?

3.3.6.6 Cluster 6: Diffusion of disciplinary boundaries

The societal and labour market needs in South Africa call for a shift from strict disciplinary boundaries to working in a more cross-disciplinary manner, from there the challenge of the diffusion of disciplinary boundaries. A need exists for interdisciplinary knowledge, competences, experiences, insights and applications in South Africa because of the demands of the 'real world'. The diffusion of disciplinary boundaries implies a curriculum consisting of subjects that accommodate a changing state of knowledge and subjects that are useful for living in contemporary society (Botha 2009:174; Ensor 2004:342-344). Appropriately qualified graduates who are equipped to address the economic, political and social needs of the country are

much sought after and universities must be responsive to these needs (see Chapter 2).

According to Muller (2008:35) there are also risks related to the diffusion of disciplinary boundaries. These risks may include, amongst others, confusion with the academic undertaking, identity confusion among students and employers, over inclusion/involvement of programmes across the spectrum, lack of intellectual and social cohesion, as well as difficulty in managing such a curriculum from a human resources point of view.

With the above mentioned risks in mind, the following valuable questions asked by Breier (2001:2) are relevant:

- Should the curriculum promote traditional disciplines, inter-disciplinarity or trans-disciplinarity?
- What skills and forms of knowledge do employers and society value?
- How generic and how specific should the development of these skills be?

In summary, Botha (2009:177) proclaims that when institutions are reconsidering/redesigning curricula, it is important to take note that the clusters of challenges may be entangled and interrelated. Universities will face their own unique challenges and circumstances and the discussion above may serve as a guideline for universities to identify the challenges and issues to be taken into account when planning for or redesigning current curricula.

The CHE (2013b:107) argues that a new curriculum structure is necessary to improve graduate output without compromising the quality of the exit standards and outcomes of qualifications and to enable curricula to be enhanced in the interest of better alignment with contemporary international, national and regional conditions. Furthermore, curriculum structure is also necessary to provide effectively and fairly for the diversity of educational backgrounds that characterises the South African student intake.

Contribution to the study

In the context of the particular study it is important to reflect upon the present curriculum challenges in South Africa in order to determine what implications they may hold for the inclusion and development of graduate attributes in curricula. Some of the considerations and implications are listed below:

- Because both liberal and vocational elements are present in curricula at the University of the Free State and the Faculty of Economic and Management Sciences (such as the training for accountants *vs*. the training of human resource practitioners), it is important to consider how graduate attributes may be successfully addressed in both 'professional' and 'more general' fields of study.

- If the curriculum provides valuable information that can guide the recognition of prior learning and lifelong learning, it seems important that the attributes developed during the course of study be explicitly identified, analysed, stated and embedded in curricula so that they form part of the recognition/evaluation process.

  The latter is important as these non-discipline specific characteristics (graduate attributes) should be aligned with what is required from the economic, political and social environment in which a graduate will enter the world of work.

- Mass education and large class sizes will impact on how graduate attributes are integrated into curricula, taught and assessed. As stated above, sufficient funding is required to make the human resources available for the development and teaching of good quality programmes for large numbers of students in order to address the national and international needs of the labour market.

- Given the reality and growth of distance delivery and a shift in the different modes of delivery used in higher education (e.g. blended learning and e-learning), it is imperative to explore how e-learning and technology can be utilised effectively for the development, assessment and promotion of graduate attributes in programmes.

- The balance between internationalisation and localisation (with specific reference to Africanisation) of curricula seems to be a daunting task in order to produce graduates who understand both the international and local dimensions and

complexities of the sector in which they will be employed. Students need to be equipped with skills that are not only transferable across cultures and contexts, but also need to develop and understand their own identity in order to respect, accommodate and contribute to a non-African workforce.

- Because of the need for graduates to work in a more cross-disciplinary manner as explained above, curricula should address the development of graduate attributes that will equip students with knowledge, skills, experiences and insights to cope with the realities of the 'real world' within a particular country.

3.3.7 A summary of developing themes and patterns

To conclude the section with regard to curriculum perspectives, Figure 3.8 depicts the important inter-related and interdependent themes/components that emerge from the curriculum perspectives, design models and processes explored in Section 3.3.

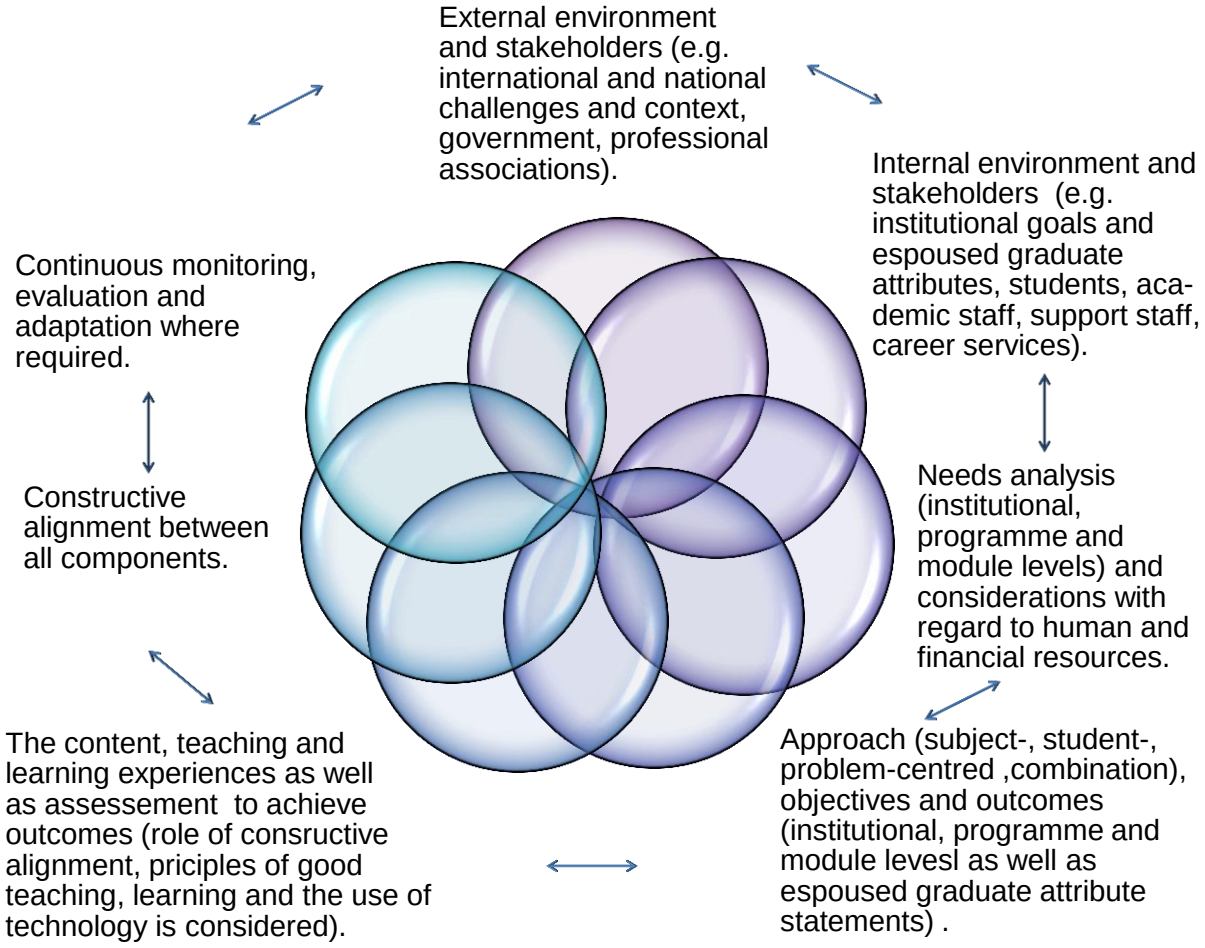


Figure 3.8: Interrelated, systematic and cyclical themes in curriculum design

In section 3.4 the focus narrows to how graduate attributes can be embedded in curricula.

3.4 EMBEDDING GRADUATE ATTRIBUTES IN THE CURRICULUM

Embedding graduate attributes in curricula is a complex process that poses various challenges to stakeholders at various levels. The review and mapping of curricula to promote the embedding, teaching and assessment of graduate attributes in conjunction with disciplinary knowledge and skills, need to be well planned and carefully executed and should consider various sources of information.

The teaching of graduate attributes at module level needs particular attention as it points to the 'how to' after conceptual mapping has been done. Along with the teaching of graduate attributes, the essential theme of the assessment, mastery and transfer of graduate attributes will receive particular attention in Chapter 4.

3.4.1 Challenges experienced with regard to embedding graduate attributes in the curriculum

Interestingly, the challenges experienced with embedding graduate attributes in the curriculum, echo many of the curriculum challenges experienced in South Africa, as well as their relation and implications for embedding graduate attributes in undergraduate curricula (discussed in section 3.3.4).

The challenges below are discussed at the hand of the work of Jones (2009:188) that effectively summarises and categorises the challenges discussed with regard to embedding and teaching graduate attributes.

3.4.1.1 Epistemological

First, generic attributes are not considered to be part of disciplinary knowledge (Jones 2009:188). This challenge becomes more complex when conceptualising the relationship between graduate attributes and each particular disciplinary body of knowledge. An example of this would be the interpretation of 'critical thinking' that is often used interchangeably with problem-solving and decision-making. Problem-solving is further treated differently in different disciplines (Green, Hammer and Star 2009:5). A detailed understanding of the intricacies of the disciplinary culture is required to avoid making generic attributes too prescriptive, which results in

simplistic statements, which do not capture what is in reality occurring in teaching and learning. Even when these attributes are taught, they are not always articulated clearly (Jones 2009:186).

Similarly, whoever is responsible for the implementation is required to take into account that for graduate attributes to be truly 'embedded' in curricula, knowledge and literacy need to be seen as intricately linked, and the subject specialists then to a large extent take the responsibility to embed graduate attributes in each programme or module, with the advice and support of learning specialists/developers (Green *et al.* 2009:6).

3.4.1.2 Intrinsic and pedagogical

Secondly, there is a lack of understanding regarding the nature of attributes, and a lack of experience in, or confidence in teaching these attributes. In addition, generic attributes are complex and difficult to define (Jones 2009:188).

The lack of understanding and conceptual clarity and interpretation regarding graduate attributes (discussed in Chapter 2) poses one of the first challenges to embedding these attributes in the curriculum. There should be a common understanding and interpretation of graduate attributes for curriculum review, mapping or embedding processes to be successful.

3.4.1.3 Cultural and structural

In the third place, large classes, the teaching of generic attributes not being actively supported by departments, top-down implementation, a lack of time and the emphasis being placed on research rather than teaching present further challenges (Jones 2009:188).

Large class sizes and time pressures on academic staff likewise cause a lack of attention to the teaching of attributes (the challenges with regard to the teaching of graduate attributes receive more attention in Chapter 4).

Another challenge is the adoption of horizontal and/or modular structures in response to increasing student enrolments, particularly in business and humanities degree programmes. While this approach is seen as a pragmatic solution to the problem of managing large student cohorts, the lack of a vertical structure (with pre-

requisites) makes it difficult to provide students with opportunities to develop the attributes as they progress through their degrees. As a result, student learning across the degree programme in terms of discipline-specific knowledge, as well as graduate attributes, may be impacted negatively. Large student numbers and decreased government funding also have led to the development of cross-campus programmes, using multiple study modes, which potentially service thousands of students from a range of backgrounds (Green *et al.* 2009:8-9).

Generic attributes are not seen as one of the central roles of the university teacher (Jones 2009:188). Current university promotion practices continue to focus on research achievement, creating tension between research time and the development of teaching and learning (CHE 2013b:208; Green *et al*. 2009:9).

In terms of academic staff members in commercial faculties, industry salaries are considerably higher and as a result academic staff members tend to focus on private work (CHE 2013b:208). Academics that have relevant experience of current business practice can be incredibly valuable as they are able to provide students with and expose them to real-world examples and demands. In other words, teaching staff participation in professional practice (if managed effectively) may inform and promote the quality of teaching (Lucas and Marshall 2009:391). Cleary *et al.* (2007:24) and Hanlon, Blackbourn and Shtayer (2008:48) held the same opinion - they argued that staff should have informed knowledge and experience of current industry practice, and take cognizance of how different workplaces are structured and function in order to make informed decisions with regard to the development of graduate attributes.

Lastly, in many cases there is a deeper resistance to the explicit inclusion of generic attributes in teaching as they are perceived to be part of the bureaucratisation of universities and the loss of disciplinary and teacher authority. Some academic staff members view generic attributes as unrelated checklists that are forced upon the disciplinary ('real') content and that are not seen as integral to the fundamental business of university teaching (Jones 2009:186).

In summary, it is important to understand the particular challenges that manifest at a particular institution, faculty or academic department before a curriculum review or

mapping process can take place effectively. The curriculum review and mapping process for embedding graduate attributes therefore is discussed below.

3.4.2. Curriculum review and mapping for embedding graduate attributes

According to Cleary *et al.* (2007:14) and Yorke and Knight (2006:9), curriculum mapping is one means to ensure that graduate attributes are given an appropriate focus, are discipline-related and aligned with course content. During an 'auditing' and 'review' process the existing curriculum is analysed to identify where particular skills and attribute development are integrated/addressed in the curriculum and gaps are identified where attributes could be addressed better.

Curriculum mapping provides unique opportunities to engage with conceptual tools for curriculum development such as constructive alignment, cognitive demand, coherence, logical sequencing and credit allocations. The mapping process helps to approach the curriculum as a living system and create spaces and places for teaching staff (and other stakeholders) to deliver the curriculum in an inquiry-based manner and therefore render research, curriculum evaluation, and continuous improvement a reality (Madiba 2011:372).

3.4.2.1 Using technology for curriculum mapping

Madiba (2011:371) surmises that using a web-based system for curriculum mapping can offer a number of features that enable curriculum analytics. The web-based system needs to be informed by institutional curriculum agendas that are well thought through, as well as underscored by internationally recognised curriculum principles. The technology-enabled process allows for the identification of and informed decision making about curriculum gaps and redundancies. An electronic trail of activities is maintained that provides the community with rich data sources from which further reflective practice may emanate.

Technology-enabled processes provide links to full data of the outcomes and the contents taught. Those looking at data (such as groups of academic staff) are collectively enabled to question and evaluate cognitive levels, curriculum load, gaps and redundancies in the curriculum and explore possible courses of action (Madiba 2011:378). It seems that the initial workload in terms of data input may be quite

extensive; however, it can provide valuable results in the curriculum design and review process.

The creation of infrastructure and the adoption of technology that can aid curriculum design and mapping should be both technical and conceptual. Those involved should be trained and should understand the outcomes and their use to ensure that the system will serve its purpose and result in reflection upon and improvement of teaching and learning outcomes (Madiba 2011:378-379).

3.4.2.2 Curriculum mapping across different levels

Highly structured approaches to mapping graduate attributes across the curriculum are taken to ensure that these attributes can be readily seen across an entire programme or qualification (Cleary *et al.* 2007:14; Yorke and Knight 2006:9). Curriculum mapping for graduate attributes should ultimately lead to students with an informed picture of the skills and knowledge that are expected of their profession and the capacity to demonstrate those skills in the workplace (Cleary *et al.* 2007:15-16).

Madiba (2011:380) argues that programme description documents need to receive more attention at a higher level; this level is the graduate attribute level at an institutional, national and international level. A good curriculum mapping system may additionally allow for much needed links to be made among graduate attribute statements, programme descriptions, standards of professional bodies, and where they are present in modules.

Chapman (2004:8) explains that academic staff members may have the misconception that all attributes must be covered within their own (one) module. It is important for module coordinators to first determine independently (individually) what learning outcomes, skills, understandings and values are important for their students. However, according to Yorke and Knight (2006:9), it is essential that the module be viewed from the larger perspective of the programme and that the role of each module be determined in view of the larger picture. The design of module-based curricula often draws the focus away from the programme as a whole, with the module often being the focal unit of analysis in validation/approval procedures. Identification of the attributes that are developed in any given module generally has been left up to the teacher of that module, despite the inherent unreliability caused

by the differences in staff understandings and descriptions of these attributes (Sumsion and Goodfellow 2004: 337; Willcoxson *et al.* 2010:66).

Chapman (2004:8) posits that the opportunity to develop all attributes across a chosen programme may be a more straightforward task when programmes are composed largely of core modules that all students take. The researcher, however, is aware that the latter is not a reality in many contexts or programmes. Yorke and Knight (2006:9-10) elaborate on this complexity by maintaining that many students may select programmes in which there is an additional opportunity to select a proportion of modules from outside the specific programme (or faculty). Whilst advantageous when seen from the perspective of student choice, curricular flexibility has a downside in that it is more difficult to take a whole-programme view of what in actual fact is 'on offer'. This also has been a reality in some of the degree programmes offered at the Faculty of Economic and Management Sciences at the University of the Free State where many programmes allow for the choice between modules offered by different departments within the faculty, as well as 'service modules' offered by other Faculties on the particular campus.

Madiba (2011:386) significantly highlights the fact that in some cases generic skills (professional skills) are redundantly offered across the programme (different year levels) to fill credit gaps and therefore become unnecessary credit fillers.

With regard to generic skills being offered redundantly, Yorke and Knight (2006:9) suggest that it may be sensible to pay attention to the 'core' of a degree programme instead of attempting to incorporate all student choices. Degree programmes are composed of typical sets of modules, which should exhibit coherence and progression, and it is on these sets of modules that curriculum review and mapping might most successfully focus.

Chapman (2004:8) proclaims that it will be improbable to teach an attribute, provide students with opportunities to practise it, and then assess them on their achievement in the space of a single semester. Graduate attributes are acquired incrementally or gradually from numerous opportunities to practise and improve the level of sophistication as the students' understanding of and induction into the context of their discipline develop over the entire period of their university study.

3.4.2.3 Examples of embedding graduate attributes in curricula

This section below offers two examples of how graduate attributes may be embedded in curricula.

a) A five-step process example

The question arises as to how graduate attributes may be embedded and integrated in curricula and the relative processes followed.

A five-step process was used during the 2003 Graduate Attribute Project at the University of New England, Australia (Chapman 2004:8). The steps described by Chapman (2004:8) are discussed below:

Step 1: Refine graduate attributes for programme-level implementation. The group discusses and translates graduate attributes to the programme context. Each graduate attribute is broken down into levels if applicable. The levels may mean that the development of attributes may be spread over the years of study and levels of complexity may increase gradually (e.g. the acquisition and utilisation of information).

Step 2: The graduate attributes are mapped at programme level; thereafter the graduate attributes are mapped at module level. Those graduate attributes that are taught and/or assessed implicitly, are identified. Those graduate attributes that are taught and/or assessed explicitly, are identified. The module information is combined into a programme summary or map.

Step 3: The programme map is analysed (after step 2) for gaps in terms of the graduate attributes addressed. Modules are then identified for filling the particular gaps. Existing teaching and assessment strategies are identified and additional strategies are designed where needed.

Step 4: Changes are implemented at module and programme levels where necessary.

Step 5: Where necessary, the changes are documented explicitly within modules (e.g. learning objectives/outcomes and assessment criteria).

The example that follows appear to be more comprehensive where needs analysis, analysis, and support for staff members form part of the process.

b) A five-phased best practice example

Oliver, Jones, Ferns and Tucker (2007:103) describe the curriculum review and mapping process as consisting of two distinct processes: the first is the curriculum mapping of the programme to ensure alignment within modules and across the entire programme; the second is assistance for staff working in programmes to implement reviewed curricula (with particular focus on improving classroom practice).

Curtin University in Australia has developed nine graduate attributes that it decisively demands of all its students and to ensure that the skills and attributes required by employers are in place. Curtin University has mapped every programme, its learning outcomes as well as the integrated graduate attributes. The aim was to address every programme by 2010 and ensure that all programmes have addressed the graduate attributes identified by the institution (Cleary *et al.* 2007:15). The approach followed is viewed as an example of best practice in alignment within programmes and the integration of graduate attributes in curricula in Australia.

The review process described above is conducted as a five-phase process of curriculum mapping, focused on ensuring that graduate attribute outcomes are embedded and assessed in the modules that comprise the programme. The aim of the curriculum mapping is to ensure the students' collective experience of the programme equates to them being work-ready upon programme completion (Oliver *et al.* 2007:105-108). The process is described below:

- Phase 1: Initial request and needs analysis

  According to Oliver *et al.* (2007:105), the process begins with a comprehensive programme review requested by the staff member responsible for such tasks, in this case described as the programme coordinator. The request may be applicable to a single programme or group of programmes and modules (the latter often is the case when several programmes consist of very similar structures and modules). A needs analysis is done, including the programme structure and its relationship to other programmes, the reach and delivery of the programme, the programme review data (student profile, student performance, retention, etc.), and external stakeholder feedback (including past graduates, employers and industry and professional bodies).

After an initial discussion with the programme coordinator, the programme team (academic staff), the head of department and teaching and learning manager, a summary is made of the key issues to be addressed in the review. Staff meetings are then organised with these different stakeholders (Oliver *et al*. 2007:105).

The actions presented in the phase above correlate closely with the description offered by Carl (2012) for the concept of curriculum evaluation as one of the phases in the curriculum development process (see section 3.2.3).

- Phase 2: Map the existing programme

  A map is created of the programme in its current form. There are three key components in the first version of the curriculum map. These components are the alignment between (of) programme outcomes with the graduate attributes of the university (and accreditation competencies where appropriate), the module information, as well as the mapping of learning outcomes (Oliver *et al.* 2007:105).

  It is important to note that graduate attribute outcomes have varying degrees of relevance to different types of programmes in various domains (such as management). Graduate attributes thus may be embedded differently, and subsequently be supported by teaching activities and assessment to serve the particular discipline in various Faculties (Biggs and Tang 2011:118). Once the applicable graduate attribute outcomes have been agreed upon within faculties, the alignment of institutional attributes may become substantially easier.

  The first step is to set the overarching outcomes for the programme and align these with the graduate attributes and external accreditation competencies. The compilation of these programme outcomes is a repetitious process undertaken with the whole programme team, so that all staff members agree on and contribute toward the achievement of the programme, rather than module outcomes only (Oliver *et al.* 2007:105).

  The second important piece of information in the curriculum map is the module information (in the current programme). Four key aspects are used, namely the content; the module learning outcomes (and which programme outcomes they support, as well as the level of cognitive skill involved); the assessment tasks (their weightings, and the module learning outcomes they assess); as well as the

learning experiences (brief description of the types of learning experiences designed to facilitate student achievement of the module outcomes) (Oliver *et al*. 2007:106).

The module outcomes are 'rated' according to Bloom's taxonomy of educational outcomes. In this instance a star rating is used where one star indicates the lowest level, and six stars indicate higher order thinking skills. The system is designed to encourage teaching staff members to consider the level of thinking they are promoting in students, and further to be able to see, at a glance, the collective level of experience across a course (Oliver *et al*. 2007:106). Green *et al*. (2009:7) likewise suggest that it may be beneficial to make use of Bloom's taxonomy of educational objectives (to describe increasingly complex learning outcomes and standards for achievement in relation to graduate attributes).

The third important set of information in the curriculum map is the alignment of module learning outcomes with the programme outcomes. It should be indicated how each programme outcome is achieved through various module learning outcomes, at what point in time in the programme, and at what level of Bloom's taxonomy of cognitive skills (Oliver *et al*. 2007:106).

- Phase 3: The map of the existing programme is considered and module information is revised

  During this phase all team members meet to confirm or revise the programme outcomes and see an overview of the programme in its current state (using the content, module learning outcomes, teaching-learning strategies and assessment tasks). It is considered how, in the current programme, the module learning outcomes relate to the programme outcomes and prompt appropriate higher order thinking skills. The needs analysis (including feedback from current students, past graduates, employers and industry) is used to inform the changes to the curriculum, the design of assessment and the learning experiences in order to ensure that they are authentic, and consecutively develop graduate attributes (Oliver *et al.* 2007:107).

After this reflection, the module information is revised as follows:

- ❖ Update the content if required.
- ❖ In terms of the module learning outcomes, up to five concise statements are created that convey what the successful student in this module should be able to do. Each outcome begins with a strong action verb prompting appropriate higher order thinking.
- ❖ Brief detail is given about the related assessment tasks such as the overall weighting and the module learning outcomes it assesses.
- ❖ Provide information on how students will be engaged to achieve the outcomes in the particular module as well as the optimal teaching patterns/strategies (Oliver *et al.* 2007:107).

- Phase 4: Consensus on the reviewed programme

According to Oliver *et al*. (2007:107-108), the revised module information (collected in Phase 3) is used to map the reviewed programme. The revised map is the focus of Phase 4. The new map is used to ensure that there is an appropriate distribution of module learning outcomes in relation to each programme outcome, and that there is horizontal and vertical integration which may be described as:

- ❖ Within each module, there is constructive alignment between the content and the learning outcomes, it is checked that assessments indicate the achievement of the learning outcomes, and that learning experiences are designed to engage students to achieve the learning outcomes.
- ❖ Within each semester, there is adequate distribution of a variety of assessment tasks and learning experiences, and no overlap exists between the learning outcomes.
- ❖ The learning outcomes are developmental across all semesters and require increasingly sophisticated thinking skills. There is sufficient distribution and variety of assessment tasks and learning experiences at appropriate levels.
- ❖ The collective experiences ensure that graduates are work-ready on completion of the programme. Therefore, the graduate attribute outcomes should also be supported within modules by the teaching, learning and assessment activities.

The initial needs analysis document is also revisited to ensure that the best facets of the programme have been maintained or enhanced, as well as that areas that needed the development have been improved. Before the revised curriculum is approved, it is vital that the team confirms that all the feedback collected as part of the needs analysis, has been addressed. This includes particular attention to feedback from current students, recent graduates, employers of recent graduates, as well as regional and external teaching partners. If this has been done, the revised changes may be submitted for approval (Oliver *et al*. 2007:108).

- Phase 5: Programme changes approved

The map of the reviewed programme (and the map of the existing programme) is used to assess the level of change and to prepare the documentation for authorisation. If the changes are approved, existing students are either migrated to the programme or guaranteed completion of the programme in its current state (Oliver *et al.* 2007:108).

An additional example of the mapping and integration of graduate attributes can be found in the work of Kroeze, Ponelis, Venter, Pretorius and Prinsloo (2012), in which the guidelines from the applicable professional association, SAQA and the HEQF guidelines were used and compared. Willcoxson *et al.* (2010:66) followed a similar process by linking the requirements of the accounting profession to the graduate attributes defined by the university, systematically ensuring that all modules in the accounting programme contribute to the development of required professional competencies and graduate attributes, as well as addressing ‘assurance of learning’ requirements (of accrediting bodies) by directly relating programme and module objectives to teaching and assessment activities.

3.4.2.4 Some general principles for embedding graduate attributes in curricula

a) A holistic perspective

Graduate attributes thus cannot only be embedded as part of module-specific outcomes, but ideally should be promoted at institutional, national and professional body/association levels. Again, there should be alignment (bottom up) in the approach to promote the attributes that will make graduates more employable.

Van Schalkwyk *et al.* (2010:3) offer a number of key principles that should be considered when embarking on a venture to encourage the development of graduate attributes, namely

- Desirable graduate attributes are most effectively formulated at university, programme and module levels, specifically when integrated in the curriculum in the context of disciplinary knowledge.
- There should be constructive alignment between the teaching and learning practices, as well as assessment, and module outcomes. This equally applies to those module outcomes linked to graduate attributes.
- The way in which graduate attributes are assessed, how graduate attributes are marketed to the outside world, and the way in which they are demonstrated, need thoughtful planning.
- Formative feedback is fundamental to the development of graduate attributes (see Chapter 4).
- The conceptions and understandings of academics with regard to graduate attributes need to be explored and shared.
- The link between graduate attributes and generic skills/academic literacies should be carefully considered and conceptualised.

b) Time and human resource implications

From the curriculum mapping approaches explored above, it becomes evident that human resources also are an essential asset for the process of curriculum mapping and inquiry. Thus, in essence, it seems to be a labour-intensive process that requires multiple inputs from various stakeholders with varying expertise. This expertise has been described as a curriculum challenge experienced in South Africa where massification and large class sizes make it difficult for academic staff members to

engage in quality assurance of programmes and modules, because of time constraints and other moderating factors (see section 3.3.4).

Bath, Smith, Stein and Swann (2004:325), however, argue that even when conducted to the highest standards, embedding opportunities for the development of graduate attributes in curricula and the mapping of those opportunities in documented representations of curricula will only produce a static snapshot of a curriculum. This view represents the perspectives and expectations of teachers and may not necessarily correlate with what the students experience and perceive with regard to their development of graduate attributes.

It has become clear from the previous discussions that curriculum mapping processes are time consuming and the success of this intensive process will only become evident from student evaluations, employer feedback and a growing reputation for excellence in teaching and learning practice (Cleary *et al*. 2007:15-16). Udelhofen (2005:16) suggests that because the mapping and review process is time consuming, those staff members involved in such a process should be supported in making/allowing time for such efforts (e.g. making use of additional part-time teachers for a period of time so that academic staff members can be involved in the review process without added pressure).

c) Proactive implementation and evaluation

Embedding graduate attribute development should not merely become part of the adopted curriculum, but also the enacted curriculum. The curriculum mapping processes feed the possibility of a quality-assured curriculum, but other processes are required to create a living and validated curriculum. A validated curriculum is described as a curriculum in which the planned, enacted and experienced curricula are aligned in the eyes of all relevant stakeholders. Regular review and renewal processes ensure that the validation of the curriculum is continuous, in turn producing a living curriculum (Bath *et al.* 2004:325; Green *et al.* 2009:3).

Graduate employability may be enhanced if the curriculum is reviewed jointly by teaching staff and those in support services, such as academic development, career service, recruitment, marketing and alumni (ACEA 2008:2). These support systems and sources of information are discussed in more detail in section 3.4.3.

Curriculum mapping aids curriculum design and delivery as it promotes living activity where lecturers are constantly reminded in their module and programme teams to reflect upon all practices and components related to the curriculum (Madiba 2011:387).

3.4.3 Sources of information, support and development

Students learn about and develop graduate attributes through their academic work, paid employment, community and social connections, on- and off-campus, and life experience (intentional as well as unintentional learning) (Cleary *et al.* 2007:3).

Given the approaches to embedding graduate attributes in university curricula, it is important to consider internal and external sources that may inform and offer valuable support for the promotion and development of graduate attributes. These sources are discussed below.

3.4.3.1 Internal sources

Universities usually offer students opportunities for developing themselves through participation in clubs and societies, and university life. It is, however, important that students are assisted in the articulation of what is expected and valued by employers (CBI 2009:8). Another source of support for the development of graduate attributes at universities may be the counselling offered by career agencies/centres or similar agencies (Cleary *et al.* 2007:8). Student-services that offer life and academic skills workshops, study groups, peer mentoring and more provide an invaluable resource for the development of graduate attributes (Chalmers and Partridge 2013:69).

Staff with curriculum expertise may also work with teaching staff with discipline-specific knowledge. Academic staff members often can access one-on-one personal support at their university's teaching and learning centre (Chalmers and Partridge 2013:69). Universities endeavour to develop employability skills in their students by providing academic staff with relevant support and resources, and by integrating the skills into curriculum and programme design, providing students with work placements and exposure to professional settings, and providing advice and guidance through career services (Cleary *et al.* 2007:3,15-16; Bridgstock 2009:40).

Besides teacher evaluations, students should provide information on how they contribute to their own learning. They should provide information about the teaching

and learning practices that improve their performance and accommodate their learning styles, and not on that which they merely enjoy (Green *et al*. 2009:11). The involvement of students in student associations may play a valuable role in the development of graduate attributes (e.g. teamwork and leadership). An example of this is the Commercio Student Association at the Faculty of Economic and Management Sciences at the University of the Free State. The objective of the association is to serve the students in the faculty by providing support during their years of study and to serve as a channel of communication between faculty management, teachers and students to promote a healthy academic environment. The association aims to bridge the gap between diverse students from different degree programmes (UFS 2014:Online).

3.4.3.2 External sources

Independent statuary bodies such as the Council on Higher Education (CHE) and its sub-committees develop and implement systems of quality assurance for higher education. The activities of the CHE include, amongst others, programme accreditation, institutional audits, quality promotion and capacity development, and standards development, while keeping abreast of international trends, challenges and research (CHE n.d.). These activities and subsequent documentation provide valuable information with regard to graduate attributes and their role and position in higher education and the world of work.

Hanlon *et al.* (2008:48) explain the value of university-industry relationships. Effective communication between university and industry will influence the development of graduate attributes, as, due to this, information is shared that may inform curriculum development and the alignment of teaching and learning outcomes with industry requirements. An example of industry involvement is the professional and governing bodies doing quality assurance of professional programmes, such as the South African Institute for Charted Accountants (SAICA). Industry groups, such as chambers of commerce and economic development boards may be additional and valuable sources of information with regard to industry needs. Universities should be responsive to communication and expressed needs by responding to industry requirements in a timely manner. The relationship between universities and industry may be mutually beneficial when industries are able to attract high quality

graduates and post-graduates through their involvement with universities and the development of graduate attributes (CBI 2009:20).

In summary, the important concepts and considerations relating to the curriculum mapping processes and embedding graduate attributes in curricula are collated and illustrated in Figure 3.9.

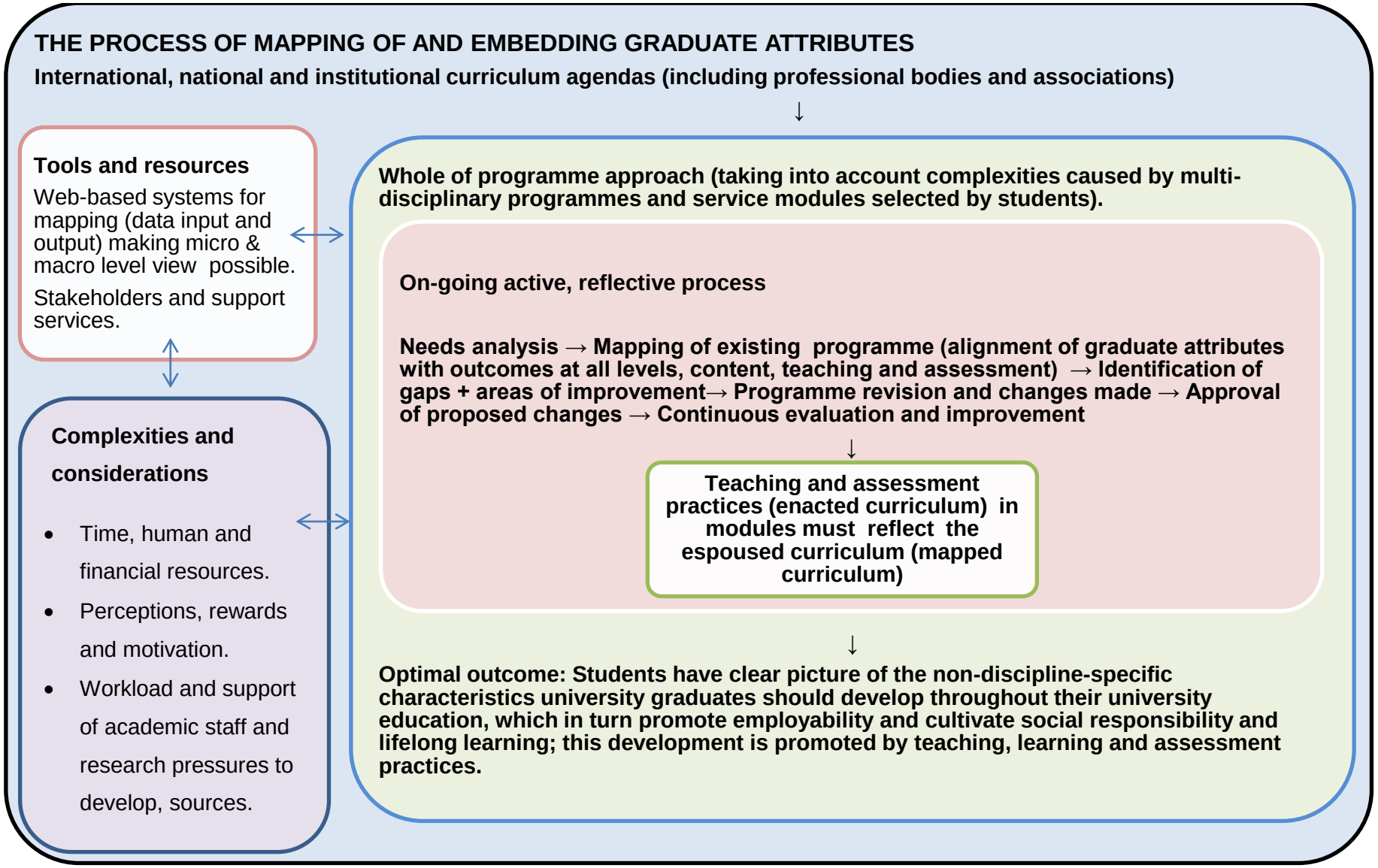


Figure 3.9 Concepts and considerations for curriculum mapping and embedding graduate attributes

Given the exploration of curriculum perspectives, challenges, curriculum design as a process, the embedding of graduate attributes and the concept of curriculum mapping (as a curriculum review process) above, the question arises as to how graduate attributes may contextually be embedded in undergraduate Bachelor of Commerce degrees. The discussion below attempts to identify possible directives and considerations for embedding graduate attributes in such curricula.

3.5 BACHELOR OF COMMERCE CURRICULA: DIRECTIVES FOR EMBEDDING GRADUATE ATTRIBUTES

The information below should ideally be considered in conjunction with the various views and phases of curriculum development (that includes curriculum design and evaluation/review) presented throughout the chapter. Curriculum views and perspectives should not be viewed in isolation but rather selected and implemented to promote student learning (serving the context of the country, institution, profession and faculty) and ultimately sufficiently prepare students for the world of work.

3.5.1 The need to be responsive to the international and national environments

Bachelor of Commerce degrees need to be responsive to the demands from the international and national environments. Chapter 2 has highlighted the fact that a gap exists between employer expectations and the graduate attributes of those graduates entering the world of work. The Higher Education South Africa (HESA) report of 2009 clearly proclaims that this is also true for commercial degrees. In terms of curriculum review and redesign it will be important to consider the requirements of the international and national environments, as well as those of government and professional bodies/ associations (such as SAICA), that became evident from the literature discussed in this chapter.

3.5.2 The student profile and needs analysis

The student profile and the needs of those students entering commercial degree programmes embody an essential consideration in the curriculum design, review and embedding process (Lucas and Marshall 2009: 387). In South Africa, student diversity and levels of preparedness present a prominent curriculum challenge, as discussed throughout the chapter. The needs for every student that qualifies for entry into commercial degrees ideally should be met. Graduate attribute (development) outcomes can be integrated with discipline-specific modules or be presented as stand-alone modules. The CHE (2013b:208) explicates the value of supporting modules and courses to help students succeed in their core modules, as students are diverse and enter higher education with different levels of preparedness (many whom are underprepared).

3.5.3 Curriculum design and the position of graduate attributes

The views presented in this section should be considered along with perspectives regarding curriculum design/review presented throughout the chapter. Some design and structure considerations are explored below.

3.5.3.1 Outcomes, teaching, learning and assessment

Along with student diversity, commerce knowledge and content are dynamic and subject to constant change (Lucas and Marshall 2009:386). In terms of outcomes, the CHE (2013b:205) states that the outcomes of commercial degrees fall into two categories, namely technical/professional knowledge, as well as broad pervasive skills and competences.

The skills and competencies aid the knowledge to be understood and applied effectively. It is clear that graduate attributes and discipline-specific knowledge cannot be separated, and both should be explicitly expressed in the outcomes of programmes and modules. These expressed outcomes should be enacted and not be static intended statements. Lucas and Marshall (2009:387), Yorke and Knight (2006:7) and the Confederation of Business Industry (CBI) in the United Kingdom (CBI 2009:8) equally aver that whether attributes are developed separately or in an integrated fashion, students must be able to recognise when graduate attributes may be relevant within individual modules.

From the findings of experts discussed, it is obvious that there should be horizontal and vertical alignment of module outcomes. This equally holds true for graduate attribute outcomes. Ideally, no module should be purely factual. All modules should serve to develop the graduate attributes that are relevant to the world of work as well as the specific discipline (CHE 2013b:2011). Barrie (2006:230) justly proclaims that embedded attributes provide the building blocks for discipline knowledge and are more long lasting and important than the discipline knowledge they support.

Lucas and Marshall (2009:383-384) point out that the study of business and management does not consist of a single discipline, but rather comprises traditional disciplines such as economics, mathematics, law, and the more recently incorporated subjects such as marketing and accounting. Given the multi-disciplined nature of business and management degrees, capstone modules in later years of study allow students to integrate what they have learnt in various modules and aid the development of graduate attributes that may promote the work-readiness of graduates.

In terms of curriculum design and review, academics may also need to work in a more integrated manner because of the modular nature of some programmes (Lucas and Marshall 2009:385). Students' development of graduate attributes (and the increase in the level of sophistication) takes time and there should be an even spread and progression of this development throughout the degree programme. The CHE (2013b:210) makes mention of the latter 'spread' of both stand-alone enrichment modules, and integrated modules.

The course content, teaching and assessment should be designed to include a variety of activities such as essay writing, group work, peer and self-assessment, basic research, and so forth, which will in turn promote opportunities for diverse student learning needs/preferences and promote graduate attribute development (Chalmers and Partridge 2013:56-71).

The value of technology as aid for teaching, learning and assessment needs to be considered, as well as various modes of delivery (e.g. learning management systems, electronic portfolios, acquisition and organisation of information, etc.) (Reeves and Reeves 2013:112-127). In addition to the aforementioned, cognitively

demanding tasks should be reasonably spread and scaffolded across the curriculum (discussed in more detail in Chapter 4).

3.5.3.2 Structure and pathways for student progression

Students should be provided opportunities to progress with their studies when they have proved to have sufficiently mastered the required knowledge and skills such as basic computer literacy (CHE 2013b:221). In other words, students may be 'tested out' of particular foundation courses (e.g. pass a preliminary computer literacy test sufficiently), and may therefore 'accelerate' their progress (through having the opportunity to enrol for other modules in the programme).

It is argued that if students are employed, or already have work experience at the beginning their higher education studies, some may have developed many of the required attributes already. Cleary *et al*. (2007:3) note that many students are concurrently developing skills through part-time employment, volunteer work and community participation. In this regard the CBI (2009:8) surmises that an increasing number of students are currently entering higher education as mature students after several years in the workplace.

There currently is a movement toward the extension of the duration of certain Bachelor of Commerce degrees from three to four years. The motivation for this extension is to allow sufficient time to support the depth and breadth of knowledge development and make the exit standards achievable for more students. The purpose of such a change is not solely to increase pass rates, but it essentially is considered in order to produce better quality passes and, therefore, graduates of better quality (CHE 2013b:208).

When embedding graduate attributes in programmes, the workload should be accurately reflected and the time required from the student should be considered for both subject-specific knowledge as well as graduate attribute development. According to the CHE (2013b:210), barriers to progression should be identified, and mechanisms should be devised to support progression in order to prevent course overload, dropping years or dropping out entirely. An example of such a mechanism would be to offer courses in both the first and second semester.

3.5.4 Staff member considerations

From the literature studied, it was evident that the perceptions with regard to the responsibilities of academic staff need to be clarified to optimally involve (and motivate) these staff members in the curriculum design and review processes for successful embedding, teaching, learning and assessment of graduate attributes. The CHE (2013b:208) suggests that institutional policy should ensure that all lecturing and academic staff members be familiar with the relevant characteristics of the scholarship of teaching and learning. Likewise, it is important that these staff members are supported (trained and equipped) by staff members with curriculum expertise (ACEA 2008:2). The staff members with the know-how can either be situated within the faculty or at institutional level (such as the Centre for Teaching and Learning at the University of the Free State), and should provide guidance with regard to aspects such as curriculum design, graduate attribute development, teaching, and assessment practices, as well as the use of technology to aid and promote educational practices.

Finally, it may be useful to consider how staff members may be rewarded for outstanding efforts with regard to their role in curriculum review, design, teaching, learning, and assessment practices. As mentioned earlier in the chapter, academic staff members are under great pressure to produce research outputs as they are promoted and rewarded based on these outputs, while at the same time they are required to invest in and improve teaching and learning practices (Hassan 2013:311).

Human and financial resources remain an important aspect in the successful implementation of curriculum outcomes and aspirations (including graduate attribute outcomes).

3.5.5 Monitoring and evaluation

Constant monitoring, evaluation (by all stakeholders), and adaptation of curriculum practices are vital in higher education, and this also applies to the practices related to graduate attributes in the curriculum. One way of doing this is to collect student opinions on their educational experiences. Lucas and Marshall (2009:389) state that student views can inform module or programme design when they are afforded the

opportunities to reflect on their learning and experiences. Green *et al.* (2006:132) argue that reflective practice by teachers is as important as higher education research in developing a scholarly approach to graduate attribute development (also see 4.4.4). Other means of monitoring and evaluation include gaining insights from the opinions and views of the world of work regarding the quality of the students delivered by universities (see Table 2.3).

3.6 CONCLUSION

The discussions in Chapter 2 revealed the importance of adequately preparing students for the world of work. This chapter was aimed at addressing the research question: *How can curriculum design/mapping models assist to address and embed the graduate attributes that have been identified into EMS curricula?* In following this directive, the chapter commenced with the clarification of concepts related to the curriculum and embedding graduate attributes.

An exploration of influential curriculum perspectives and approaches to curriculum design revealed valuable facets and challenges to be kept in mind during the process of curriculum design and review, as well as the mapping and embedding of graduate attributes in curricula. The former exploration informed the presentation of directives for embedding graduate attributes in undergraduate Bachelor of Commerce degree programmes. These views subsequently may provide assistance in answering the overarching research question:

- *Which graduate attributes are required to appropriately prepare EMS students for the world of work and how can these attributes be accommodated in undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?*

It is, however, not enough to embed graduate attributes in curricula. There has to be alignment with discipline-specific outcomes, and teaching, learning and assessment strategies. In addition, it is vital that intended graduate attributes are transferred to the world of work and it is important to investigate how such transfer can be addressed and promoted.

Chapter 4 is centred on the teaching, evaluation (or assessment) and transfer of graduate attributes and aims to address the educational perspectives, considerations and possible methods for the collection of evidence of the development and acquisition of graduate attributes.

Finally, Figure 3.10 illustrates the interrelated themes discussed in this chapter and how they relate to one another.

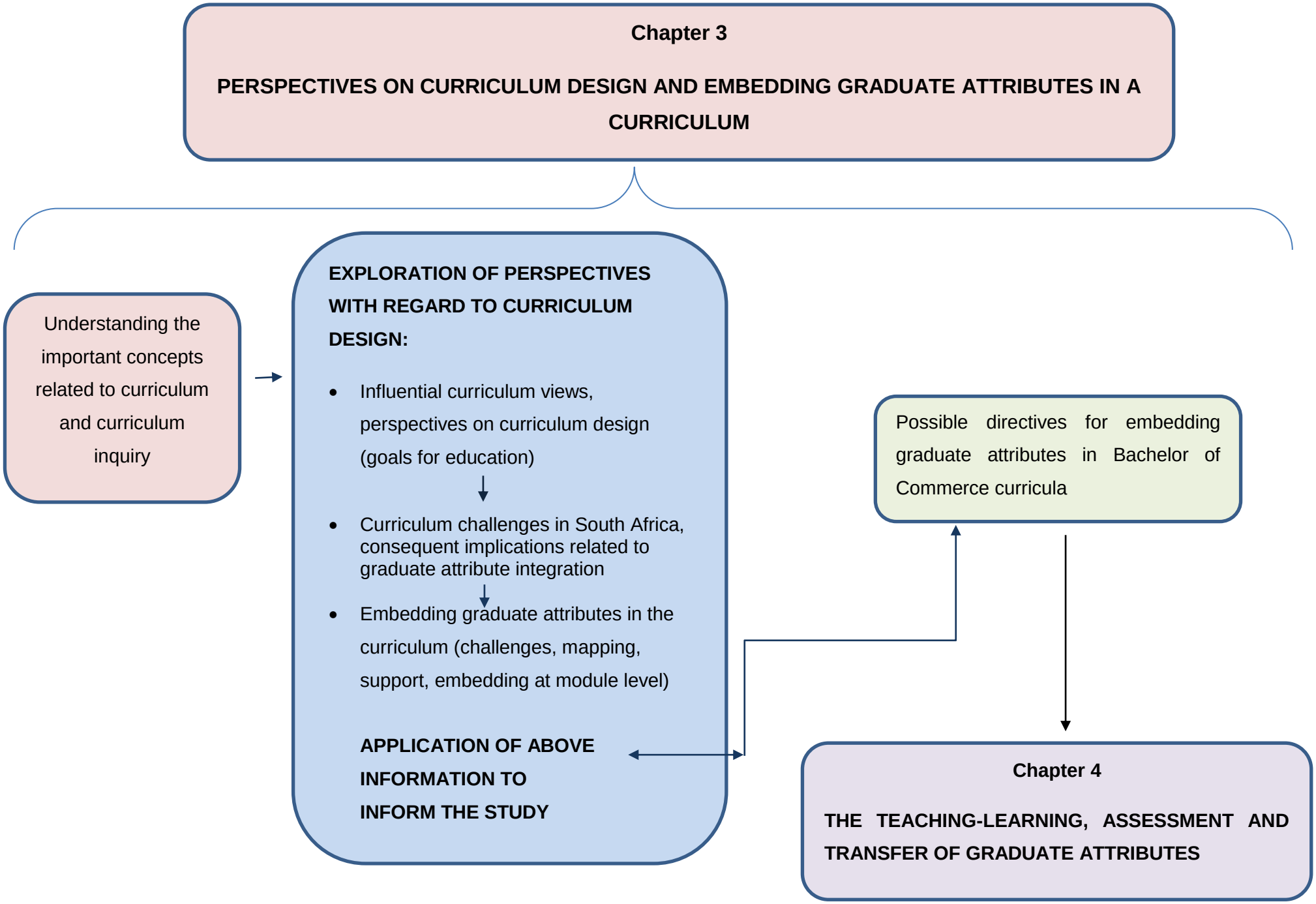


Figure 3.10: Themes addressed in Chapter 3

CHAPTER 4

THE TEACHING, ASSESSMENT, AND TRANSFER OF GRADUATE ATTRIBUTES

Chapter 2 addressed the movement toward recognising the importance of graduate attribute development in higher education for the purpose of better preparing students for the world in which they will be employed. In Chapter 3 the focus narrowed to various curriculum perspectives and the considerations for the embedding of graduate attributes (and consequent graduate attribute learning outcomes) in undergraduate curricula. It became evident that curriculum development and consequent design, dissemination, implementation and evaluation are vital processes for the successful embedding of graduate attributes in undergraduate curricula.

4.1 INTRODUCTION

As a means of addressing concerns around student development and graduate attributes, there has been interest in fostering university learning that is less didactic and more situated, participative, and 'real-world' oriented (CHE 2011:4).

The University of Sydney (2011:Online) in the same vein proclaims that graduate attributes ultimately are developed through successful student engagement with the learning and teaching experiences of their disciplinary and professional programmes and their participation as active members of the university community.

Yorke and Knight (2006:3) contend that graduate attributes may be incorporated in curricula in a range of ways and there is no 'one size fits all' solution.

As discussed in detail in Chapter 3, all the components in curriculum design are interlinked and interdependent, thus not isolated steps.

> *Content should follow from clear statements of intent and must be derived from considering external and internal context. But equally, content must be delivered by appropriate teaching-learning methods and assessed by relevant tools. No one element, for example, assessment, should be decided without considering the other elements (Prideaux 2003:267).*

This chapter is devoted to a report on to the exploration of some principles and practices that may enhance the teaching, learning, assessment (or sources of evidence), and transfer of graduate attributes. The chapter therefore addresses the third and fourth research questions:

- How can graduate attributes be taught and the evidence of the development and attainment of graduate attributes be collected and assessed?
- What are the educational considerations pertaining to the transferability of graduate attributes in HE?

The chapter commences with the clarification of important concepts and terminology, and thereafter provides an exploration of some principles and methods that could enhance the teaching-learning, development, assessment, mastery, and transfer of graduate attributes. It is also important to take note of the role that technology plays in teaching-learning and assessment practices, and if applied soundly, how it may aid these practices.

Figure 4.1 provides an illustration of the central and interrelated themes discussed in the chapter.

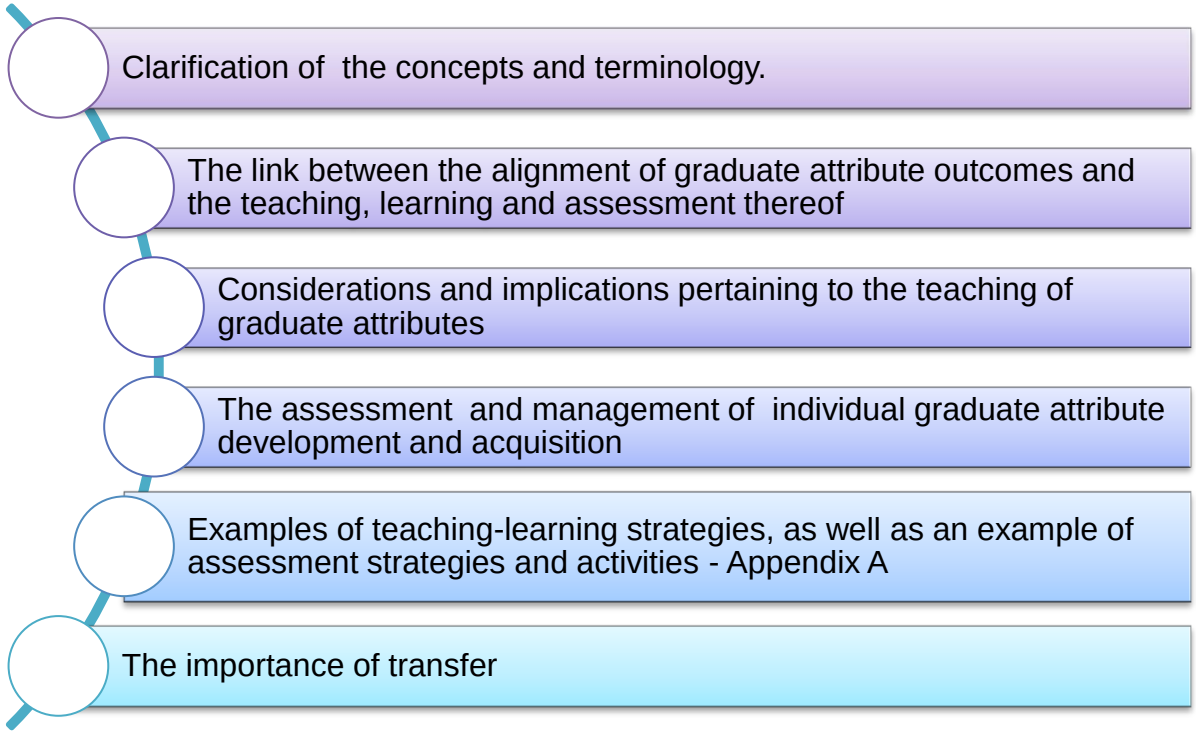


Figure 4.1: Themes addressed in Chapter 4

4.2 CONCEPT CLARIFICATION

Before teaching-learning, assessment, and transfer principles and practices can be explored, it is important to appreciate what the related concepts entail.

4.2.1 Teaching-learning as a process and practice

Carl (2012:95) states that there is a close connection between learning experiences, learning opportunities and teaching methods. For this reason, reference is commonly made to teaching-learning practices. Carl (2012:95) cites the work of Carl, Volschenk, Franken, Ehlers, Kotzé, Louw and van der Merwe (1988:48) who explain this connection as follows:

….by means of instruction and learning actions, in other words, action on the part of the teacher and the learner, a learning opportunity is created for the learner also to be personally and actively involved with a view to deriving the most meaningful experience from this involvement.

Although *instruction and instructional activities* are frequently used in the literature, the researcher will use teaching-learning for the sake of continuity and clarity in terminology.

4.2.2 Outcomes and objectives

As already defined in Chapter 3 (see 3.2.8 for more detailed information), learning outcomes are the contextually demonstrated end-products of the learning process (SAQA 2001:70). Many authors make use of the term *objectives* to describe specific learning outcomes in units of modules that stem from more *general programme and module learning outcomes*. This has become particularly clear in Chapter 3 in which the different curriculum perspectives have been discussed.

In South Africa, qualification and unit standards are registered in terms of learning outcomes and not objectives. For the purpose of this particular chapter and for the sake of uniformity the word *outcomes* is used throughout, although common reference is made to objectives within different educational systems, curriculum designs and international literature.

4.2.3 Declarative and functioning knowledge

Declarative knowledge may be described as the knowledge base that students need to learn. Functioning knowledge refers to the application of relevant declarative knowledge. According to Biggs and Tang (2011:133-134, 252), the action verbs associated with declarative knowledge are, for example, “define” or “explain”, and the action verbs associated with functioning knowledge are, for example, “apply”, “design” or “create”.

In the light of this particular study, functioning knowledge and the relevant teaching-learning and assessment practices become important in terms of graduate attribute mastery and transfer. However, a sound declarative knowledge base (resulting from deep approaches to teaching-learning) is important as the student draws from it for application in more than one context.

4.2.4 Assessment

SAQA (2001:15-16) defines assessment in education and training as collecting evidence of students' (learners') work, so that judgements about the students' achievements or non-achievement can be made and decisions arrived at. Assessment is also viewed as a structured process for gathering evidence and making judgments about an individual's performance in relation to registered national standards and qualifications.

4.2.5 Work Integrated Learning

The concept of Work Integrated Learning (WIL) is used as an umbrella term to describe curricular, pedagogic and assessment practices, across a range of academic disciplines that integrate formal learning and workplace concerns. The concept implies career-focused education that includes classroom-based and workplace-based forms of learning that are appropriate for a particular professional qualification and address concerns such as graduateness, employability and civic responsibility (CHE 2011:4). WIL thus serves as a valuable vehicle for the development and integration of graduate attributes in higher education curricula and therefore is relevant to the particular study.

There also are a great number of examples of WIL that include the following: action learning, apprenticeships, cooperative learning, experiential learning, inquiry learning, inter-professional learning, practicum placements, problem-based learning, project-based learning, scenario learning, service learning, team-based learning, virtual or simulated WIL learning, work-based learning, work experience, and workplace learning (CHE 2011:4).

4.2.6 Mastery

Ambrose *et al.* (2010:95) define mastery as the attainment of a high degree of competence within a particular area. The area may be narrowly or broadly defined, ranging from discrete skills or content knowledge to extensive knowledge and skills within a complex disciplinary domain.

4.2.7 Transfer

The application of skills (or knowledge, strategies, approaches, or habits) learned in one context to a novel context is referred to as transfer (Ambrose *et al.* 2010:108)

4.2.8 Learner and student

In the context of this particular study the words ‘student’ and ‘student-orientated’ are used. It is, however, important take note that in many of the source texts the words ‘learner’ and ‘learner-orientated’ or ‘learner-centred’ are used. This study and the views presented here have implications for higher education curricula and thus the researcher opted to use the word ‘student’ and ‘student-centred’.

4.2.9 Lecturer and teacher

The terms lecturer (found frequently in British publications) and teacher (found frequently in American publications) are used synonymously in higher education literature. A lecturer is defined as “a person who gives lectures, especially as an occupation at a university or college of higher education”, and a teacher is defined as “a person who teaches, especially in a school” (Oxford Dictionaries 2014:Online). Some of the synonyms offered for these terms (e.g. faculty, academic, guide, professor, educator, instructor) illustrate their similarity (Oxford Dictionaries 2014:Online).

In the context of this particular study the word ‘teacher’ is used throughout and refers to the university teacher in the higher education context.

4.3 THE ALIGNMENT OF GRADUATE ATTRIBUTES OUTCOMES, TEACHING, LEARNING AND ASSESSMENT

As discussed in Chapter 3 (see 3.3.4.4), constructive alignment has been described as a balanced system in which the outcomes, teaching-learning activities and assessment are aligned and support each other. The discussion below briefly illustrates the importance of such alignment and symbiosis.

According to Diamond (2008:148) the most important idea in fostering quality in any curriculum is the fundamental relationship that exists between goals, outcomes and assessment. The closer the relationship, the more effective the teaching and learning experience will be. It is vital that learning outcomes describe in detail what is to be achieved and the students are then judged with regard to how well they meet the specific criteria emanating from the outcomes. Likewise, Chapman (2004:9-10) surmises that embedding the attributes in a module means that there will be a link between the key characteristics of the module (i.e. module outcomes, teaching-learning activities and assessment tasks).

In the light of the particular study, Yorke and Knight (2006:7) maintain that the development of graduate attributes takes time and practice, and students need to be continually reminded of what the intended learning outcomes or objectives are, what criteria will indicate the achievement of the outcomes, and the methods for improvement. The CHE (2013b:105) makes mention of need to extend the standard duration of programmes in order to create curriculum space for promoting good-quality learning for a diverse student population and to allow for the development of graduate attributes that are required nationally, regionally and globally (see Chapter 3).

4.3.1 Learning outcomes

Learning outcomes received attention in Chapter 3 (see 3.2.8 and 3.3.4.4 in particular). Just like discipline-specific intended learning outcomes, graduate attributes as learning outcomes have to be communicated explicitly.

Chapman (2004:11) describes three main categories of learning outcomes for graduate attribute development:

- Intellectual outcomes, which designate what the students are expected to know, think about, and learn, as well as how they interpret and make sense of knowledge and different perspectives on knowledge. This include the use of particular disciplinary discourses and conventions. These outcomes include the skills of analytical thinking, creative and/or logical thinking, problem solving and the capability for independent lifelong learning.
- Interpersonal outcomes focus on how students should interact with other people and manage themselves. Interpersonal outcomes are associated with oral, written and visual communication skills, the ability to work in teams, and professional and personal ethics.
- Technical or practical outcomes focus on what students should be able to do or create, and how they should apply certain processes or techniques. These outcomes therefore are task related and associated with the technical outcomes of learning.

At module level, an intended learning outcome as defined in Chapter 3 (see 3.2.8.1), should stipulate an action verb at a suitable level of understanding or of the performance intended, the topic content that the action verb is intended to address, as well as the context of the content discipline in which the action verb is to be deployed. Bloom's revised taxonomy of educational objectives and Biggs's SOLO (Structure of Observed Learning Outcomes) taxonomy offer action verbs that aid the description and level of understanding intended. Bloom's classifications might be employed as a useful foundation for a programmatic approach to learning development, because they allow for the creation of upper and lower cognitive levels and sets of standards and criteria for achievement. Taxonomies such as Bloom's are expressed as generic, developmental levels of student learning and teachers therefore may interpret each level to explore the knowledge, norms and skills required in their discipline at various stages in the degree programme (Green *et al.* 2009:7).

SOLO stands for 'structure of the observed learning outcomes', and provides a systematic way of describing how a learner's performance grows in complexity when mastering many academic tasks. The SOLO taxonomy can be used to write and asses learning outcomes at the applicable level of operating. There are two main

levels of complexity, namely *quantitative,* which aims to increase the amount of knowledge (moving from uni-structural to increasingly multi-structural), and *qualitative,* which aims at a deeper understanding and integration at a higher level (relational and then extended abstract). The SOLO taxonomy was based on student learning and the study of outcomes in a variety of academic contexts (Biggs and Tang 2011:87,90,120-125; Killen and Hattingh 2004:76-77). In terms of assessment, the SOLO taxonomy can aid the identification of standards for student performance and may have significant value in the assessment of graduate attributes.

According to Diamond (2008:150) clearly stated outcomes have various advantages, such as the following:

- The facilitation of fair testing and marking.
- Aids decision making in terms of appropriate practices and materials.
- Emphasis and sequence shifts from what the teacher must do to what students should be able to do.
- Communication among students, teachers and support staff is improved.
- Because students know what they are expected to do, they can reflect, learn and make connections between the components of a module and the programme.

Graduate attributes thus are measured through learning outcomes, which are aligned with assessments (Lawson *et al*. 2011:2). It is also important to note that functioning knowledge (such as graduate attributes) often is addressed by several learning outcomes or by the whole programme (Biggs and Tang 2011:234), which makes curriculum review (and mapping processes) essential.

4.3.2 Assessment criteria and standards

Learning outcomes are assessed through employing assessment criteria. Dee Fink (2013:99) states that it is extremely important to apply clear and appropriate criteria and standards.

Assessment criteria should specify how satisfactory performance of the module's learning outcomes is to be demonstrated. Assessment criteria indicate how the task should be done (e.g. what should be included, how long should it be, etc.). The

extent to which the task complies with the assessment criteria determines whether the student will be regarded as competent or not yet competent (RSA DoE 2008:92).

As elucidated in Chapter 3 (see 3.3.4.4), by linking learning outcomes with assessment criteria and assessment practice, greater coherence in curriculum design can be achieved. Teaching strategies need to be developed which will enable the student to achieve the learning outcomes *and* comply with the requirements of the assessment criteria. In constructive alignment, the same action verb should be used to formulate an outcome, describe the related teaching-learning activity and formulate the related assessment task and the related assessment criteria (Biggs and Tang 2011:97-98, 209). Assessment criteria can also be made explicit by making use of well-constructed rubrics (Blumberg 2014:42; Dee Fink 2013:99). Such assessment thus is criterion-referenced, which receives more attention 4.5.3.6.

Figure 4.2 shows the alignment and relationship between outcomes, assessment and teaching-learning activities.

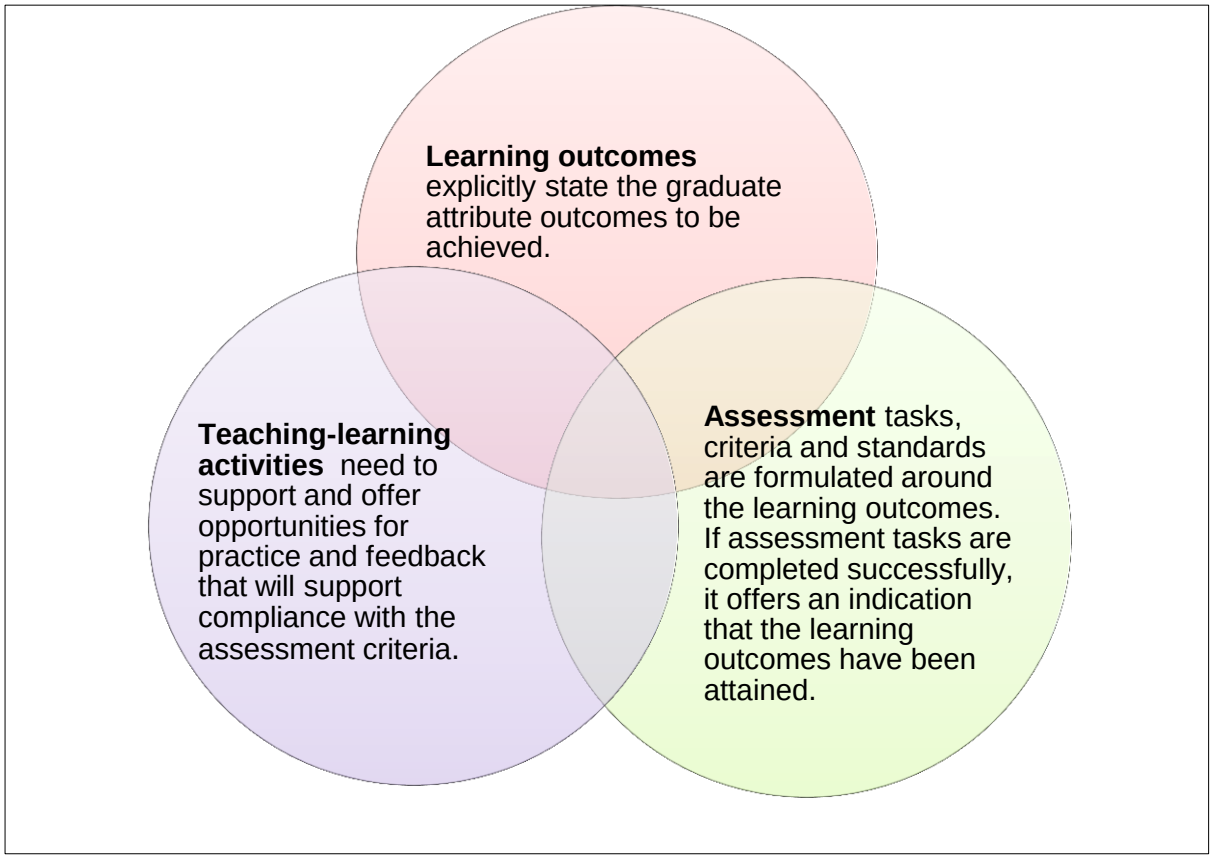


Figure 4.2: The relationship between graduate attribute learning outcomes, teaching-learning activities and assessment

In summary, the teaching and learning cycle cannot be complete unless assessment, that is aligned with the learning outcomes and teaching strategies/activities, demonstrates that the intended learning has occurred (Biggs and Tang 2011, Blumberg 2014:42; Chalmers and Partridge 2013:66; McDonald and Van der Horst 2007:2; Van Schalkwyk *et al.* 2010:3).

The same applies to the development and acquisition of graduate attributes at the required level (made explicit in graduate attribute learning outcomes). Chapman (2004:10) places emphasis on the fact that if graduate attributes are not included as outcomes, it is unlikely that students will develop them. In addition, students are often assessment driven and will learn what they need to know or do in order to get good marks.

In the light of the aforementioned relationship, the next two sections will address the teaching, learning and assessment of graduate attributes.

4.4 CONSIDERATIONS AND IMPLICATIONS PERTAINING TO THE TEACHING OF GRADUATE ATTRIBUTES

The section below explores the challenges, and provides a brief overview of perspectives/principles that aid student-centred teaching-learning (and which can promote the teaching and development of graduate attributes). Examples of methods and strategies used to teach graduate attributes at higher education institutions will be subjected to scrutiny.

4.4.1 Challenges in the teaching of graduate attributes

A number of challenges are experienced with the teaching of graduate attributes. Some of the multiple challenges are described below.

4.4.1.1 Priority given to discipline specific competence

Jones (2009:181,185-186) maintains that teachers often view graduate attributes as inessential because they are not framed as part of the disciplinary content. Despite the fact that many graduate attributes, such as critical thinking and problem solving form an integral part of the discipline, they do not often receive overt attention. The

tension between content and skills also appears to stem from the perception of top-down imposition of graduate attributes as learning outcomes. In addition, the teaching of graduate attributes is seen as separate from the module. There are few rewards for good teaching practices, which leads to a focus on the teaching of more concrete aspects of the subject (Jones 2009:187).

Barrie (2007:441) argues that the variation in what academics understand graduate attributes to be, results in very different types of learning outcomes and, subsequently, very different types of teaching-learning activities. As described in Chapter 2, Barrie identifies four conceptions with regard to graduate attributes that will influence the way in which graduate attributes are valued and taught, and will determine the amount of tension between content and skill. They are the precursor, complement, translation, and enabling conceptions (see 2.2.2).

4.4.1.2 Practical difficulties

The Faculty of Economic and Management Sciences at the University of the Free State has been faced with the challenge of large student numbers for many years. For example, the number of students enrolled in 2014 was 995 for a first-year accounting module, and 495 for a third-year accounting module respectively.

The practical difficulties presented by large classes and time pressures on teachers also work against the teaching of attributes such as competence in writing, speaking, and critical thinking, because these skills require formative assessment and feedback on tasks such as essays, open-ended problems and class presentations, as well as substantial input from teachers (Jones 2009:187).

As mentioned earlier, the institutional response to large student numbers and decreased government funding has been the development of cross-campus courses, using multiple modes of delivery. Academic module and programme coordinators are faced not just with the challenge of delivering quality learning outcomes across multiple campuses and by means of various modes of delivery, but also with the prospect of managing the large teaching teams required for hundreds and even thousands of students.

One attempt to address large student numbers and promotion of formative, student-centred teaching and assessment tasks is the appointment of temporary teachers.

The latter unfortunately leads to high staff turnover, lack of ownership and lack of institutional support in many cases, inevitably impacting on teaching quality. It is further often difficult to demand of temporary teachers the willingness and skills to develop a focus on process in their teaching because of their 'temporary' status. It therefore is essential to make funding available for temporary teachers to attend training and development sessions. The consequence of the challenge described here is that, without funding for training and development as well as dedicated temporary teachers, the responsibility and difficulties presented by large student numbers fall back on permanent teachers themselves (Green *et al*. 2009:9).

In addition to funding and efficiency constraints, universities are at the same time caught between the competing demands of professional bodies, employers, government, and a large student voice (Bourner, Greener and Rospigliosi 2011:29).

4.4.1.3 Diverse student population

Other challenges experienced, particularly in South Africa, is the level of preparedness and the diversity of students entering higher education, as discussed in Chapters 2 and 3 (see 2.4.2 and 3.5.2). The major teaching and learning challenges facing higher education revolve around student diversity, which includes, amongst others, diversity in students' academic preparedness, language and schooling background (Jaffer *et al*. 2007:133).

4.4.1.4 Resistance on the part of the teacher and the student

One of the reasons for the extent of the resistance to the notion of graduate attributes is that they have become associated with bureaucracy, audit and control, and are often viewed as irrelevant checklists. Furthermore, the implementation is often either left to teachers to do as they choose, allocated to one individual or group to implement in specific modules, or the adoption of a template is mandated (Barrie, Hughes and Smith 2009a:13; Jones 2009:187).

4.4.1.5 Messages communicated to students and student resistance toward uncertainty

All teachers, staff members and students should be equally aware of the value and relevance of the academic programme, extra-curricular activities, services offered by career services or other components of the university student experience that promote the development of graduate attributes and preparation for the world of work (Barrie *et al*. 2009a:25,26,33; Barrie, Hughes, Smith and Thomson 2009b:12,18; Rae 2007:608). It often happens that these aspects which have an impact on student life are not approached and dealt with consistently and this may result in conflicting messages to students.

The expectations of teacher regarding students' critical thinking also often cause a sense of uncertainty and resistance from students, and these feelings need to be managed and countered by teachers (Jones 2009:185), while their critical thinking skills must be developed. Resistance can be a significant challenge with regard to the teaching and development of graduate attributes and points toward teaching-learning practices that students have grown accustomed to (e.g. students 'regurgitate' what they were 'told' to study), and do not see their way open to change.

4.4.1.6 Staff development and engagement

Barrie *et al.* (2009a:13) state that another challenge is the provision of support to and development of staff that needs to implement the integration of teaching-learning and assessment of graduate attributes in practice. Staff development opportunities do not in the first instance address conceptual change (and understanding) and staff engagement, but rather offer curriculum tools and techniques. It often happens that teachers are left to enact policy on their own or as they choose. Often only a few individuals are tasked with the mapping of graduate attributes in curricula.

With the challenges discussed in this section in mind, the question arises as to what teaching-learning principles and strategies may promote the development of graduate attributes. The discussion below explores and sheds light on influential perspectives/principles of 'good teaching' that might promote the attainment of discipline-specific, professional and graduate attribute outcomes.

4.4.2 Paradigm shift towards student-centred teaching-learning

In the section below, the shift toward a new teaching paradigm and a student-centred approach receives attention.

4.4.2.1 Paradigm shift in teaching

According to Dee Fink (2013:20) a number of authors have announced a paradigm shift with regard to how education is viewed in the higher education arena. Dee Fink refers to the work of Barr and Tagg (1995:12-25), and in particular to the implications such a shift, namely

- The mission and purpose of teaching-learning are shifting from improving the quality of instruction to enhancing the quality of learning, and criteria for success; that is, from the quality of entering students to the quality of graduates.
- Teaching-learning activities are shifting from covering material to specific learning results.
- Learning theory is moving from learning being viewed as cumulative and linear toward learning being the interacting and embedding of frameworks.
- Productivity and funding are viewed in terms of cost per module per student, instead of cost of instruction per student per hour.
- The nature and roles of teachers have shifted from mainly being teachers (lecturers), to being facilitators who are designers of learning activities and environments.

The above-mentioned implies that teachers should consider the impact of teaching and assessment, and thus the quality of learning (also see Chapter 2, 2.4.1 and 2.4.2).

Table 4.1 provides a useful illustration of some of the characteristics of the old and new paradigms of college/university teaching, as presented by Smith and Waller (1997). These characteristics can be recognised in the perspectives explored throughout this chapter. Note again that ‘faculty’ in this table refers to university teachers.

Table 4.1: Old and new paradigms in college teaching

	Old paradigm	New paradigm
Knowledge	Transferred from faculty (i.e. teachers) to students.	Jointly constructed by students and faculty (i.e. teachers).
Student	Passive vessel to be filled by faculty's knowledge.	Active constructer, discoverer, transformer of knowledge.
Mode of learning	Memorising.	Relating.
Faculty purpose	Classify and sort students.	Develop students' competencies and talents.
Student growth and goals	Students strive to complete requirements, achieve certification within a discipline.	Students strive to focus on continual, lifelong learning within a broader system.
Relationships	Impersonal relationship among students and between faculty and students.	Personal relationship among students and between faculty and students.
Context	Competitive, individualistic	Cooperative learning in classroom, and in teams among faculty.
Climate	Conformity, cultural uniformity	Diversity and personal esteem; cultural diversity and commonality.
Power	Faculty holds and exercises power, authority and control.	Students are empowered; power is shared among students and between students and faculty.
Assessment	Norm-referenced (that is, grading on the curve); typically using multiple-choice items; student rating of instruction at end of course (module).	Criterion-referenced (that is, grading according to predefined standards); portfolios; continual assessment of instruction.
Ways of knowing	Logical-scientific.	Narrative.
Epistemology	Reductionist; facts and memorisation.	Constructivist; inquiry and invention.
Technology use	Drill and practise; textbook substitute; chalk-and-talk substitute	Problem-solving, communication, collaboration, information access, expression.
Teaching assumption	Any expert can teach.	Teaching is complex and requires considerable training.

Source: Smith and Waller (1997)

4.4.2.2 Student-centredness

The new paradigm referred to in 4.4.2.1 introduces the notion of a movement to a student-centred approach to teaching-learning.

According to Branch (2005:1 of 10), when following a student-centred approach to teaching-learning, practices should be based on the performance objectives (i.e. learning outcomes in South Africa) and the student's background (see the comments with regard to levels of student preparedness in 3.5.2). Although the outcomes remain constant, the prerequisites and communication methods will vary, based on a student's reason for participating in a teaching-learning episode (motivation), the student's capacity to construct knowledge and skill (rate), and a student's expression for how he/she prefers to learn (style). Branch goes further in stating that students and their performance are the focal point and that teaching-learning practices are a means to the end of student performance. Students actively participate in determining objectives (i.e. outcomes in South Africa) and instructional methods.

A focus on the 'how to', as well as the 'what' and the 'why', indicates a student-centred approach since the teachers must begin from where the students are, clearly articulating their expectations of student learning at the level of each individual course (Green *et al.* 2009:7).

Cullen, Harris and Hill (2012:62-63) define student-centredness to encompass a broader view of the constructivist approach to curriculum design that focuses on types of learning and environments that are intentionally placed in the curriculum to create consistency and nurture integration. According to Cullen *et al.* student-centred practices are described in terms of three domains, namely

- The creation of a community in which it is essential for students to learn from one another, to work together, experience a safe learning environment, and become prepared for the world of work, that is becoming increasingly team orientated.
- A healthy and productive balance between power and control that will foster creativity as well as motivation. Motivated learning requires the students to feel free to make choices, and in the process, believe that activities have value, and to make a decision that they are able to conquer the challenge.

- Assessment as a basis for the design of the curriculum (basically starting with the end in mind) and as an on-going process for keeping track of students' progress throughout the curriculum.

However, many teachers continue to employ teacher-centred and content-focused approaches in their classrooms, which in turn lead to poorer graduate outcomes for their students. A curriculum shift is essential from the exclusive focus on content at times to the integration of content with process (De la Harpe, Radloff and Wyber 2000:233-234). The CHE (2013b:110) further emphasises that student learning needs to be put first, and that a flexible curriculum structure is required to improve student learning, and consequently, the quality of learning outcomes ,and completion rates. Policies, the different interpretations thereof, as well as the forms of implementation should contribute to meeting the goal of putting student learning first.

Brüssow (2007:42) states that although student-centred learning assures better learning, learners from diverse backgrounds have failed to commit themselves to the proposed independent approach to learning and that this is revealed in the poor pass rates of students at South African higher education institutions. The author suggests that teachers thus should design learning-teaching strategies that will not only scaffold the shift from teacher-centred to student-centred approaches, but also ensure effective learning. It thus is important that teachers create events or activities in which students can construct their own knowledge.

Dee Fink (2013:23) explains that teachers have been experimenting with alternative methods of teaching that fall under the general heading of active experiential learning and have found value in approaches such as active learning, writing to learn, small-group learning, assessment as learning, service learning, reflection and instructional technology. This also becomes evident in examples of the teaching and assessment of graduate attributes discussed throughout the chapter.

In addition, Cleary *et al*. (2007:24) surmise that to teach skills and knowledge, teachers need to move beyond traditional lecturing and use a range of teaching methods. They need to teach 'about' particular skills, model those skills and attributes, and develop them through the teaching methodologies they use.

It therefore is important to consider influential teaching-learning perspectives in face-to-face as well as blended modes of delivery, and the concepts of deep and surface approaches to learning. The application of and approach to deep and surface learning have a direct impact on discipline-specific knowledge and skills, but also on the development of graduate attributes in modules and programmes.

4.4.3 Perspectives for the enhancement of teaching-learning practices

The section below provides a brief exploration of perspectives related to good practice in undergraduate education. As mentioned earlier, these perspectives can inform instructional strategies for the teaching and development of graduate attributes. Technology also is used to a large extent to aid teaching-learning practices.

4.4.3.1 Seven principles for good practice in undergraduate education

Chickering and Gamson (1987) propose seven principles for good practice in undergraduate education. Diamond (2008:195) offers representative items for these principles that may serve as good examples for guiding teachers. It is also useful to consider how technology can aid the implementation of these instructional principles, as technology has become an integral tool in teaching-learning practices (see Chapter 3, 3.3.5). The work of Chickering and Ehrmann (1996) also in particular offers valuable insight as to how technology (as a lever/device) can support instructional strategies and principles. The principles, representative items and role of technology are described in an integrated fashion below.

a) Student-teacher contact

Frequent student-teacher contact is imperative for student motivation and involvement. The concern of teachers helps students get through challenges, and knowing some of the teachers well enhances student commitment and encourages students to think about their own values and plans for the future (Chickering and Gamson 1987).

Representative item: “I know my students by name by the end of the first two weeks of the term” (Diamond 2008:195).

Technology offers an additional platform for contact between students and teachers. Communication platforms supported by technology may enable shy or reluctant students to ask questions. It may also be easier to raise personal concerns or discuss values in writing rather than orally. Furthermore, the number of commuting part-time students and adult learners has increased and technology such as electronic mail, and asynchronous and synchronous discussion forums enables interaction and information exchange among students, teachers and support staff that would not otherwise be possible for students that come to class and leave soon afterward to meet work or family responsibilities (Chickering and Ehrmann 1996).

b) Encourage cooperation among students

Learning is enhanced through teamwork as opposed to working in isolation. Good learning is collaborative and social, and working with others frequently increases involvement in the learning. The sharing of ideas and response to the reactions of others promote thinking and deepen understanding (Chickering and Gamson 1987).

Representative item: “I create ‘learning communities’, study groups or project teams within my courses” (Diamond 2008:195).

Technology-enabled collaboration tools (such as discussion forums, e-mail, wikis, blogs, etc.) may aid and strengthen communication and cooperation among students. The use of tools that encourage collaboration enables students to communicate when they are not able to meet physically (Chickering and Ehrmann 1996).

c) Encourage active learning

Students do not learn well by being passive, sitting in classes listening to teachers, memorising information and regurgitating answers. Students should discuss what they are learning, write about it, connect it to past experiences and apply what they have learnt in their daily lives (Chickering and Gamson 1987).

Representative item: “I give my students concrete real-life situations to analyse” (Diamond 2008:195).

There is a wide range of technologies available that may encourage active learning. Many of these technologies fall into one of three categories: tools and resources for

learning by doing, and asynchronous and synchronous conversation/ exchange. An example of these resources is the use of research libraries for the acquisition of information, as well as the use of software that makes real-life simulations possible (Chickering and Ehrmann 1996).

d) Give prompt feedback

At the beginning, students need help to assess existing knowledge and competence. Learning is focused though receiving feedback regarding what has been learnt and still needs to be learned. During classes students need frequent opportunities to perform activities as well as frequent suggestions for improvement (Chickering and Gamson 1987).

Representative item: "I return test papers within a reasonable time and allow students to make appointments with me to discuss their progress" (Diamond 2008:195).

Technology makes prompt feedback possible in that student access, efforts and inputs are recorded and analysed (Chickering and Ehrmann 1996). Technology may also support person-to-person feedback (for example, e-mail, comments on electronic assignments, and contributions on discussion forums, reflective journals, e-portfolios and many more), and the feedback is not reliant on a physical environment. It is also possible to provide feedback for specific questions in electronic tests and the student can receive feedback immediately after completion (Blackboard Help 2014).

e) Emphasise time on task

Learning to use one's time well is critical for both students and professionals, and students need help in learning to manage their time effectively. The allocation of realistic amounts of time allows for effective student learning, and teaching for teachers. The way in which time expectations are defined by an institution, defines the time expectations for students, teachers, administrators and others, and may establish the basis for high levels of performance for all (Chickering and Gamson 1987).

Representative item: “I clearly communicate to my students the minimum amount of time they should spend on preparing for class and other tasks” (Diamond 2008:195).

Technology may increase time on task by making time spent on tasks more efficient and convenient. Teaching strategies that help students learn at home or work can save time otherwise spent on, for example, commuting to and from campus. Technology can further enable teachers to record student participation and interaction, and help document student time on task, especially when related to student performance (Chickering and Ehrmann 1996).

f) Communicate high expectations

Expecting students to perform well leads to a self-fulfilling prophecy on the condition that teachers and institutions hold high expectations of themselves and act upon these expectations. High expectations are important for all students with varying abilities, including the under-prepared and those that are strong achievers and motivated to excel (Chickering and Gamson 1987).

Representative item: “I make clear my expectations orally and in writing at the beginning of each course” (Diamond 2008:195).

According to Chickering and Ehrmann (1996), technology makes the presentation of real-life problems, conflicting perspectives, or paradoxical data sets possible and can set powerful learning challenges that drive students to not only acquire information, but also to sharpen their cognitive skills of analysis, synthesis, application, and evaluation. With technology, criteria for evaluating products and performances can be more clearly articulated by the teacher or generated in collaboration with students. Performance criteria can be also be illustrated with samples of excellent, average and faulty performance.

Recent products in learning management systems (such as Blackboard) enable the teacher to link learning outcomes with activities on the learning management system that aid the communication of high expectations. In addition, the use of electronic rubrics available in learning management systems also enables the communication of high expectations (Blackboard Learn 2014).

g) Respect talents and styles of learning

Students need the opportunity to explore and show their talents and styles of learning. Teaching-learning practices should make provision for different learning styles and talents (Chickering and Gamson 1987).

Representative item: "I try to find out about my students' learning styles, interests, or backgrounds" (Diamond 2008:195).

Technology can make the accommodation of different learning styles and diverse student needs possible, such as learning through powerful visuals and well-organised print, virtual experiences and tasks requiring analysis, synthesis, and evaluation, with applications to real-life situations. Technological tools also can provide structure and flexibility to tasks such as assignments. Technology-enabled tools may encourage self-reflection and self-evaluation, and drive collaboration and group problem solving (Chickering and Ehrmann 1996).

The aforementioned enables students to learn in ways they find most effective and broaden their capabilities for learning. Learning paths and adaptive release capabilities offered by certain learning management systems allow students that are ready and capable to move quickly through tasks and materials to move to more complex tasks. At the same time, those students that need more support can take more time and get more feedback and direct help from teachers and fellow students (Blackboard Help 2013).

4.4.3.2 The Universal Design of Learning approach

As the numbers of students in higher education increases, so does the diversity among students. Students entering the higher education system differ in terms of learning and physical ability, learning styles, levels of preparedness, biographic differences and many more. Burgstahler (2010:27) contends that Universal Design of Learning (UDL) can be applied to the overall design of instruction (i.e., to teaching-learning activities), as well as in specific areas such as class climate, delivery methods, information resources and technology, interaction, feedback, assessment and teaching techniques. In addition, Burgstahler (2010:31) maintains that UDL and the principles of instruction can enhance the application of Chickering and Gamson's (1987) seven principles of good practice.

With the latter in mind, a UDL approach may promote and facilitate the learning of more (and ideally, all) students and in turn promote the development of graduate attributes as well.

The UDL approach is described as “a proactive approach to making courses inclusive of all potential students, including those with disabilities” (Burgstahler 2010:23). Burgstahler (2012) suggests that learning design should consider all students that may differ with regard to ability, disability, gender, age, reading level, native language, and other characteristics. This approach takes cognisance of aspects such as class climate, communication, physical environment, and information by encouraging multiple means of representation, expression and engagement (Rose, Harbour, Johnston, Daley and Abarbanell 2006:2-3).

Scott, McGuire and Shaw (2001) offer a description and examples of the implementation of the nine principles of Universal Design of Instruction (UDI). The descriptions are supplemented with examples provided by Burghstahler (2010:27). Take note that the UDL principles (multiple means of representation, expression and engagement) encapsulate the principles for instruction which are discussed below.

a) Equitable use

The principle of equitable use suggests that teaching-learning activities are designed to be useful to and accessible to people with diverse abilities. It involves providing the same resources for all students that are identical whenever possible and equivalent when not. An example of equitable use is the provision of comprehensive class notes provided online that can be accessed by all, regardless of factors such as hearing ability, language proficiency, learning or attention disorders and level of note-taking. Having documents available in an electronic format enables students to make use of assistive technology to read, hear, see or study the class notes (Burgstahler 2010:27; Scott *et al*. 2001).

b) Flexibility in use

Flexibility in use means that teaching-learning activities intended to accommodate a wide range of individual preferences and abilities, and should provide a choice in methods of use. The use of diverse teaching methods, such as lecturing with a visual outline, group activities, field trips, and online discussion forums provide different

opportunities for learning and engaging with knowledge (Burgstahler 2010:27; Scott *et al.* 2001).

c) Simple and intuitive

This principle suggests that teaching-learning activities are designed to eliminate unnecessary complexity; thus they should be designed in a straightforward and predictable fashion regardless of the student's current experience, knowledge, language skills or concentration level. An example would be making available grading rubrics that visibly lay out expectations and assessment criteria for activities such as assignments or essays. Another example may be the provision of a module guide with comprehensive and clear, accurate information and instructions (Scott *et al*. 2001).

d) Perceptible information

Making necessary information available in such a manner that it is communicated effectively to the student, irrespective of environmental conditions or the sensory abilities of the student, promotes the principle of perceptible information. Again it is suggested that material (such as textbooks and other teaching-learning support materials) be made available online and in paper copy format to enable the use of assistive technology and devices. Another example could be the inclusion of captions in video presentations (Burgstahler 2010:27; Scott *et al.* 2001).

e) Tolerance for error

Tolerance for error means that teaching-learning activities should make provision for deviation with regard to an individual student’s learning pace and the achievement of required skills. Actions such as allowing more time for the completion of assignments and allowing opportunities for formative and constructive feedback and practice promote the principle of tolerance for error. Educational technology makes automated feedback possible and guides students in the right direction (Burgstahler 2010:27; Scott *et al.* 2001).

f) Low physical effort

The principle of low physical effort suggests that teaching-learning activities are designed to decrease unnecessary physical effort to allow for maximum attention to learning (this does not apply when physical effort is an integral part of the module or programme). An example of applying this principle would be expecting students to use a word processor for writing and editing papers or essay exams. The latter can allow for editing of the documents without the added physical exertion of rewriting portions of text and will be helpful for students with fine motor or handwriting difficulties. Open and easy access to lecture halls also is important (Burgstahler 2010:27; Scott *et al.* 2001).

g) Size and space for approach and use

Size and space for approach and use means that teaching-learning activities are designed with consideration for the physical environment. An example would be the use of circular seating arrangements in small group sessions to allow students to see and face one another during discussion and will also accommodate those with attention disorders, the deaf and hard of hearing (Scott *et al.* 2001).

h) Community of learners

Building a community of learners is promoted when the teaching-learning environment encourages interaction and communication among students and between students and teachers. Actions that promote a community of leaners include the structuring of study and discussion groups, shared e-mail lists, online chat areas, and making a personal connection with students (such as learning students' names and acknowledging outstanding performance) (Scott *et al.* 2001).

i) Instructional (teaching) climate

This principle places emphasis on designing teaching-learning activities to be welcoming and inclusive, where high expectations are communicated to all students. Some strategies include statements in module guides that encourage respect for diversity, as well as an open invitation to discuss specific learning needs with the university teacher (Scott *et al*. 2001).

4.4.3.3 The shift from teaching for surface learning to teaching for deep learning

The section below explores the shift from teaching for surface learning to teaching for deep and meaningful learning.

a) Teaching for surface learning

In a surface approach to the learning process, students rely on surface features (signs) such as students storing information in their working memory long enough to get through an assessment. However, the information is not integrated in their network of understanding and long-term memory (Cullen *et al*. 2012:47; Marton and Säljö 1976:7). It must be noted, however, as Biggs and Tang (2011:24) explain, that memorising information can serve both deep and surface approaches to learning as students gradually learn how different sets of knowledge are integrated and form part of larger systems.

On the part of the student, there are factors that encourage the adoption of a surface approach to learning, namely the intention to achieve the minimum pass rate only; non-academic activities enjoying priority over academic ones; high work-load with too little time; regarding factual recall as adequate; a negative view of the subject or teaching context; high levels of anxiety and a genuine inability to understand the content at a deep level (Biggs and Tang 2011:25).

Further, on the part of the teacher the following factors encourage students to adopt a surface approach to learning namely: neglecting to explain the intrinsic structure of the topic or subject; assessing isolated facts; portraying a negative attitude toward the subject; emphasising coverage of the content instead of allowing sufficient time for the engagement in tasks that enhance understanding as well as the creating of anxiety or low expectations for success (Biggs and Tang 2011:25-26).

Biggs and Tang (2011:197-198) make mention of the crucial backwash effect of assessment on learning, namely that students will only learn what is assessed. Negative backwash happens in an exam-dominated system where teachers focus on exam-taking strategies and students only focus on previous exam papers and best guessing what questions will be asked (‘spotting’), which in turn leads to surface learning. A positive backwash effect can be accomplished by the constructive alignment of learning outcomes, teaching-learning activities and assessment tasks,

which will ensure that students will be learning all the intended learning outcomes. The latter may then lead to deep learning as students will be able not only to focus on the surface features of learning.

b) Teaching for deep learning

With deep-level processing, the student is directed towards the intentional content of the learning material (i.e., what is signified). According to this approach, the student integrates knowledge into his/her existing knowledge and revises or enriches current understanding. The knowledge is fixed and the student can draw on it and apply it in several contexts. Deep processing requires students to make connections between what they are learning and what they already know. In addition, the more someone knows about a subject, the easier it becomes for the person to deeply process information about it (Cullen *et al.;* Marton and Säljö 1976:7-9). Deep-level processing (i.e. deep learning) correlates with the constructivist curriculum perspectives elaborated on in Chapter 3 (see 3.3.2.1).

According to UNESCO (2008:6-8), deep knowledge increases the students' ability both to act as responsible citizens and to add value to society, the economy and political life. Deep knowledge empowers students to solve complex, high priority problems that are encountered in the real-world situations of work, society and life.

There are factors on the students' part that may encourage the adoption of a deep approach to learning, namely the intention to engage in the task meaningfully; a well-constructed knowledge base; the ability to focus at a high conceptual level and first principle knowledge, as well as the preference for working conceptually rather with unrelated information (Biggs and Tang 2011:26-27).

There are also factors on the teacher's part that encourage the adoption of a deep approach to learning, such as: teaching in a manner that clearly illustrates the structure of the subject; teaching that elicits the active participation of students; building on what students already know; confronting students' misconceptions; assessing for holistic understanding, and using teaching and assessment practices that explicitly support the intended learning outcomes of the module/programme (Biggs and Tang 2011:27) . The explicit alignment of outcomes, teaching and

assessment is referred to as constructive alignment, as discussed in Chapter 3 (see 3.3.4.4).

The notion of a deep learning approach corresponds with the concept of meaningful learning (Marton and Säljö 1976:10). Novak (1998; 2010) has published widely on the concept of meaningful learning and concept mapping as a tool for teaching-learning. Much of his research has been informed by the work of Ausubel (1963, cited in Novak 2010). According to Novak (1998:23), meaningful learning is defined by three characteristics, namely that the learner has preceding knowledge that is relevant to the new learning that needs to be done, the content (material) presented must contain significant concepts and be relevant to other learning, and the learner must make a choice to learn meaningfully and consciously attempt to relate new knowledge to existing knowledge.

Novak (2010:22) further explains that if the learner chooses to integrate new concepts with existing relevant ideas in her/his cognitive structure; the learner feels in control of the knowledge acquired; retains it for longer, and is capable of using this knowledge in problem solving, creative thinking or further meaningful learning. Novak (2010:23) states: “Meaningful learning underlies the constructive integration of thinking, feeling, and acting, leading to empowerment for commitment and responsibility.”

Mcinnis, Ramsden and Maconachie (2012:43) provide a useful summary of the characteristics of teaching-learning associated with deep and surface approaches to learning. Surface approaches are encouraged by an excessive amount of material in the curriculum, lack of independence in studying, as well as a lack of interest in and background knowledge of the subject matter. Furthermore, assessment that is characterised by poor or absence of feedback on progress, and assessment practices that emphasise recall or trivial procedural knowledge create anxiety or send conflicting messages about rewards.

In contrast, deep approaches are encouraged by high and clearly stated academic expectations and stimulating teaching; especially teaching which demonstrates an academic’s personal commitment to the subject matter and to stressing its meaning and relevance to students. Furthermore, there are opportunities to exercise responsible choices in the method and content of study and there is an interest in the

subject content and background knowledge of the subject matter. Moreover, teaching and assessment practices foster vigorous and long-term engagement with learning tasks, and assessment criteria are aligned with the learning outcomes of the curriculum. Alignment is a major factor in a well-structured curriculum (McInnis *et al.* 2012:43)

In conclusion, the question of how curriculum and teaching-learning activity design can foster deep and meaningful learning warrants attention. In terms of structure, it is clear that those involved in curriculum design should first identify preferred results, then determine expectable evidence and finally plan teaching-learning experiences that will promote the attainment of the desired outcomes. What has been learnt in the discussion with regard to the challenges experienced with the teaching of graduate attributes as well as the perspectives related to good practice and principles for effective teaching and learning has a direct impact on the teaching and development of graduate attributes as learning outcomes in higher education.

Contribution to the study

There are many correlations between perspectives with regard to good teaching-learning practices discussed here and the new paradigm for teaching that has also been shared (see 4.4.2).

Through the exploration of the challenges associated with the teaching of graduate attributes as well as influential teaching-learning perspectives, the following suggestions for the teaching of graduate attributes were finally derived by the researcher, namely

a) Perspectives, buy-in and support

First, it seems that teachers need to understand the importance of the development of graduate attributes and possible misconceptions with regard to the position and development of graduate attributes in curricula. The latter should take place before learning outcomes, teaching and assessment strategies can be devised. The CHE (2013b:208) likewise states that teachers' interest in effective teaching-learning strategies need to be sparked to enable the kind of learning required in the current international and national labour and education arena.

Learning outcomes also should not remain espoused statements but be enacted, effectively integrated and addressed through aligned teaching and assessment practices. The latter needs national, institutional, faculty and departmental buy-in and support. Chapter 3 also offers useful guidelines in terms of the mapping of graduate attributes that offers teachers an opportunity to view graduate attribute development in context and provide a platform for teachers that are working in a specific programme to collaborate and share information (see 3.4.2).

The development of graduate attributes requires that the traditional role of academic staff (i.e. teachers and tutors) will require some transformation and therefore additional training for all staff members involved in teaching is essential.

Building of relationships among students as well as with and among teachers and tutors promotes the development of support structures and openness to learning and asking for help where needed. Students are motivated by timely feedback and praise from teachers and students.

b) Considerations in terms of the teaching-learning process

The active involvement of students in the learning process is more beneficial than the passive reception and memorisation of information. New information that needs to be learnt by students must be meaningfully integrated with existing/prior knowledge. When this integration happens, that which is learned, is more likely to be retained and remembered (see 4.4.2.2 and 4.4.3).

Students should share in decision-making in the learning process. Students should be empowered and motivated by self-efficacy beliefs and accept responsibility for their own learning. In addition, students need to learn how to accept and acknowledge sameness and diversity among people in the educational environment, as diversity is also prevalent in the world of work (see 4.4.2 and 4.4.3.2).

The levels of preparedness of students will also influence how graduate attributes are taught and assessed. Thus provision will have to be made for those who are underprepared as well as the students that are able to accelerate to more complex learning experiences (see 3.5). Provision should be made for diverse styles of learning and ability (including levels of preparedness) that will encourage students to discover their strengths and weaknesses. Students are consequently allowed to

learn in ways they find most effective, as long as they succeed in applying a deep learning approach. Because individual students differ, the learning opportunities, tasks and material should allow for multiple means of representation, expression, and engagement.

Expectations and outcomes, including graduate attribute outcomes and the development thereof should be communicated and reinforced throughout the module and the programme. High expectations encourage successful achievement of students with varying levels of ability. There should likewise be provision or tolerance for error, allowing students enough time to get constructive feedback and support before final assessment takes place (see 4.4.3).

The teaching-learning practices discussed here will encourage deep learning because they promote aspects such as active participation, building on the existing knowledge of students and constructively aligning the components of the module.

The teaching-learning perspectives discussed in this section also correlate with the constructivist and experiential viewpoints discussed in Chapter 3 (see 3.3.2.1), which emphasise active approaches such as engagement, building on prior knowledge and reflective thinking. Dewey, Schön and Kolb (Blumberg 2014;51-52) illustrate that learning from experiences means going back and forth between experiences, knowledge structures, observations and reflections and making changes based on these reflections.

c) Technology

Technology can serve as an extremely helpful tool in teaching, and if applied effectively, support the development of graduate attributes such as problem-solving, information acquisition and access, communication, collaboration and many more (see 3.3.5, 4.4.2.1 and 4.4.3). In the light of large student numbers and lack of infrastructural space available at the UFS, technology may offer solutions and opportunities for small-group information exchange, discussion, collaboration and reflection, emphasis on time to be spent on tasks, and many more.

d) Practical difficulties

The CHE (2013b:208) states that well-managed tutorial systems may aid the teaching-learning of large classes and provide additional advantages, particularly in the form of academic advancement of those senior students involved as tutors. It is possible to design 'tutorial systems' involving small-group interactive learning that is facilitated by knowledgeable and well-trained tutors. The tutors can implement educationally informed tutorial activities, along with regular formative assessment tasks marked by tutors and subsequently moderated by academics. These initiatives may be possible within sensible budgets.

The researcher acknowledges that large student numbers and the lack of human and financial resources to manage these large student numbers while simultaneously offering opportunities for deep learning and effective assessment still remain a challenge and also need to be addressed at national level.

In summary, while it is difficult to create linkages across the academic, educational and professional world of the profession or field of practice, however, it is to the benefit of students and to the world of practice to do so. Programmes that do not provide students with insights into both the academic and the professional dimensions of their chosen field, do not adequately prepare students for professional practice (CHE 2011:8-9).

With the perspectives and directives for good teaching-learning practice discussed above in mind, the discussion below focuses on approaches that are specifically aimed at linking subject-specific knowledge to the world of work and subsequently promote the development of graduate attributes. Examples of the application of such approaches are included in Appendix A.

4.4.4 Different means of graduate attribute integration

Graduate attributes and their development may be embedded in modules in a variety of ways which include stand-alone modules, modifications to existing modules and, in some cases, the creation of new modules.

Note again that terms such as employability skills, key skills, generic skills and critical outcomes are used interchangeably in examples of embedding graduate

attributes. In the context of this particular study these terms form part of the larger definition of graduate attributes as described and adopted in Chapter 2 (see 2.2.1). Furthermore, the curriculum perspectives explored in Chapter 3 consistently revealed that the development of graduate attributes should be made explicit and not only be vaguely implied in the learning outcomes of modules and programmes (see 3.5.3.1).

It is reasoned that teaching-learning activities preceding graduation or work placement should support students in the development of skills required for professional practice at work (Trigwell, Martin, Benjamin and Prosser 2000:163). To achieve this, Trigwell *et al*. (2000:163), as well as Blumberg (2014) suggest that the development of educational approaches for a particular programme requires of the teacher to engage with the scholarly work of others (including general, discipline-specific and professional educational literature), as well as the reflection on his/her own teaching practice and experience of student learning in the module or programme. This reflective practice also received attention throughout Chapter 3.

In the United Kingdom, university responses to the employability skills agenda typically include modifications to existing course content (sometimes in response to employer suggestions), the introduction of new courses and teaching methods, and expanded provision of opportunities for work experience. Many universities also use a mix of embedded and stand-alone teaching methods in their efforts to develop employability skills (Mason *et al.* 2006). Garraway (2009:232) alludes that a dominant approach followed in Europe, which is also evident in South African policy, is the development of key skills (such as in the SAQA critical cross-field and developmental outcomes together with disciplinary knowledge acquisition).

The CHE (2011:15) recommends the following strategies for the design and implementation of effective work-integrated curricula, in which the focus is on the integration of theoretical knowledge and practice in ways that allow students to link university or disciplinary learning to workplace application:

- Designing teaching-learning activities that require the integration of disciplinary and workplace-relevant knowledge and skills.
- Making professional practice an essential part of the curricula and acting as the organiser for both disciplinary (theoretical) and practical learning, while

recognising that some workplace practices may differ from theoretical knowledge and then using this as a catalyst for integrative learning, critique and the development of new knowledge.

- Placing students in learning environments in which they engage in meaningful and consequential workplace activities that are designed to achieve enhanced and integrative learning.

There also is a wide variety of online, stand-alone employability skills and graduate attribute courses made available by universities such as the University of London (2014:Online). Organisations such as Pearson (2014) make available pre-formulated online learning opportunities to help students to build the employability skills most commonly cited by employers as the attributes they look for in new recruits. These self-assessment and interactive activities may be adapted for use in specific disciplines.

With the before-mentioned directives of the Council on Higher Education in mind, Garraway (2009:233) provides a useful summative rubric for the integration of skills (graduate attributes) by using the categories of work-based learning proposed by Seagraves, Osborne, Neal, Dockrell, Harsthorn and Boyd (1996:14-15), which is depicted in Table 4.2.

Table 4.2: Learning for, at and through work

Type	Explanation	Example
Learning for work	The university curriculum includes structured components which prepare students for thinking and doing at work (e.g. key skills approaches).	Personal development plans, problem-based learning, integration, and project work.
Learning at work	Work includes structured and assessed opportunities for learning.	Experiential learning components, work-based learning.
Learning through work	Unstructured and tacit learning occurs through engagement with the work community (e.g. situated learning approaches)	Work teams and critical circles in which workers work cooperatively on problems and engage in some sort of reflection on learning.

Source: Garraway (2009:233)

In the context of this study, the focus will fall within the learning for work and in certain contexts, the learning at work categories. These categories seem to correlate well with the description and types of Work Integrated Learning (WIL) described by means of the examples of the teaching, learning and assessment tasks, methods and strategies in Appendix A. Before these examples are to be presented, the assessment of graduate attributes warrants attention, since an important link exists between teaching-learning and assessment practices and principles.

4.5 MANAGEMENT AND ASSESSMENT OF GRADUATE ATTRIBUTE DEVELOPMENT

4.5.1 The value of good assessment practice

As clarified in 4.2, assessment in education and training is generally about 'collecting evidence of learners' work so that judgements about learners' achievements, or non-achievements, can be made and decisions made. Assessment results can have a great impact on the personal, social and economic progression and mobility of an individual in society; therefore, the central principle of assessment is that of ethics (SAQA 2001:15). Students, therefore, move through a continuum of assessment for school, university, for jobs, and as employees (Cleary *et al*. 2007:3)

Because the importance of the development of graduate attributes has been made explicit throughout the study, the assessment and collection of evidence of attribute development should also be dealt with in an ethical and accurate manner as it may impact on preparation for work. If student learning is driven by assessment and if we want to change the way our students learn and the content of what they learn, the most effective way is to change the way we assess them (Norton 2009:134).

4.5.2 Challenges related to the assessment of graduate attributes

Though there are many initiatives to cultivate graduate attributes in undergraduates, valid and reliable practices to assess these skills often are still in formation, and reporting on the assessment of these attributes (including employability skills) in ways that are manageable for universities and to the benefit of employers, is a real challenge (Cleary *et al*. 2007:45). The challenges with regard to the assessment of graduate attributes are discussed below.

4.5.2.1 Standards for the assessment of skills

Traditionally, student and institutional work has been measured by seat time rather than learning (i.e. time is the constant and learning the variable). This cannot reasonably be applied to all qualifications, for example, it does not apply to distance programmes. A general agreement is emerging that higher education should rather focus on generating and certifying knowledge and skills, regardless of the means or duration of instruction. However, a lack of transparent, generally accepted standards and appropriate assessments of knowledge and skills (especially for non-professional degrees) exists. Thus, adequate academic standards for student achievement need to be developed (Lingenfelter 2012:19; Rigby 2010:17).

4.5.2.2 Conflicting perspectives and messages to students

Variations in perspectives among individual teachers with regard to the assessment of graduate attributes result in conflicting messages that are communicated to students about the type of learning valued by an institution (Barrie *et al*. 2009a:14).

4.5.2.3 Persistence of assessment traditions and policy

In many cases assessment traditions remain unquestioned and unchallenged, because of their long connotation with particular disciplines. The particular assessment approaches might also reflect the long-standing use of particular assessment tasks, for example multiple choice questions and numerical problem calculations. It is also true that some of the traditional assessment practices are not easily adaptable to fit the assessment of graduate attributes. There are, however, longstanding assessment tasks (e.g. essay writing) that are potentially suitable (Barrie *et al*. 2009b:14).

Thompson *et al*. (2008:35-36) maintain that few Australian universities explicitly articulate the assessment and grading of graduate skills in their assessment policies. Beyond summative approaches, according to these authors, there has been minimal alignment of graduate skills with formative and developmental assessment processes, particularly in the undergraduate business curriculum. Rigby (2010:17), in the same vein, proclaims that the standards against which students are assessed should be complemented by effective formative and summative assessment practices. Boud and Falchikov (2005:38) state that formative assessment is underemphasised and also highlights its importance with reference to the development of graduate attributes.

Barrie *et al.* (2009b:15) explicate that the mentioned assessment traditions often are enshrined in faculty policies and institutional guidelines, and those individuals that adopt alternative assessment practices for graduate attributes might find their efforts hindered by restrictions on practices such as assessment tasks across modules, not using percentages or marks, or the assessment of the outcomes of service or WIL experiences. Rigby (2010:17) elucidates the fact that, although assessment is acknowledged as an integral part of student learning, the relationship between assessment and learning is not made explicit in policy and practice.

As mentioned in Chapter 3, graduate attributes develop gradually or incrementally over the years of study (see 3.4.2.2). It thus is difficult to assess these graduate attributes meaningfully over the course of a single semester. Alternative forms of assessment that extend beyond or across traditional module boundaries, may be required.

4.5.2.4 Superficial approaches

Because there are many demands on the time and resources of teachers, a gentle approach to the gradual implementation (adoption) of graduate attributes in teaching, learning and assessment has been used to ease the tasks and process. This may lead to the assumption among teachers that the assessment of graduate attributes requires little or no change in current practices and, although graduate attributes are mapped in the curriculum, the assessment thereof does not manifest in reality (Barrie *et al.* 2009b:15).

4.5.2.5 Over-reliance on external accreditation

In professional degrees the assessment of graduate attributes often has a strong focus on authentic, contextualised assessment tasks rather than decontextualized generic skills assessments. This practice is certainly favourable for the development of particular graduate attributes, but over-responsiveness to professional accreditation may also result in the risk of limiting the assessment focus to tangible workplace competencies at the expense of the transformational aspirations which underpin the graduate attribute philosophy of many universities. Changes that occur in national and institutional quality assurance processes are likely to have a direct impact on graduate assessment practices (Barrie *et al.* 2009b:15).

4.5.2.6 Passive assessment roles for students

Assessment with regard to graduate attributes often is done without student input: "The best intentions of GA assessment plans can fail to be realised if students are not made aware of these and if they are not actively engaged as partners in the assessment process" (Barrie *et al.* 2009b:15).

There are examples of the successful implementation of outcomes-based education showing that graduate attributes are effectively embedded in assessment, that they are explicitly underpinned by all teaching, learning and assessment activities, and that students are actively involved in directing their own learning (such as negotiation with regard to assessment tasks and the collection of evidence of progress and dialogue with teachers and peers). To attain this requires a deep and engaged consideration of assessment purposes and practices by teachers (Barrie *et al.* 2009b:15).

Given the challenges explored above, it becomes important to explore the qualities of credible assessment practices. The aim of the discussion below is to look at general principles that will promote student-centred assessment.

4.5.3 A holistic, integrated model of assessment for leaning

Appropriately designed learning and assessment tasks that are is self-regulated, reflective and authentic are vital elements of graduate skills development (Luca and Oliver 2002). The CHE (2011:41) states that WIL assessment (i.e. curricular, pedagogic and assessment practices, across a range of academic disciplines that integrate formal learning and workplace concerns) is based on the same principles that guide all other assessment planning and activity.

Student-centred teaching-learning practices (and principles) are intertwined with and relate very closely to student-centred assessment practices. Student-centred assessment practices include assessment *for* learning. A student-centred approach to learning involves aspects such as a sufficient number of assessment tasks; students' reflection on their own learning and synthesis of experiences; authenticity; assessment environments/opportunities that are supportive, collaborative and cooperative learning, as well as timely and constructive feedback regarding strengths and weaknesses. It also requires from the teacher to assess and reflect regularly on their assessment practice and make the necessary improvements (Blumberg 2014:105-106; Cullen *et al*. 2012:137-157).

Sambell, McDowell and Montgomery (2013) propose an integrated model of assessment *for* learning. The authors note that there often is a fragmented view and application of assessment for learning, and techniques often are bolted onto existing practices. In contrast, this holistic model proposes core conditions and central principles that underpin assessment practices in higher education and ideally should be treated as a philosophy or "way of thinking and doing". The principles of the model have been derived from evidence-based research conducted using the vast body of published work in higher education. Sambell and co-authors (2013) have managed to filter/derive key principles that support effective assessment and feedback practices that promote student-centred (-orientated) learning.

This model will subsequently be discussed and integrated along with the work of other authors and guidelines from the South African Qualifications Authority (SAQA). Figure 4.3 depicts the core principles of the assessment *for* learning model.

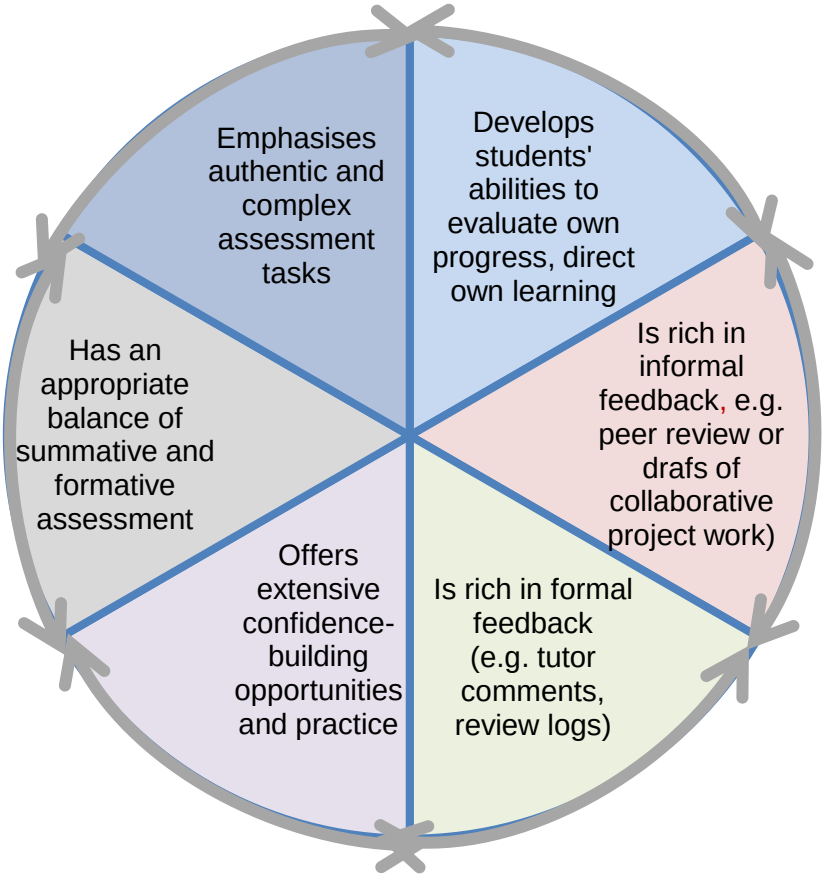


Figure 4.3: Assessment for learning

Source: Sambell *et al.* (2013:5)

The principles outlined by the model are as follows:

4.5.3.1 Authentic assessment

Authenticity refers to the extent to which what is assessed is the own, unassisted work of the student, and in the second instance it refers to the extent to which assessment links with the world of work in which the student will be employed (Brown and Race 2013:76). Assessment is authentic when it is seated in the kind of work that people do instead of just eliciting easy responses to simple questions (Dee Fink 2013:95).

Sambell *et al*. (2013:6, 15, 17) state that the focus of assessment should be on what the teacher really wants the student to achieve, rather than that they should be motivated by what is easy to assess or reliance on traditional methods that have been used in the past. If students are assessed for real-world tasks they will be more

likely to engage as they will realise that what they are being asked to do, is meaningful. Authentic assessment therefore promotes active self-regulated and deep approaches to learning.

Taylor (2009:784) argues that all the intended learning outcomes in a programme should be directly assessed in an authentic setting prior to graduation, and these learning outcomes will help to confirm consistent achievement of the knowledge, skills and behaviour required for a successful transition to employment.

Supervisor reports from WIL may serve as highly relevant and authentic means to record results of assessment of a student's employability skills (Cleary et al. 2007:40). Simulations, role-play and on-the-job activities also may be used to simulate actual workplace performance (CHE 2011:42).

Norton (2009:134) argues that authentic assessment that encourages the development of real-world knowledge and skills as well as the active holistic construction of creative responses has an additional benefit of limiting opportunities for plagiarism.

Authenticity also is of significant value when viewed in the context of this study.

4.5.3.2 Balancing summative and formative assessment

Summative assessment is generally carried out at the end of a learning period. Summative assessment especially is used to provide a final mark/grade achieved by the student at the end of a module or programme. It is used to determine how well students have learnt what they have been intended to learn at the end of a particular learning period (Biggs and Tang 2011:197)

Formative assessment refers to on-going assessment carried out during the course of a programme/module, and the results are used as an aid throughout the teaching-learning process. Formative assessment may take place in the form of feedback by the teacher, peers or self-assessment. Formative assessment thus provides feedback that can be used by teachers and students for improving both teaching and learning. The effectiveness of different teaching methods is actually related to providing formative feedback (Biggs and Tang 2011:195).

Biggs and Tang (2011:196) also aver that formative feedback is a powerful teaching-learning activity that uses error detection as a vantage point for error correction. Students, however, must feel comfortable and free to admit errors and look for ways of improvement. This correlates with the tolerance for error principle of a UDL as discussed in 4.3.3.2.

Sambell *et al.* (2013:6,19,43) contend that summative assessment must be conducted effectively and is important, but should not dominate and drive the whole of the teaching, learning and assessment process. It is suggested that time, space and energy should be made available to integrate formative assessment in practice. Ways in which formative and summative assessment may be a source of learning must be searched for and investigated.

Blumberg (2014:42) remarks that summative assessment could be designed to foster both accountability and improvement (e.g. assessment of portfolios at the end of a module, provided that constructive feedback is given and that students utilise it).

The value of formative assessment, particularly in the first year of study, cannot be overemphasised. According to Yorke and Knight (2006:12), the less successful students, including many who have not yet acclimatised to academic expectations, may be placed at a disadvantage in their studies because the value of formative feedback is underemphasised or under-utilised and summative assessment is not accompanied by sufficient or any formative feedback. Such students may be subject to 'failing and trailing', and carrying over additional curricular burdens as a result, particularly at a time when the need is for pedagogic support (this has also been experienced in the Faculty of Economic and Management Sciences at the UFS).

Yorke and Knight (2006:12) state that, in the United Kingdom's higher education system, for example, the first year of full time study, in effect, is merely a qualifying year for subsequent studies, and a time during which the focus of the student's honours degree is determined. In recent years, some institutions have 'loosened' their modular schemes to make the first semester predominantly, if not wholly, formative in character. These authors suggest that a curriculum for employability will have assessment arrangements that differ from those often found in other mainstream academic programmes.

4.5.3.3 Creating opportunities for practice and rehearsal

This principle seems to correlate with the previous principle of finding a balance between summative and formative assessment. The principle of creating opportunities for practice and rehearsal suggests that students should have the opportunity to practise and improve on their learning to build their confidence and competence before they undergo summative assessments. It is recommended that low-stakes individual and group activities be used in active and social learning environments to avoid the first experience of application taking place in summative assessment. This can be done by using approaches such as designing progressively challenging tasks; providing tasks for students during lectures; providing tasks to complete outside class time, and the use of personal response systems (such as clickers) in large classes (Sambell *et al*. 2013:6, 53-57; Dee Fink 2013:103).

4.5.3.4 Providing both formal and informal feedback to improve learning

Sambell *et al.* (2013:6, 78-89) explain that there are limitations in the conventional ways that universities provide feedback, which is often done on the marked work of the student. It is proposed that other kinds of formal feedback be integrated in a more frequent fashion at earlier stages and that the feedback be used to refine future work for assessment. These forms of feedback include feedback from tutors, general feedback on common errors made, and feedback prior to submission, using technology such as a forum or podcast for feedback, and peer feedback, as well as feedback from individuals from the world of work.

Another important aspect of feedback and assessment is the feed-forward approach. The feed-forward approach involves not just focusing on what has been done (backward-looking feedback), but offers advice regarding the next tasks so that adjustments can be made in an on-going fashion (Brown 2007:1). By doing this, students are empowered to monitor their learning processes, which will enable them to become reflective, self-directed and self-regulated students. Feed-forward assessment implies that students recognise the goal of the feedback and interpret and apply the suggestions in order to close the gap between the current level of performance and the expected learning objective. Supplying students with a rubric, aligned outcomes, tasks, criteria and feedback will feed-forward feedback and assessment (Koen, Bitzer and Beets 2012:240-241). Gibbs (2010:22) argues that

feedback often is ignored by students, while feed-forward feedback is much more likely to be effective.

An important aspect with regard to feedback mentioned by the CHE (2011:42) is that complex performance often requires systematic understanding of technical/methodological practices. To foster this, students should be provided with formative feedback to assist them in broadening and refining their knowledge and experience before summative assessment takes place.

Informal feedback also plays an important part in enhancing student learning. An example of this is found in active and collaborative activities among students during the teaching-learning process. These help students to discuss ideas and methods and allow for interaction with peers and the teacher. Students thus can test their own ideas and skills, and observe how others approach tasks according the requirements of the subject (Sambell *et al*. 2013:7, 111; Dee Fink 2013:103, 105).

In order to make feedback meaningful, teachers should make time to explain the importance of (all kinds of) feedback and the subsequent reflection based on the feedback to students, because students often are only interested in the mark that they have obtained and may ignore the accompanying remarks (Brown and Race 2013:86). Feedback also should be given frequently, timely, be based on the assessment criteria and standards, and provided in a supportive fashion (Dee Fink 2013:106). Feedback therefore should be constructive, well-designed and planned for optimal student learning.

4.5.3.5 Developing students as self-assessors and effective lifelong learners

Self-assessment and peer assessment, as well as feedback practices are critical processes to integrate graduate attributes into undergraduate teaching (Brown and Race 2013:68). For students to be actively involved during their learning process they need to be enabled to make decisions by themselves in terms of the approaches taken to evaluate their progress and there should be opportunities for them to be active participants in assessment processes. It is also important to consider the development of students' assessment literacy. Self- and peer assessment can also reduce the assessment load of the teacher significantly (Biggs and Tang 2011:245; Sambell *et al*. 2013:7).

As graduates and professionals, students need to take over for themselves much of the assessment that teachers currently do for them and need to develop the skills to draw on the resources of workplace colleagues to support their on-going development in future. These skills are important for becoming a lifelong learner. Assessment tasks should be designed in such a way that they promote self-reflection. Such tasks may include asking students to identify what they already know and can do, online self-assessment, and informal peer review, as well as having students evaluate the meaning and application of assessment criteria (Sambell *et al.* 2013:7, 129-141).

Preparing students for life-long learning holds value for the particular study as the ability of graduates to continue life-long learning practices may have a significant impact on graduates, including those from the Faculty of Economic and Management Sciences at the University of the Free State.

4.5.3.6 Other important qualities and principles of assessment

There are certain qualities or principles that enhance the credibility of assessment and the same principles apply to the assessment of graduate attributes, namely:

a) Fairness and inclusivity

Assessment should offer equal opportunities, resources, and teaching-learning opportunities for all students and not be biased in terms of gender, age, ethnicity, disability, race and social class. Explicit assessment criteria should be made available to all students up front so that they are clear about what will be expected of them (CHE 2011:42; SAQA 2001:15).

Assessments should be inclusive of all students – “a level playing field for all, including those with particular needs, cultural backgrounds or learning problems” (Brown and Race 2013:76).

Fairness and inclusivity may be promoted by applying a Universal Design for Learning, and the principles for instruction to assessment tasks.

b) Validity

Validity in terms of assessment means that the assessment measures what it purports to measure, that is, the outcomes, evidence, forms, methods and instruments used for assessment provide evidence of what is claimed to be measured. The assessment therefore should stay within the boundaries of what is required from the student; it should not require less or more than the relevant outcomes, unit standard or qualification (SAQA 2001:16-17).

The evidence gathered from activities and tasks should provide validation that the performance outcomes have been achieved. The assessment procedures, forms, methods and tools used should be aligned with and appropriate in terms of the learning outcomes (Brown and Race 2013:76; CHE 2011:42).

c) Reliability

Reliability refers to the consistency of the measurement and gathering of evidence (such as stability of assessment results, dimensionality, and conditions of testing). The same findings therefore should be made in similar or the same contexts under the same conditions. The reliability of assessments should not be influenced by factors/variables such as assumptions about current and previous performance of students, bias or different interpretations of assessors (Biggs and Tang 2011:218; SAQA 2001:18).

Reliability can be increased by the use of good quality rubrics, memorandums, checklists or other objective forms of marking tools. Internal and external moderation procedures for assessment should be in place along with clear and methodical recording procedures. When assessing complex performance, it is preferable to make use of more than one assessor to ensure interrater reliability (SAQA 2001:18; CHE 2011:42).

Validity and reliability are closely related.

d) Practicability

In deciding on assessment approaches, methods and instruments the financial resources, facilities, equipment and time available should be considered. If the assessment requires specialised equipment and facilities, it might for instance rather be done by means of a simulation, or by means of collecting evidence in the workplace (SAQA 2001:19). Assessment processes also should be designed so that their value is in proportion to the time and resources devoted to them (Middle States Commission on Higher Education 2006:64). Teachers and students, for example, should not be overloaded with assessment tasks and marking. This is applicable to the assessment of graduate attribute development as well.

e) Transparency

Transparency relates to how well students are informed with regard to how the assessment works, and how much they feel they can trust the processes used to evaluate their performance (Brown and Race 2013:76). For example, clear instructions about the venue, time and duration of the assessment should be made available, and in the case of workplace assessments, times should be mutually agreed upon by all parties concerned (CHE 2011:42). Supplying students with rubrics, for example, may also enhance the transparency of the assessment process.

f) Norm-referenced, criterion-referenced and standards-referenced assessment

Decisions with regard to why, what and how performance will be measured and compared need careful consideration.

In norm-referenced assessment the results are expressed in terms of comparison between students' performance after teaching has occurred. Students' achievement results are compared and rank order lists are compiled. On the other hand, criterion-referenced results are expressed in terms of how well a given student performed against the predetermined learning outcomes and related assessment criteria, and not against the performance of other students. Norm-referenced assessment thus is used to make judgements about people, whereas criterion-referenced assessment is

used to make judgements about each individual's own performance (Biggs and Tang 2011:208).

With standards-referenced assessment learners' demonstrations of learning are compared with detailed descriptions of different levels of achievement/performance. It is assumed that it is possible to define a range of levels of achievement for each outcome or groups of related outcomes, and students will be able to demonstrate their learning in such a way that it can be compared to these pre-determined levels or standards (Killen 2007:345). Killen and Hattingh (2004:77) maintain that the SOLO taxonomy is useful in providing structure and levels for standards-based assessment. Bloom's taxonomy may also be utilised for structure and levels for assessment in this regard.

In the light of this study, standards-referenced assessment may have great value for the assessment of graduate attributes. However, traditional assessment practices that focus on marks/grades (e.g. at the University of the Free State) may challenge this approach.

g) Integrated assessment as an end result

Integrated assessment refers to assessment being done on a continuous basis. Different assessment practices can be applied for this purpose (such as formative, summative, diagnostic and comparison of student performance data). Integrated assessment is realised if the overarching learning outcomes of a programme/qualification have been achieved. Integrated assessment is essentially no different from good practice (SAQA 2005:9-11; UFS 2006:4).

Integrated assessment also takes place in capstone modules. Holdsworth, Watty and Davies (2009:2) define the term capstone as "a course or experience that provides opportunities for a student to apply the knowledge gained throughout their undergraduate degree".

Capstone modules and assessment tasks involve integrating graduate attributes and discipline-specific knowledge, usually in the final year of an undergraduate degree. Students complete projects with the intention of addressing learning outcomes that may or may not have been assessed in several individual modules. They are therefore allowed to integrate their experiences and demonstrate that they can

authentically apply what they have learnt. Graduate attributes as learning outcomes are not developed in a single semester, but over time and capstone modules or assessment tasks may assess the graduate attributes that have been developed over time (Biggs and Tang 2011:253; Holdsworth *et al.* 2009:1-2). Capstone modules and assessment have received significant attention by task teams of the Council on Higher Education as part of the proposed undergraduate curriculum reform in South Arica, and are highlighted in proposed curriculum structures for Bachelor of Commerce degrees (CHE 2013b:117, 210 -225).

h) The use of objective and subjective assessment approaches

According to McPherson (2013:10) objective assessment refers to a form of questioning which requires a single correct answer (e.g. multiple choice, matching, fill-in-the blank). Subjective assessment is a form of questioning which may have more than one correct answer, or more than one way of expressing the answer.

Both objective and subjective approaches have educational value and are suitable for assessing specific types of learning, such as the assessment of knowledge, skills and values, and higher order thinking (application, critical thinking and problem-solving), as well as self-assessment of learning (Blumberg (2014:43-46). These approaches will become apparent in the examples offered for the teaching-learning and assessment practices shown in Appendix A.

4.5.4 The role of technology in assessment

Mention is made throughout the chapter of examples of technology that may aid teaching, learning, and assessment practices.

Electronic assessment (e-assessment) has the potential of assessing both functioning and declarative knowledge. A few examples are provided below:

- Commercial objective assessment databanks are available, but teachers may also design their own tests or assessment tasks and make these available on learning management systems such as Blackboard. These assessment opportunities have the advantage of allowing multiple attempts, supplying hints, providing immediate feedback; they can be formative or summative in nature and randomise question delivery (Biggs and Tang 2011:268-270; Sambell *et al*.

2013:56). The teacher also may use item analysis and assessment report data made available on learning management systems to identify student needs and developmental areas (Blackboard Help 2013).

- Self- and peer assessment tools on learning management systems, such as Blackboard, allow for criterion-referenced assessment that enhances constructive feedback (Blackboard Help 2013).
- Students may also take part in online synchronous or asynchronous discussions, and compile journals and portfolios that are graded in terms of meaningful participation and reflection with the help of rubrics made available to them. This offers students the opportunity to take part in the discussion of real-world (authentic) examples and may be helpful in the identification of developmental areas. Teachers, for example may make electronic video files available on the system that illustrate world of work examples (Blackboard Learn 2013; Dee Fink 2013:136; Sambell *et al.* 2013:65, 88)
- Through the online (inline) marking of assignments teachers are able to provide feedback and assign grades, and students can access the particular feedback at any time and place convenient for them (Blackboard Help 2013).
- Online plagiarism detection tools offer teachers the opportunity to help students to explore academic integrity and assist students in using and organising knowledge in a sound manner (Blackboard Help 2014).

In summary, technology makes the individual management and assessment of graduate attributes and the process of documenting progress and performance possible through online viewing by various stakeholders (e.g. potential employers, teachers, etc.), as will become evident in section 4.5.5.

4.5.5 Individual management and assessment of graduate attribute development

As articulated by many universities, employers, and governing bodies, the management of graduate attribute development includes not only the development of discipline-specific knowledge and skills, but also attributes such as a proactive stance towards lifelong learning. Students also should learn to identify and manage their learning and development. The discussion below focuses on the emergence of e-portfolios and other methods for the management and assessment of graduate attribute development.

4.5.5.1 Personal development planning

Harvey (2004) describes personal development planning as a "structured and supported process to assist students in arranging their own personal educational and career progression". According to Hepworth (2011:14), personal development involves continuous processes of skills development that include the following: recording achievements in a portfolio (paper or e-portfolio); reflecting on experiences and possible improvement; career planning, identifying important skills for employment, and setting action goals for the future.

The Association of Consulting Engineers Australia (ACEA 2008:6-7) suggests that self-assessment helps to raise individual awareness of skills. A number of institutions already have completed quick self-assessment guides and make them available online for easy access.

According to Yorke and Knight (2006:21) personal development planning is indeed the process of building a progress file and has considerable potential to assist students in the development of their employability. Yorke and Knight (2006:21) further explain that some evidence exists that students do not always appreciate what they have to offer to potential employers and as a result may not effectively document and/or market their attained attributes. Without a curriculum process that requires some self-analysis of strengths and weaknesses, students may not be exposed to opportunities and insight with regard to self-development.

4.5.5.2 E-portfolios

According to the European Institute for E-Learning (2014), there is an international rise of a new generation of tools dedicated to valuing and celebrating the achievements of the individual, including the e-portfolio. Technology actually provides an important link for individual, organisational and community learning.

According to Jenson and Treuer (2014:55) the e-portfolio is a tool for documenting and managing one's own learning over a lifetime in ways that foster deep and continuous learning. Jenson and Treuer state that the e-portfolio is uniquely suited for 21st century learning as learning may take place at any place and time, and both inside and outside formal education. An e-portfolio is a personal, digital collection of information that contains elements such as reports on participation in WIL, university learning, the career, hobbies, interests, experience and achievements. E-portfolios are privately owned and the owner has complete control over the access to its content (European Institute for E-Learning 2014:Online; Cleary *et al*. 2007:42).

It may be expected of students to gradually learn how to make use of e-portfolios. They are required to move from the mere collection of relevant artefacts that document their learning to self-directed and lifelong learning. The process starts with the collection of evidence and move through the critical reflection and contextualisation of the meaning and significance of their learning in comparison to predetermined goals and value systems. From the critical reflection and contextualisation, students then learn to integrate their learning experiences (synthesising) further, and transfer learning to new contexts. Finally, students learn to collaborate, building on their existing knowledge by applying it in a community with others (Jenson and Treuer 2014:53-54; ACEA 2008:8).

Students therefore also should develop the required technological skills to organise their personal data and information, and to identify and address skills gaps. The higher education institution should provide the technological infrastructure to allow students to build and maintain their own e-portfolios (Cleary *et al.* 2007:42).

a) Considerations for the use of e-portfolios

There are vital considerations to take into account when considering the use of e-portfolios for the purpose of documenting student learning and the development of graduate attributes. For example, students need to be encouraged to proactively utilise e-portfolios after graduation, and the institution also should take into consideration the vast financial and human resources required for the use of such a tool on large scale (Jenson and Treuer 2014:51, 54).

Cleary *et al.* (2007:42), however, state that institutions such as Swinburne University (Australia) and other institutions identified concerns with regard to e-portfolios. Examples of these concerns include the following: Systems should be able to accept different file formats of materials that are added by staff and students; the rate of digital evolution and the updating of software might be a problem; the authentication and evidence of material added to portfolios; access to the system after graduation, as well as the related cost of the software and support.

b) The value of e-portfolios for employment

The e-portfolio may provide the employer with a more informed picture of an applicant for a job and the possible fit, or areas for improvement in the operating structure of the individual than would usually be provided in the traditional curriculum vitae. It is, however, important that universities are informed of employers' needs with regard to the types of information to be included in the e-portfolios. This should also lead to better structure for students in the compilation and management of portfolios. In Hong Kong, for example, the University Grants Committee surveys approximately 2000 employers each year to determine their satisfaction with graduates from the local universities, and results are fed back to the universities (Clearly *et al.* 2007:21, 42).

The process of creating an e-portfolio can be seen as evidence of a range of employability skills, and, for example, might signify a graduate's intention (seriousness) about obtaining employment (ACEA 2008:7-8; Clearly *et al.* 2007:42).

4.5.6 Generic assessment instruments

Generic graduate attribute assessment instruments have been developed and made available both nationally and internationally. Examples of the instruments are: The Graduate Skills Assessment (GSA) and Employability Skills Profiler (ESP), which were developed in Australia, and the Graduate Skills and Attribute Scale (GSAS) that was developed in South Africa for the measurement of graduateness (see 2.2.1) in the economic and management sciences field.

The GSA is a formal testing programme designed to be conducted at university entry and exit, and considers four specific areas, namely problem solving, critical thinking, interpersonal understanding, and written communication. A personalised report is generated after completion that includes scores on each component and comparative data between individuals (Cleary *et al.* 2007:39: Hambur, Rowe, Luc 2002:10).

The Employability Skills Profiler (ESP) is an online questionnaire that focuses on fitting people to specific job roles. The ESP objectively assesses a job seeker against a nationally-consistent generic skills framework, and then matches the job seeker's employability skills to the employability skills required in various occupations. The ESP allows students to understand the wide range of opportunities available to them, while helping them to understand their areas of aptitude and also opportunities for improvement (Chandler Macleod Limited 2007:24).

The GSAS measures graduate skills and attribute development according to an eight-factor theoretical framework of skills and attributes. Research has confirmed the measurement accuracy, validity, and usefulness of the GSAS as a measure of students' graduateness in the economic and management sciences field (Coetzee 2014:13).

Criticism against these instruments include, amongst others, that they are time and resource intensive, and that they do not necessarily measure the way in which skills will be applied in a work setting (Chanock, Clereban, Moore and Prince 2004:28). The instruments may also disadvantage some candidates due to cultural assumptions and language (Coetzee 2014:14; Chanock *et al*. 2004:28). Universities,

however, do seem to favour instruments that allow for contextualisation of the generic skill in the discipline or professional area (Cleary *et al.* 2007:40).

4.5.7 Employer practices for the assessment and recruitment of graduates who enter the world of work

It is important to consider how graduates are selected and employed in the world of work. 'Assessment' practices may inform higher education institutions with regard to how graduates should prepare and showcase their attributes and achievements. It also may make students aware of the graduate attributes that they need to develop and the attainment of which they should provide evidence (Cleary *et al*. 2007:3; The Allen Consulting Group 2006:5, 27).

Cleary *et al.* (2007:44-45) report that data gathered by the Australian Association of Graduate Employers reveal that large organisations share a common set of recruitment practices (e.g. assessment centres; personality testing; interviews, and the evaluation of written communication skills in the curriculum vitae and letters), that provide opportunities to assess different qualities and abilities of graduates.

Small and medium enterprises are less likely to use assessment centres and do not always have dedicated selection and recruitment personnel. Generally, small and medium enterprises prefer to receive reports of graduates' employability skills (Cleary *et al.* 2007:3; European Commission 2011:76). According to The Allen Consulting Group (2006:53), based on consultation with employers regarding the recruitment of graduates, the proposed approach for assessment is integrated assessment, with descriptive reporting supplemented by student portfolios of evidence.

Contribution to the study: Considerations/principles for the assessment of graduate attributes

a) The integration of the teaching, learning and assessment of graduate attributes

It is evident that the processes of teaching, learning and assessment form part of an integrated whole and all these processes must be planned for and applied coherently. Teaching, learning and assessment should be student-centred. There should not only be alignment between short-term learning outcomes and assessment, but also long-term learning outcomes and assessment of practices in which the effective development of graduate attributes also is assessed (see capstone assessment in 4.5.3.6.). This will have a positive backwash effect in terms of assessment and encourages deep learning (see 4.4.3.3). Furthermore, students should be equipped to 'become self-assessors' of their own lifelong learning process that will aid the development of meta-cognitive skills.

Blumberg (2014:43) rightfully states that for assessment to be effective, students need to understand the purpose of the assessment. Results of assessments also can inform students' learning, as well as future teaching practice, that should ultimately lead to improved student learning.

b) The impact of assessment

Assessment plays an important role in the overall development of the student and may impact greatly on future selection opportunities such as for employment (see 4.5.1). It has become evident that graduate attributes that promote the effective functioning of the individual in the workplace are valued by employers (see 2.5). Therefore, the assessment and collection of evidence of graduate attribute development also should be viewed as a priority in higher education institutions (4.5.3, 4.5.5, 4.5.6 and 4.5.7). The backwash effect of the assessment of graduate attributes on learning should be kept in mind, and should not stimulate surface approaches to the learning of graduate attributes (see 4.4.3.3).

c) Challenges with regard to the assessment of graduate attributes

It seems that the challenges experienced with regard to the assessment of graduate attributes may be addressed and explored as part of a larger curriculum review and

re-design process (see Chapter 3). Capstone modules and assessment tasks may have significant value in terms of the mastery and assessment of graduate attribute development in commerce degrees, and the Faculty of Economic and Management Sciences at the University of the Free State may find value in exploring such practices as part of the larger process of curriculum design.

Explicit standards and guidelines for the assessment of graduate attributes in institutional policy and guidelines will aid to inform teaching-learning practice and help ensure that espoused outcomes are taught and assessed accordingly. The balanced involvement of all stakeholders in planning for assessment may improve the teaching, learning and assessment of graduate attributes and address conflicting perspectives among students and staff (teachers and support staff).

d) Principles for good practice and policy

Authentic assessment seems to be particularly relevant to graduate attribute development as the aim is for students to ultimately be able to apply their knowledge, skills and values in different contexts in the workplace and in life in general. Both summative and formative assessments have value, and having the opportunity to practise what they have learnt and receive appropriate and timely feedback on their development are key to students' success in their studies. Feedback does not always have to be given, and assessment does not always have to be done by teachers and tutors alone; there is value in teaching students to reflect upon and look critically at their own development, as it will impact on their approach to lifelong learning in future (see 4.5.3).

As with the assessment of discipline-specific knowledge and skills, the assessment of graduate attributes should comply with principles such as reliability, validity, fairness, practicability and transparency that may enhance the process of making substantiated findings with regard to student performance and development (see 4.5.3.6). The assessment policy of the University of the Free State (2006) pays particular attention to principles for good assessment practice, as discussed in this chapter, but it does not seem to make explicit or detailed statements regarding the assessment of graduate attributes or critical cross-field and developmental outcomes. As the institution moves to a framework for graduate attribute

development, assessment practices may receive particular attention as part of a holistic process.

e) The role of technology in assessment practices

Given the practical and educational challenges experienced with large student numbers, infrastructure and student preparedness, computer-assisted opportunities for formative, summative, objective and subjective assessment might offer a solution. If applied mindfully, technology may offer opportunities for learning and development that would otherwise not be possible, or would require a great amount of time and human and physical resources (see 4.5.4).

f) Training and support

Because the assessment of graduate attributes may not form part of traditional assessment practices in many cases, all staff members (teachers and support staff) need to be sufficiently trained and/or supported in the process. This support needs to occur from the onset of the process of constructing learning outcomes to decisions made with regard to teaching-learning approaches, assessment tasks, standards, and assessment criteria, as well as the use of technology. These practices may be promoted if a whole-programme approach is taken, followed by an individual-module focus in order to detect possible integration, collaboration and overlap (see 3.4.2.2, 3.4.2.3, and Figure 3.9).

University teachers and tutors require training and support to develop the skills of reflective practice as well, so that they are enabled to introduce, create, use and validate new assessment practices (Chapman 2004:10).

g) Evidence of graduate attribute development

It is important to supply students with appropriate tools to manage their own developmental process and prepare them with regard to what it is that employers will require and evaluate once they enter the world of work (see 4.5.5, 4.5.6 and 4.5.7). Cognisance of the latter may make students aware of the importance of the development of graduate attributes and their management and the collection of evidence thereof. All tools used for these purposes, however, should be critically appraised before implementation.

4.6 ORIENTATION TOWARDS THE EXPLORATION OF EXAMPLES OF THE TEACHING, LEARNING AND ASSESSMENT OF GRADUATE ATTRIBUTES AS PRESENTED IN APPENDIX A

Examples of the teaching, learning and assessment of graduate attributes are presented in Appendix A. The four WIL approaches referred to are work-directed theoretical learning, problem-based learning, project-based learning, and workplace learning. The approaches are briefly presented in table format to illustrate examples and relationships and their possible value.

An orientation to the compilation of these examples is provided along with the tables of examples included in Appendix A. They include the following:

- The use of work-integrated approaches as starting point.
- The inclusion of other sources of information.
- Assessment practices and critical cross-field and developmental outcomes.
- The graduate attributes proposed by the University of the Free State.

The value and contribution of the exploration of examples presented in Appendix A to the particular study is briefly summarised in the textbox below.

Contribution to the study

The critical cross-field and developmental outcomes appear to correspond with the institutional graduate attributes recently proposed in the draft Teaching and Learning Strategy of the University of the Free State (UFS CTL 2013). There also seems to be a strong link between the examples of the teaching-learning and assessment practices, and the development of the critical-cross field and developmental outcomes and the proposed graduate attributes.

Ultimately, the effective application of these practices along with the principles for teaching, learning, and assessment that were discussed throughout the chapter will be essential in the development of graduate attributes that will better prepare students for the world they will be employed in.

It will be equally important to consider teaching-learning, and assessment practices that are suitable for each programme (with consideration of aspects of the context,

such as resources) as part of a holistic curriculum review process discussed in Chapter 3 (see 3.4.2.4).

It is important to note that WIL approaches are resource intensive for business and teachers, and in many cases there is little objective evidence available on the relative effectiveness of each of these approaches. However, British research has shown that relevant work experience during the degree programme has a highly positive influence on employability, as does employer involvement in course design and delivery (Cleary *et al.* 2007:3; Mason, Williams, Cranmer and Guile 2003:7,92, 107,109).

4.7 MASTERY AND TRANSFER OF SKILLS TO NEW CONTEXTS

Graduate attributes must be applied in different contexts when the graduate exits the higher education institution. This makes the concept of transfer and mastery of learning important in the context of this study.

4.7.1 The complexity of transfer

The mastery and transfer of learning seem to be a contentious issue. Taba (1962:121) argues that the problem of transfer is central to all education and, since no programme can teach everything, the task of education is to bring about a maximum amount of skill transfer. Garraway (2009:33) and Garraway, Volbrecht, Wicht and Ximba (2011:537-538) infer that the problem with the key skills approach is that the skills need to be transferred to and mobilised in different situations, and the possible situations graduates may encounter at work are highly variable.

The mastery and transfer of graduate attributes also relate to the work of Spady (1994:19-20), according to which learning outcomes are explained in terms of a mountain that students have to ‘climb’ and which increases in complexity, generalizability, ownership, self-direction and self-assessment in demonstration. Students move from the traditional zone (concrete content-dependent demonstration) to the transitional zone (that requires skills developed in the traditional zone to demonstrate higher order competencies based on complex unstructured tasks, to the transformational zone. In the transformational zone,

demonstrations require the highest degree of ownership, integration, synthesis and the functional application of prior learning, because the students must respond to the complexity of real-life performance contexts.

Barnett (2004:259) critiques key skills approaches and argues that skills cannot be expected to carry an individual far in an ever-changing environment. There can be no assurance that even generic skills will help one to engage with the future in a meaningful way. Barnett proposes an overarching skill or disposition to dealing and working with uncertainty, in the light of the fact that work is becoming increasingly unpredictable and flexible. However, he does not offer suggestions as to how this skill is to be developed.

Billing (2007:483) states that much of the early research evidence suggests that the automatic transfer of desirable higher abilities to new contexts should not be assumed; instead, procedures for generalisation should be built into skills development. However, it may be that the graduate attributes (such as becoming life-long learners, who are inquiry focused and critical), as proposed for the University of the Free State, if taught, learnt and assessed optimally, may readily equip students with the capacity to adapt to and function in an ambiguous, uncertain world of work.

These complexities are compounded by the fact that knowledge building and knowledge transfer in themselves are complex actions. The related theories of knowledge building and knowledge transfer are equally complex (CHE 2011:10). Nevertheless, the discussion below is an endeavour to offer some suggestions regarding factors that may promote the mastery and transfer of graduate attributes to different contexts.

4.7.2 Important elements for mastery and transfer of skills

From the definitions provided in 4.2 it is evident that mastery and transfer go hand in hand.

For students to achieve mastery within a domain, they must **acquire** a set of component skills, **practise** combining and integrating these component skills to develop greater fluency and automaticity, and then understand the conditions and contexts in which they can **apply** what they have learnt. Moreover, students need to have these three elements of mastery taught and strengthened through sufficient examples and practice (Ambrose *et al*. 2010:95; Chapman 2004:10).

According to Ambrose *et al*. (2010:108-109), transfer is 'near' if the learning context and transfer context are similar and 'far' when the contexts are dissimilar. Far transfer is what is expected from students to achieve beyond the classroom. It is important to note that research has indicated that transfer occurs neither often nor automatically, and the more dissimilar the learning and transfer contexts, the less likely it is that successful transfer will occur. These researchers contend that the reason for this may stem from students associating knowledge and skills too closely with the context in which they were originally learnt (mastered) and do not think or know how to apply these skills and the knowledge outside the familiar context. Another reason for the inability to transfer knowledge and skills is that students often do not have a profound understanding of the underlying principles of what they are learning, hence knowing the *how* but not the *why*.

4.7.3 Practices for the enhancement of the transfer of graduate attributes

In the light of the discussion above, it seems that the transfer of graduate attributes (and the transfer of discipline-specific knowledge, skills and values) to new contexts should not be merely assumed. Therefore, practices that enhance transfer should be consciously applied. Some of the practices are explored below.

a) The integration of workplace knowledge with selected content

Students gain knowledge from the study of different academic subjects, and often do not develop the integration skills to relate knowledge gained in one subject to that gained from other subjects, therefore, they often also fail to understand the relevance of disciplinary knowledge, and experience difficulties in transferring what they have learned in the lecture hall to the workplace. The problem can be partially addressed by bringing workplace knowledge into academic subjects, provided that workplace knowledge is effectively structured, categorised and adapted to the academic context, which may be a challenging task (CHE 2011:10-11).

b) Conditions of applicability

It should not be assumed that because students have learned a particular skill, they will automatically know where, how or when to apply it. Clear and explicit explanation of the contexts for application should therefore be provided (Ambrose *et al*. 2010:117). Billing (2007:483) states that transfer is fostered when general principles of reasoning are taught together with self-monitoring practices and potential applications in varied contexts. Training in reasoning and critical thinking is only effective for transfer when abstract principles and rules are coupled with examples. In addition, it is argued that learning by contextualising the content is more effective within the workplace learning environment (ACEA 2008:7-8).

c) Opportunities for application of skills and knowledge in diverse contexts

The specificity of the context in which principles are learned reduces their transfer (Billing 2007:483). Where possible, students should be given the opportunity to practise the application of knowledge and skills across diverse contexts (also different modules and subjects). This will help students to overcome context

dependence and prepare them better to transfer that skill to novel contexts (Ambrose *et al*. 2010:117-118).

d) Generalisation to larger principles

Asking students to step back from the details of particular problems or cases and then focus on larger principles (underlying structures and how problems resemble each other), may help them reflect on and ideally transfer and adapt the skills and knowledge they are learning to new contexts. This increases the flexibility of knowledge and thus the likelihood of transfer by encouraging students to generalise from specific contexts to abstract principles (Ambrose *et al*. 2010:117-118; Billing 2007:483).

e) Comparisons for the identification of deep features

Students may fail to transfer knowledge or skills appropriately if they cannot recognise the meaningful features of a problem. The provision of structured comparisons of problems, cases, scenarios, or tasks may aid the ability of students to distinguish between the significant deep and surface features of a problem. The ability to identify the deep features of novel problems thus may facilitate successful transfer (Ambrose *et al.* 2010:118-119).

f) Expecting students to identify relevant knowledge and skills for specific contexts

Another approach entails helping students to identify links between problems they may confront and the skills and knowledge they possess. The latter could be achieved through providing students with a particular context such as a problem, case or scenario, and asking them to generate knowledge and skills (for instance, rules, procedures, techniques, approaches and theories) that may be appropriately applied to the given context (Ambrose *et al.* 2010:119).

g) Expecting students to identify the contexts in which specific knowledge and skills apply

In order to help students further to make connections between skills and knowledge they possess and appropriate applications, the strategy described in (f) may be turned around. It is not necessary for students to do the actual application, but rather to think about the applicability of particular skills and knowledge to particular problems (Ambrose *et al.* 2010:119; Sambell *et al.* 2013:19).

h) The provision of prompts to activate relevant knowledge

Sometimes students possess skills or knowledge that is relevant to a new problem or situation, but do not realise that they can apply what they know. When the teacher provides continuous reminders of relevant knowledge, the students over time will learn to look for and find connections on their own (Ambrose *et al.* 2010:120).

i) Learning with others

Billing (2007:483) explains that transfer is promoted when learning takes place in a social context, which in turn fosters the generation of principles and explanations. Transfer therefore is promoted when there is feedback on performance accompanied by training examples. Students will benefit from working together on tasks if they can learn to participate in discussions with peers and subject specialists in communities of practice (Sambell *et al*. 2013:20). This view corresponds with notions of social constructivism discussed in Chapter 3 (see 3.3.2.1).

All of the above strategies indicate that learning to use meta-cognitive strategies is particularly important for transfer.

The work of Taba (1962:125-126) eloquently summarises what has been learnt in the above discussion of practices. She argues that transfer is subject to whether or not curriculum content and educational processes address transfer. The latter refers to the extent to which the curriculum and the practices related to its content stimulate the discovery of basic principles, provide practice in the application of principles and develop an expectation that whatever is learned, will be used in new and different ways.

A study conducted by Radbourne (2007:309-323) revealed that graduates from a business school (faculty) in Australia were clearly able to measure their university learning in application to the workplace. The graduates indicated that they went back to content and assignments done during university studies to use as a reference for new tasks in the workplace. These graduates confirmed that their learning was founded in the explicit nature of knowledge and skills development and that they subconsciously used it in their work practices. Radbourne (2007:322) summarises the findings of the research as follows: “By teaching business students the generic capabilities for effective performance in the workplace, they are being taught learning that lasts”.

4.8 CONCLUSION

As explained in Chapter 2, there is a dire need for universities to produce appropriately qualified human resources to serve the country. Graduates therefore need to enter the world of work not only with discipline-specific knowledge and skills, but also the non-discipline specific characteristics that promote employability, cultivate social responsibility and lifelong learning.

Chapter 3 highlighted that embedding graduate attributes into curricula forms part of the greater curriculum design and review process that has to take into consideration international, national, institutional and programme specific variables.

Chapter 4 elucidated that once the systematic processes of curriculum design or review have received deliberate attention, curriculum delivery continues within programmes and manifests in teaching, learning and assessment practices. In summary and in the light of the example of research findings by Radbourne above, it appears that mastery and transfer of graduate attributes is founded in *how* these graduate attributes are embedded, espoused, taught and assessed. Mastery and subsequent transfer of skills are promoted through effective student-centred teaching-learning and assessment practices, working in concert as described throughout the chapter.

The next chapter (Chapter 5) will focus on the research methodology employed for the particular study.

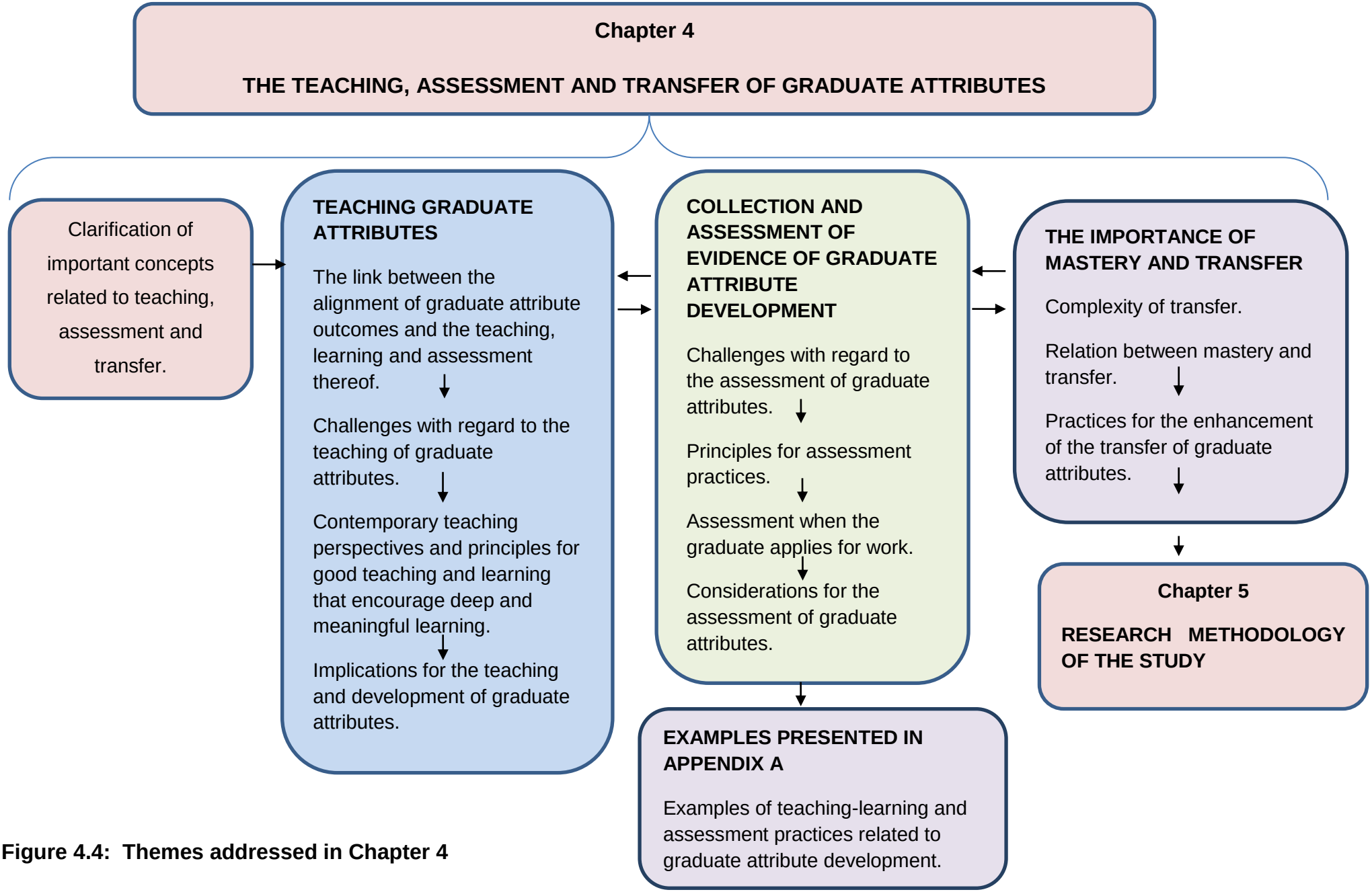


Figure 4.4: Themes addressed in Chapter 4

CHAPTER 5

RESEARCH DESIGN AND METHODOLOGY

5.1 INTRODUCTION

Chapters 2, 3 and 4 of the thesis explored the literature related to the study. Chapter 5 subsequently addresses the research design and methodology employed in the execution of the study in an attempt to address the fifth research question:

- What are different stakeholders' perceptions pertaining to graduate attributes required to prepare undergraduate EMS students of the UFS for the world of work?

The chapter commences with a description of the type of research used, then elaborates on the research design, the epistemology and the research methods utilised in the particular study. The research methods refer to the sampling, data collection, quality assurance and ethical considerations pertaining to the study.

Figure 5.1 provides an illustration of the central and interrelated themes discussed in the chapter.

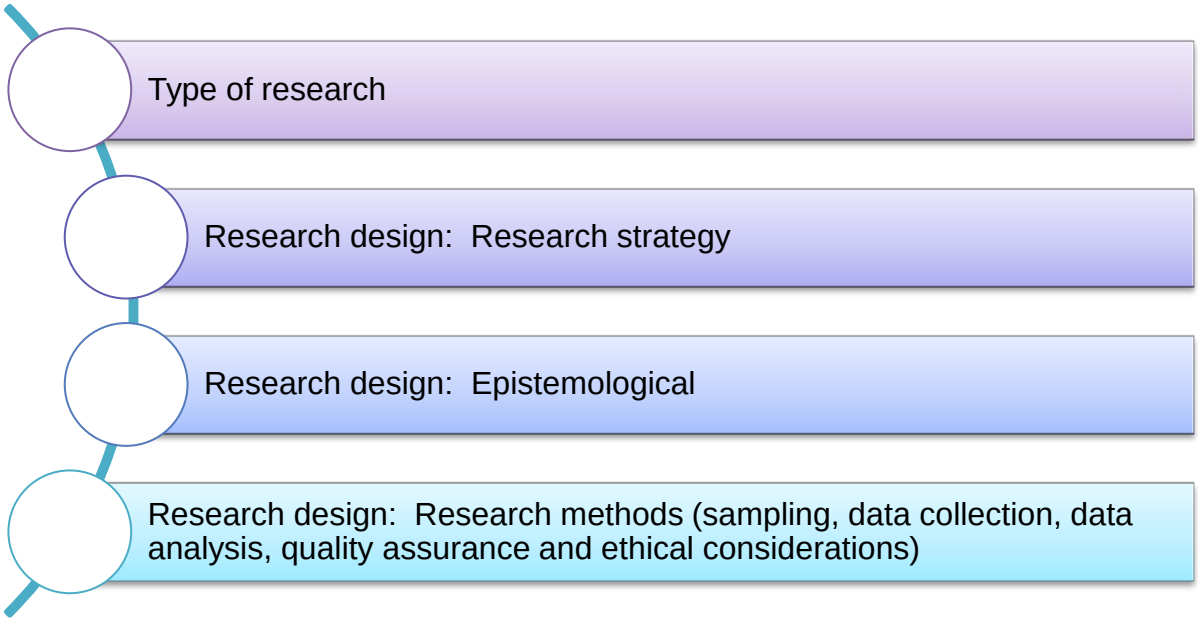


Figure 5.1: Themes addressed in Chapter 5

5.2 THE FUNCTION OF THE RESEARCH

McMillan and Schumacher (2010:13-14) divide the function and purpose of educational research into four main categories, namely basic, applied, evaluation and action research. This study falls in the category of applied and evaluation research, because the researcher attempted to generate research-based knowledge (regarding needs and perspectives) about a particular practice and offers suggestions on how such a practice could be optimised (*cf.* McMillan and Schumacher 2010:13). Cohen, Manion and Morrison (2007:41) indeed describe evaluation and applied research as one and the same branch of research. The research can be described as open-ended and exploratory.

The purpose of the research was to explore and describe which graduate attributes are required to prepare students from the Faculty of Economic and Management Sciences appropriately for the world of work and how these attributes may be accommodated in undergraduate curriculum design and delivery in this particular faculty at the University of the Free State.

Tight (2012) identifies eight categories of research in higher education. According to Tight's classification, this study mainly falls in the category of course design (also evident in the literature study), but has a broader focus that contains elements of teaching and learning and the student experience as indicated below:

- Course design (e.g. the higher education curriculum, technologies for learning and assessment).
- Student experience (e.g. transition from higher education to work).
- Teaching and learning (e.g. student learning, kinds of students, teaching in higher education).

Tight (2012:179) also makes a useful distinction between the concepts of research methodology and methods. Methodology refers to the underlying approaches and world views adopted by researchers, whereas methods essentially are techniques for data collection and analysis.

The discussion below will commence with the research design and methodology of the study and progress to the more specific methods used for data collection and analysis.

5.3 RESEARCH DESIGN

The research design of the study is discussed in terms of the strategy of inquiry, the philosophical worldview and the research methods employed.

5.3.1 Strategies of inquiry or research strategies

In order to address the sixth research question, the strategy for inquiry considered most suitable for this particular study was the use of a multi-method qualitative design with some quantitative enhancements. Creswell (2013:44) defines qualitative research as follows:

> *Qualitative research begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or research or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and data analysis is both inductive and deductive and establishes patterns or themes. The final written report or presentation includes the voices of participants, the reflexivity of the researcher, a complex description and interpretation of the problem, and its contribution to the literature or call for change.*

The process of the research becomes evident in the definition above. Furthermore, it appears that qualitative research shares some common characteristics that are briefly described in section 5.3.1.1.

5.3.1.1 Characteristics of qualitative research

The characteristics of qualitative research briefly elaborated on:

a) Natural setting

Qualitative researchers often collect data in the field (real world) at the site where participants experience the issue or problem under study in an attempt to 'see through the eyes of the participant'. The researcher does not attempt to manipulate the phenomenon under study (Creswell 2013:45; Nieuwenhuis 2007:51; Patton 2002:39).

b) Researcher as key instrument

Qualitative researchers collect the data themselves through actions such as the examination of documents, observing behaviour and interviewing participants. They may use an instrument, but the instrument is designed by the researcher and it contains mainly open-ended questions (Creswell 2013:45; McMillan and Schumacher 2010:322; Mertens 2010:249; Patton 2002:64).

c) Multiple methods and rich narrative descriptions.

Multiple forms of data are typically gathered rather than relying on only one source of data. All the data are reviewed to make sense of it; it is organised into categories or themes that cover all of the data sources (Creswell 2013:45). Descriptions are in the form of words rather than numbers, although simple numerical summaries are sometimes used in qualitative studies. No information escapes scrutiny or is taken for granted since the aim is to arrive at rich descriptions of findings (McMillan and Schumacher 2010:322).

d) Complex reasoning

A complex, inductive-deductive reasoning process takes place throughout the research. The inductive process involves that the researcher works back and forth between themes and databases until a comprehensive set of themes is established. This may involve interaction with participants to shape themes that emerge from the process. Deductive thinking is used through building themes that are constantly checked against the data. There is a focus on the synthesis of data through a funnel-

like process where the data at first seem too extensive. As the researcher works with the data, specific findings emerge progressively (Creswell 2013:45; McMillan and Schumacher 2010:323).

e) Participants' meanings

The researcher focuses on multiple perspectives that the participants hold about the problem or issue and not the meaning that the researcher or authors of the literature bring to the research. What is thus reported focuses on participants' voices and perspectives (Creswell 2013:45; McMillan and Schumacher 2010:323).

f) Emergent design and process orientation

In qualitative studies the research process is emergent and cannot be strictly prescribed; the process may change or shift after the researcher has begun to collect data. There is a focus on openness to adapt the inquiry as understanding deepens and situations change. It is important to learn about the problem from participants in the most suitable form of engagement, based on the needs of participants and the most suitable manner of data collection that stems from these needs. This approach often results in changes in questions asked and the documents that need to be reviewed. The focus not only is on end products and behaviour, but also on *how* and *why* issues or behaviour occurs (Creswell 2013:45; McMillan and Schumacher 2010:323; Patton 2002:40, 44).

g) Reflexivity

Reflexivity refers to the researchers' rigorous examination of personal and theoretical commitments throughout the entire process, and taking ownership of his/her perspectives. Human subjectivity thus is not negated, but taken into account through the various stages of the research. The researcher positions him/herself in the study, based on aspects such as work experience, cultural experience and background (Creswell 2013:45; McMillan and Schumacher 2010:332; Patton 2002:64).

h) Holistic account and context sensitivity

The researcher attempts to develop a complex picture of the problem or issue under study and reports on multiple perspectives by identifying the main factors involved in the situation, and ultimately provides a larger picture ('the bigger picture') of what

emerges. Qualitative researchers equally realise that it is not possible to account for and explain all the complexities surrounding a subject, problem or issue. The researcher rather should be context sensitive and understand, for example, the social, political and cultural contexts in which the research occurs. Careful comparative analysis and inferring patterns for possible transferability in new settings are important (Creswell 2013:45; McMillan and Schumacher 2010:322,324; Patton 2002:41).

5.3.1.2 Types of qualitative research

The main types of qualitative research, as discussed by Creswell (2013), are depicted together with the work of other prominent authors in Table 5.1. The type of research used in this study was a case study to investigate a contemporary phenomenon in depth and in its real-world context (*cf.* Yin 2009:237). The case investigated may be a concrete entity, while less concrete aspects are explored. The key condition is that the case be bounded by certain parameters, such as time and/or place. In this study the aim was to explore the graduate attributes currently required (and the less concrete needs, relationships and processes) to appropriately prepare students for the world of work (from various perspectives), as well as how these graduate attributes may be accommodated in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences (concrete entity) at the University of the Free State (time, place and entity specific). The mainly *intrinsic* nature of this case study (see Table 5.1), lies in the fact that the researcher explored a unique case as explained above (*cf.* Stake 1995:65). According to Ritchie, Spencer and O'Connor (2003:52), the primary defining features of a case are the multiplicity of perspectives, which are rooted in a specific context and those perspectives may originate by means of multiple methods and from multiple accounts. The perspectives may also derive from multiple accounts from people with different perspectives, using a single method, (as will become clear in the discussion of the sample of this study).

Merriam (2009:43-44) in turn, posits that the case study is characterised as being particularistic (particular site, even, programme, phenomenon), descriptive (thick rich description of the phenomenon under study), and heuristic (illuminates the readers' understanding of the phenomenon).

This study followed a linear structure beginning with a thorough literature review, careful positioning of the problem, questions and objectives, data collection and analysis, conclusions and implications (*cf.* Yin 2009:188).

Table 5.1: Types of qualitative research

Type of qualitative research	Description and unit of analysis	Strategies for gathering data
Narrative research	The researcher focuses on stories told from an individual and arranges these stories in chronological order in order to explore and tell stories about the life of an individual.	Interviews Document analysis
Ethnography	In-depth study of culture, based on social and cultural anthropology. Realist ethnography is a relatively straightforward, detailed description of a culture. The aim is to describe a culture or way of life from the perspective of people by making use of inherent meanings such as gestures and symbols. The ethnography is focused on showing a deep understanding of the targeted theme and the researcher is separate from the account.	Longitudinal observation Interaction and interviews with members of the culture. Analysis of documents and artefacts.
Phenomenological study	The purpose of the research is to describe and interpret the shared experiences (lived phenomenon) of participants regarding a particular event in order to understand meanings ascribed to the event. The approach is heavily reliant on one method of data collection and the interviewer therefore needs to be skilled and experienced.	Primarily personal in-depth, unstructured interviews. Documents, observations and art may also be considered.
Case Study	A case study is an in-depth analysis of a single entity and shares many commonalities with ethnographic research. Case study research is bounded by means of place, time and participant characteristics. A case can involve an individual, group, activity, event or process. An intrinsic case study focuses on the case itself, whereas an instrumental case provides insight into a specific theme. Collective cases involve the study two or more cases. The extended case method is used to discover flaws in and improve existing social theories. Observation is regarded as a methodological approach rather than one specific method. The features of the case study are described as particularistic, descriptive and heuristic.	Multiple methods with less emphasis on observation. Document review, interviews, surveys, artefacts.

Table 5.1: Types of qualitative research (continued)

Type of qualitative research	Description and unit of analysis	Strategies for gathering data
Grounded theory	The intent of grounded theory is to discover or generate a theory (abstract schema or set of propositions pertaining to a specific experience, situation or setting) that explains central phenomena delivered from the data. It involves studying a process, an action and/or and interaction involving many individuals. Patterns, themes and common categories are discovered from data. The context provides the basis for the grounded theory study; thus the theory is grounded in the data. There are three types of grounded theory, namely systematic, emerging and constructivist designs.	Individual open-ended interview or questionnaire. Document analysis Observation
Critical study	The researcher uses an advocacy role to respond to or focus on inequality and injustice. The struggles of the groups that are researched become the central issue. Concepts such as dignity, oppression, dominance, authority, empowerment and social justice are emphasised.	Observation Interviewing

Source: Compiled from Babbie (2013:304-312); Creswell (2013:100-106); Cohen *et al.* (2007:263); Jansen (2007:75-77, 81); McMillan and Schumacher (2010:346-348); Merriam (2009:43-44); Stake (1995:65).

In contrast to the characteristics of qualitative research explained earlier, quantitative research involves converting data into numerical format. In quantitative research social science data are converted into a format that can be read and manipulated by computers, for example, to determine frequencies and relationships between variables statistically and to generalise findings to a larger population (Babbie 2013:414). In this study the demographic data of the participants represent the only quantitative elements in the study with the purpose of describing the demographic characteristics of the participants through reporting frequencies.

5.3.2 Philosophical world view (paradigm) and interpretive framework

"All research is interpretive and guided by beliefs and feelings about the world and how it should be understood and studied" (Denzin and Lincoln 2011:13). Morgan (2007:49-54) argues that paradigms can be expressed as world views, epistemological stances, shared beliefs amongst members of a speciality area, and model examples (exemplars) of research. According to Morgan paradigms are shared belief systems that influence the kinds of knowledge researchers seek, and how they interpret the evidence they collect. He further explains that the dominant versions of explaining such shared belief systems are explaining paradigms in terms of epistemological stances.

Epistemological stances provide important information about the philosophical assumptions that the researcher makes about the nature of reality (ontology), the method for knowing reality (epistemology), what the role of values is (axiology) and the research methods (methodology) used to gain knowledge (methodology) (Creswell 2013:21; Guba and Lincoln 1994:108; Nieuwenhuis 2007:50-56). Philosophical world views (paradigms) are described and grouped differently by various authors. Table 5.2 presents a brief summary of the research paradigms as epistemological stances that commonly receive attention in the literature, and attempts to illustrate the differences between these world views.

Table 5.2: Research paradigms as epistemological stances

	Post-positivism (successor of positivism)	Constructivism	Transformative (post-modern)	Pragmatic	Critical theory (includes for e.g. race, feminism, disabilities)
Ontology (nature of reality)	Critical realism (a lack of absolutes. Reality is probabilistically apprehensible).	Realities can be understood through multiple understandings that are socially and experientially based. Understandings are informed rather than perceived as reality.	Recognises that there are various versions of reality and there is participation among the researcher and the communities under study.	Reality is based upon what is useful and practical. Both the single reality of the real world and unique individual interpretations are asserted.	Historical realism. Reality is shaped by social, political, cultural, economic, ethnic as well as gender factors. There is a focus on power and identity struggles.
Epistemology (nature of knowledge)	Interaction with the participants is kept to a minimum and validity is pursued through the critical community such as peers. Approximate reality is shaped by objective findings such as the use of statistics.	The investigator and the participants are interactively linked (transactional and subjectivist). The findings are shaped by individual experiences and formed as the study proceeds. The distinction between ontology and epistemology decreases.	Co-creation of findings. Knowledge is socially and historically situated.	The researcher is free to study the aspects of interest in different ways deemed to be fit to the research (e.g. observer, relational researcher).	Social structures, politics, power and control are studied. Reality is known through and influenced by the participant and researcher. The distinction between ontology and epistemology decreases. The research can impact on reality.

Table 5.2: Research paradigms as epistemological stances (continued)

	Post-positivism (successor of positivism)	Constructivism	Transformative (postmodern)	Pragmatic	Critical theory (includes for e.g. race, feminism, disabilities)
Methodology (approach to inquiry)	The use of deductive, comparative analysis that is primarily quantitative.	Primarily qualitative. Inductive method of finding emergent ideas and themes. Contextual factors are described. Hermeneutic (interpretive) and dialectic (logical or analytical).	Predominantly qualitative, but quantitative and mixed methods may be used. Contextual and historical factors are described as they relate to social justice. Giving participants a voice to bring about change.	The research process regularly involves mixed-methods approach to the collection and analysis of data.	Methods are matched to specific questions and purposes. Issues are documented and a call for change is made. A dialectic approach is taken.
Axiology (Nature of ethical behaviour)	A respect for privacy, informed consent, beneficence and equal opportunity. The researchers' biases need to be controlled and not expressed.	Focus on a balanced depiction of views. Individual values are respected.	A respect for cultural norms and the promotion of human rights and social justice.	Knowledge is gained and influenced by the researcher's values and politics.	The diversity of values is emphasised from a standpoint of various communities.

Source: Compiled by the researcher from the work of Guba and Lincoln (1994:108-117; 2005:193-194); McMillan and Schumacher (2010:5-6); Mertens (2010:10-38) and Morgan (2007:72).

The researcher approached the study from a constructivist (also referred to as interpretive) stance (*cf.* Creswell 2013:24-5; McMillan and Schumacher 2010:6). From a constructivist stance, reality is not absolute, but is socially constructed and multiple realities exist that are time and context dependent. Those with constructivist perspectives choose to carry out studies by making use of qualitative methods to gain understanding about the views held by people in a specific context (Mertens 2010:18,226). This applies to the study reported on here.

In terms of ontology, from the constructivist world-view, realities are not more or less 'true', in any absolute sense, but simply more or less informed and/or sophisticated (Guba and Lincoln 1994:111). Thus, there are multiple realities (Denzin and Lincoln 2011:13). Reality is socially constructed and concepts can mean different things to different people (e.g. the concepts of feminism, minority, etc.). The researcher allows the concepts of importance to emerge as they are constructed/viewed by the participants (Mertens 2010:18).

With regard to epistemology, the assumption is made that data, interpretations, and outcomes are rooted in contexts and persons apart from the researchers, and are not 'thought out' by the researcher. Data can be tracked to their sources, and the logic used to assemble interpretations can be made explicit in the description of the findings (Mertens 2010:18). The researcher and the participants are assumed to be interactively (co-creation of understandings) involved, and the findings are literally created as the investigation proceeds (Guba and Lincoln 1994:11; Denzin and Lincoln 2011:13). It seems that the ontological and epistemological viewpoints should be closely related.

The methodology associated with the constructivist worldview is described as hermeneutical (i.e. written, verbal, and nonverbal communication) and dialectical (logical argumentation). Qualitative methods such as interviews, observations, elicited text (e.g. text from open-ended questions, journal entries, etc.), and extant text reviews (literature, policy documents, etc.) are predominant in this paradigm (Charmaz 2006:36-37). The methodological implication of having multiple realities is that the research questions cannot be established definitively before the study begins; rather, they will evolve and change as the study progresses. In terms of data analysis, terms like credibility, transferability, dependability, and confirmability

replace the usual positivist criteria of internal and external validity, reliability, and objectivity (Denzin and Lincoln 2011:13). The final aim is to filter out consensus constructions that are informed and sophisticated (Guba and Lincoln 1994:111; Mertens 2010:19-20).

According to Patton (2002:96) foundational questions related to this paradigm include the following:

- How have the people in this setting constructed reality?
- What are their reported perceptions ('truths')?
- What are the consequences of their constructions of behaviours for those with whom they interact?

In this particular study multiple viewpoints were investigated that stem from the extensive literature review (including policy and procedures from governing and professional bodies), as well as viewpoints from teachers (university teachers), human resource practitioners and graduates from the Faculty of Economic and Management Sciences at University of the Free State.

The section below will focus on the methods used in the particular study.

5.3.3 Research methods

In this section the sampling procedures, data collection, analysis, validation and ethical considerations pertaining to the study will be discussed.

5.3.3.1 Data collection process

Creswell (2013:146-176) offers a useful process for data collection. The discussion with regard to data collection activities in this particular study is conducted on the basis of this process along with the views of other authors. Figure 5.2 depicts the process described by Creswell.

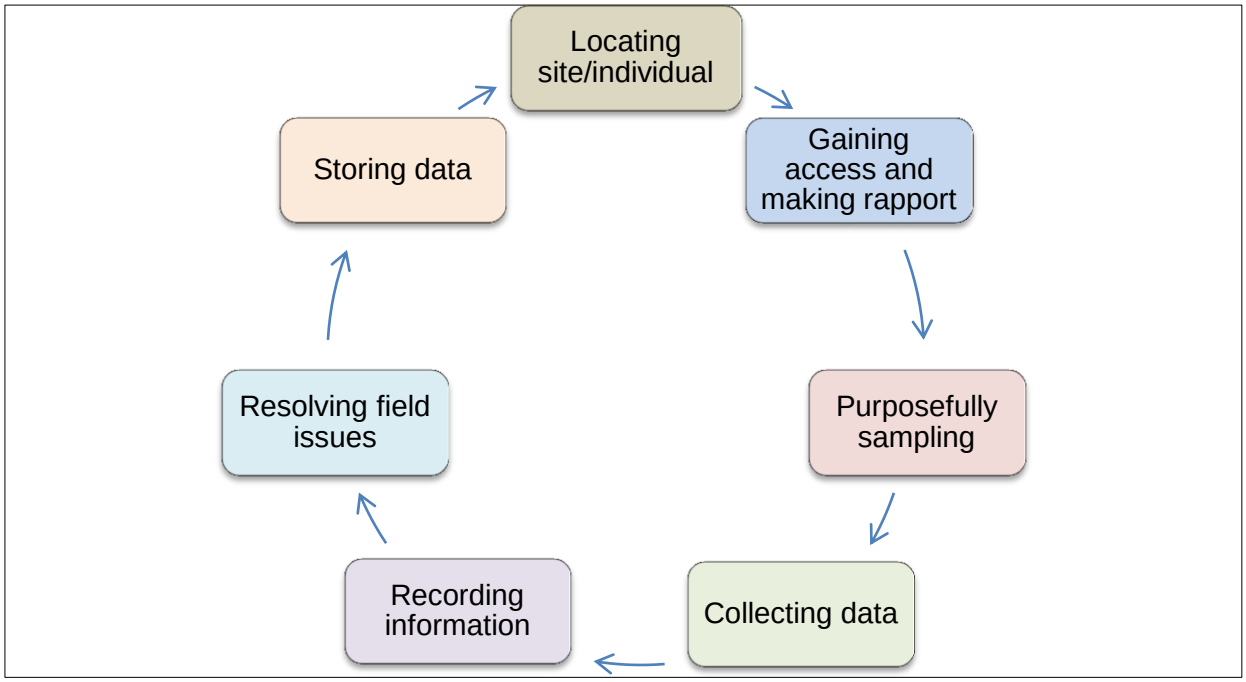


Figure 5.2: Data collection activities

Source: Creswell 2013:146

a) Locating the site

At the time of the research the participants for this case study research were not located at a single site. According to Creswell (2013:150), the fact that participants are dispersed provides important contextual information, useful in developing categories in the coding phase.

The various participants were dispersed in organisations throughout South Africa and other countries, and teachers (i.e. university teachers/academic staff members) from the Faculty of Economic and Management Sciences were located in different departments, as will become clear in the description of the sample (see [c]), purposeful sampling in this section).

b) Gaining access and establishing rapport

Approval was obtained from the University of the Free State and the Faculty of Economic and Management Sciences, as well as the ethical committee of the Faculty of Education at the University of the Free State (see Appendix B for letters of approval). The documentation involved in these processes was the research

proposal and documents supplied to the ethics committee such as informed consent letters that included themes such as voluntary participation, confidentiality, etc.

Since this was case study research, the researcher provided information such as why the site was chosen, how data would be collected and how the results would be reported. Rapport is important in order to avoid the risk of losing access to participants to conduct subsequent interviews or observations (Creswell 2013:154). This was done in the study, and the researcher made personal contact with each of the participants. Participants needed to confirm informed consent before they responded to the questions posed by the researcher.

c) Purposeful sampling

The researcher selected individuals and the site for the study on the basis that they could inform an understanding of the research problem or phenomenon (*cf.* Creswell 2013:156; McMillan and Schumacher 2010:347).

The maximum variation sampling strategy was initially used, meaning that some criteria that differentiate the participants or sites were determined and then the participants and sites that were as representative as possible, were selected (*cf.* Creswell 2013:157; Patton 2002:234). The sampling process in this research further included snowball, chain or network sampling during the study, after having made contact with some participants. In snowball sampling participants refer the researcher to persons that they consider to be information rich, and these participants are subsequently included in the sample (Merriam 2009:79).

An important aspect to consider in terms of sample size is that the sample size initially selected must allow for a point to be reached where no new important information related to the theory is obtained. This is referred to as the point of saturation (McMillan and Schumacher 2010:347). McMillan and Schumacher (2010:347) state that including 20 to 30 individuals (maybe many more in some cases), may be sufficient for small projects in which generalisation is not the objective, and the researcher is not making claims that contradict human nature or established research. Merriam (2009:80) indeed affirms that there is no exact sample size in qualitative research. Patton (2002:246) recommends that the sample

size should be based on expected reasonable coverage of the phenomenon, given the purpose of the study.

The following participants were included in the first round of data collection (see 6.2 for demographic attributes and response rates):

- Human resource practitioners situated in different organisations which are involved with the recruitment, selection and training of, or work with young graduates.
- Teachers (i.e. university teachers/academic staff members) from the Faculty of Economic and Management Sciences at the University of the Free State. The teachers are situated in different academic departments (i.e. Accounting, Business Management, Economics, Industrial Psychology and Public Management and Administration).
- Graduates from various programmes offered at the Faculty of Economic and Management Sciences at the University of the Free State (UFS) who completed their degree studies after 2008 and were working fulltime.

The validation panel for the preliminary proposed framework and guidelines consisted of a panel of:

- The academic director of the Centre of Teaching and Learning at the University of the Free State.
- The Teaching and Learning Manager of the Faculty of Economic and Management Sciences.
- A learning designer from the Centre of Teaching and Learning at the University of the Free State who assists the Faculty of Economic and Management Sciences with curriculum design and delivery (including technology as an aid to teaching-learning and assessment practices).
- A specialist in the field of e-learning with a focus on curriculum delivery and innovation.
- A specialist in Work Integrated Learning and skills development.
- A teacher from the Faculty of Economic and Management Sciences at the University of the Free State with a strong contextual teaching-learning

knowledge base (two teachers were invited but only one took part, see section 7.2.6 for response rate).

- A graduate from the Faculty of Economic and Management Sciences (two graduates were invited but only one took part see section 7.2.6 for response rate).
- The Dean of Teaching and Learning: Higher Education Access and Development Services at another higher education institution in South Africa.
- A researcher on Teaching and Learning at the University of the Free State

The validation panel was selected based on their areas of specialisation and current and contextual knowledge of the different aspects and factors impacting on the feasibility of the proposed framework and guidelines.

d) Data collection and recording

Creswell (2013:159-160) identifies four basic types of qualitative data generation, namely observations (ranging from non-participant to participant), interviews (ranging from closed-ended to open-ended), documents (ranging from private to public), and audio-visual materials (including materials such as videos and photos). Document review formed part of the literature study of the research and included multiple types of information such as policies, documents from governing bodies, books and articles from recognised authors, as well as research reports.

In the first round of data collection, electronic questionnaires with mainly open-ended questions which resembled semi-structured interviews were used for data collection. The purpose was to explore the perceptions of the participants (as explained) in the first round of data collection. The questionnaire survey was the method and the qualitative electronic questionnaire was the instrument used in the data collection process (*cf.* Babbie 2013:254).

The first objective of the questionnaire survey was to identify the graduate attributes that need to be accommodated in Economic and Management Sciences curricula in order to sufficiently prepare Economic and Management Sciences graduates for the world of work. Secondly, it aimed to obtain participants' perceptions pertaining to the optimal curriculum design and delivery options that would assist with embedding, and the mastery and transfer of the identified graduate attributes.

The second round of data collection (validation panel) aimed to obtain feedback with regard to the proposed preliminary framework that could ultimately assist in accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State. The purpose of the use of the validation panel was to increase the overall validity of the data analysis and interpretation process (*cf.* Yin 2009:198-199). It was important to evaluate the feasibility of the proposed framework and guidelines/suggestions. The framework was compiled based on the interpretation of the qualitative data obtained in the first round of data collection and from the relevant literature that supports the findings.

The background to the research, as well as the preliminary framework and an explanation of findings were sent to the panel members via electronic mail (e-mail). This was done to enable the panel to consider the feasibility of the proposed framework in their own time and space. The documentation was accompanied by a link to an electronic questionnaire that contained closed-form multiple choice, closed-form multi choice items, and categorical rating items that were accompanied by open-ended questions based on the features that had been rated. The panel thus completed the questionnaire after careful consideration of the framework and guidelines, and had the documentation at hand while completing the questionnaire (see appendix C).

i) Distribution of questionnaires

Interviews can be dealt with electronically via e-mail, face to face, online focus groups, and, as was the case in this study, electronic internet-based questionnaires with mainly open-ended questions. The rationale behind this approach was that most of the participants (mainly graduates and human resource practitioners) were widely dispersed and the teachers from the Faculty had limited time available to engage in face-to-face interviews.

The electronic questionnaires thus allowed for a cost-effective data collection method that could be completed by participants at a time and space convenient for them. Merriam (2009:157) states that online data collection offers and extension of familiar research techniques. Online data collection helps create a non-threatening and comfortable environment and may provide greater ease for participants to

discuss sensitive issues (i.e. frank disclosure) (Babbie 2013:282-283; Creswell 2013:159). Online data collection also minimises errors that might be made in the transcription of data (Gibbs 2007:20). Elicited texts generate data that resemble interview data when the questions posed resemble interview questions and the participants respond to them as such, instead of bureaucratic forms, quick surveys or trivial inquiries. Elicited text works best when participants have an interest, willingness to answer, are experienced in the topics addressed, and view the questions as important (Babbie 2013:258; Murphy and Dingwall 2003, cited in Charmaz 2006:36-37).

There are, however, some considerations to be kept in mind when using open-ended questionnaires, such as the participants' language proficiency and writing skills (Babbie 2013:257). Merriam (2009:160) advises that the researcher should recognise that the results are strongly influenced by the characteristics of data revealed, and might be concealed or altered because of the nature of the online medium. The possibility to do member checking where necessary also becomes an important consideration in the process. Thus, the system should allow for the researcher to *ethically* identify participants who would be able to clarify their understandings or from whom further information can be obtained (see 5.3.3.4). The system used in this study allowed for such identification where necessary.

The questionnaires were created as Microsoft Word documents and then placed in electronic format as an internet-based questionnaire using *Questback* (http://www.questback.com/za/) as platform. An e-mail invitation was sent to the participants with the link to the relevant questionnaire. Automated reminder e-mails also were sent via *Questback*. The e-mail invitation to participate in the research, as well as the first page of the questionnaire contained information regarding the purpose of the research and the approximate amount of time it would take to respond to the questions (see Appendix C).

Participants could request a hard copy of the questionnaires, if they wished to do so, to prevent exclusion of those that did not have online access. The invitation to participate in the research, as well as the respective questionnaires distributed amongst the participant groups, are included as Appendix C.

The next section will elaborate on the design of the questionnaire, the content of the questions as well as the type of questions used.

ii) Design of the questionnaires

During the first round of data collection, three questionnaires were distributed (one for each of the participant groups). Some of the questions corresponded between the questionnaires for graduates, human resource practitioners, and teachers, but questions were included that were applicable only to a specific participant group. Copies of one questionnaire were distributed to the validation panel. The number of questions in each questionnaire is shown in Table 5.3:

Table 5.3: Number of questions per questionnaire

Questionnaire	**Number of forced choice multiple-choice questions (demographic and other)**		**Number of open-ended questions**	**Total number of questions**
Human resource practitioners	9		10	19
Teachers from the Faculty of EMS at the UFS	10		13	23
Graduates from the Faculty of EMS at the UFS	11		11	22
Questionnaire	**Number of forced choice multiple-choice questions (demographic and other)**	**Number of rating questions (Essential, Useful, Not necessary)**	**Number of open-ended questions**	**Total number of questions**
Validation questionnaire for panel	4	180	16	200

- Content of questions

The questionnaires were informed by the literature study done in terms of the first four research questions addressed in Chapters 2, 3 and 4, namely

Research question 1: What are the contemporary perspectives pertaining to graduate attributes required for preparing EMS students for the world of work?

Research question 2: How can curriculum design/mapping models assist in addressing and embedding the graduate attributes that have been identified into EMS curricula?

Research question 3: How can graduate attributes be taught and the evidence of the development and attainment of graduate attributes be collected and assessed?

Research question 4: What are the educational considerations pertaining to the mastery and transferability of graduate attributes in HE?

The main sections of the three questionnaires in the first round of data collection, therefore were:

- Demographic information
- The value and importance of graduate attributes
- The undergraduate curriculum, and teaching-learning and assessment practices
- The mastery and transfer, and evidence of graduate attribute development.

It is important to note that although the main sections/themes in the questionnaires in the first round of data collection were the same, the questions pertaining to the main sections/themes differed in terms of the applicability to the specific group of participants.

(See Appendix C for examples of the questionnaires)

The main sections of the validation panel questionnaire for the evaluation of the features of the preliminary proposed framework for accommodating graduate attributes in undergraduate curricula at the Faculty of EMS at the UFS were as follows:

- Demographic information
- Graduate attributes considered to be important
- Internal and external realities
- Undergraduate curriculum design: review and mapping
- Teaching and learning practices for curriculum delivery
- Assessment practices for curriculum delivery
- Evidence of graduate attribute development

(See Appendix C for examples of the questionnaires)

Tables 5.5 to 5.7 illustrate the format in which questions were presented, and the topics addressed, as well as those sections presented in the literature study chapters to which the questions related for each of the questionnaires respectively. Note that in the tables, graduate attributes are referred to as GAs.

Table 5.4: Questionnaire for human resource practitioners

Section/Topic	Questions related to perceptions with regard to the section or theme	Type of question	Related topics in Chapters 2, 3 and 4
Demographic information	• Gender • Home language • Age • Field of experience	Closed Multiple choice (one answer) Multi-choice (more than one answer)	Used to report on the characteristics of participants and to create a contextual understanding in reporting the data.
The value and importance of GAs.	• The identification and importance of GAs. • The extent of the application of GAs by graduates.	Open-ended	Chapter 2 – see 2.4; 2.5
The undergraduate curriculum and teaching-learning and assessment practices related to GAs.	• The perceived extent to which GAs are adequately addressed in undergraduate curricula. • Developmental training required for graduates. • Potential value of industry involvement in the teaching-learning and assessment of GAs.	Open-ended	Chapter 3 – see 3.4 (3.4.2.3 and 3.4.3.2 in particular)
The mastery, transfer and evidence of GA development.	• The perceived extent of transfer of GAs. • Types of evidence of GA development encountered and preferred.	Open-ended Multiple choice (one answer) and then participant is required to motivate the answer in an open-ended space.	Chapter 2 – see 2.2.1; 2.3.1 Chapter – see 3.3.6.5 Chapter 4 – see 4.2;4.7

Table 5.5: Questionnaire for graduates from the Faculty of EMS at the UFS

Section/Topic	Questions related to perceptions regarding the section or theme	Type of question	Related topics in Chapters 2, 3 and 4
Demographic information	• Gender • Home language • Age • Undergraduate degree obtained at the UFS • Year of degree studies completion • Full-time/part-time employment • Field of economy in which employed • Nature of duties and responsibilities	Closed Multiple choice (one answer) Open-ended	Used to report on the characteristics of participants (not organisations) and to create a contextual understanding in reporting of the findings.
The value and importance of GAs.	• The identification and importance of GAs. • GAs applied in current position. • GAs to be developed to improve current employability.	Open-ended	Chapter 2 – see 2.4; 2.5 Appendix A
The undergraduate curriculum and teaching-learning and assessment practices related to GAs.	• The perceived extent to which GAs were adequately addressed during undergraduate years of study. • The teaching-learning and assessment practices used for GA development during undergraduate years of study. • The collection of evidence of GA development.	Open-ended Multiple choice (one answer) and then the participant was required to motivate the answer in an open-ended space.	Chapter 4 – see 4.4.3, 4.4.4; 4.5 Appendix A
The mastery, transfer and evidence of GA development.	• Perceptions regarding how the mastery and transfer of GAs could be accomplished during undergraduate years of study.	Open-ended	Chapter 2 – see 2.2.1; 2.3.1 Chapter 3 – see 3.3.6.5 Chapter 4 – see 4.2; 4.7

Table 5.6: Questionnaire for teachers at the Faculty of EMS at the UFS

Section/Topic	Questions related to perceptions regarding the section or theme	Type of question	Related topics in Chapters 2, 3 and 4
Demographic information	• Gender • Home language • Age • Field of economy describing area of expertise	Closed Multiple choice (one answer) Multiple answer (more than one answer)	Used to report on the characteristics of participants (not organisations) and to create a contextual understanding in reporting the data and findings.
The value and importance of GAs.	• The identification and importance of GAs.	Open-ended	Chapter 2 – see 2.4; 2.5 Chapter 4 – see 4.4.1 Appendix A
The undergraduate curriculum and teaching-learning and assessment practices related to GAs.	• Curriculum mapping processes and relevant stakeholder inputs. • GAs as explicit learning outcomes and assessment criteria. • The perceived extent to which GAs have been addressed adequately in undergraduate curricula. • The teaching-learning and assessment practices that could optimise GA development. • The types of evidence of GA development generated through teaching-learning and assessment practices.	Open-ended Multiple choice (one answer) and then the participant was required to motivate the answer in an open-ended space.	Chapter 2 – see 2.3; 2.4; 2.5 Chapter 3 – see 3.2.; 3.3.3; 3.4; 3.5 Chapter 4 – see 4.3; 4.4; 4.5; 4.7 Appendix A
The mastery, transfer and evidence of GA development.	• The teaching-learning and assessment practices that could promote the mastery and transfer of GAs.	Open-ended	Chapter 2 – see 2.2.1; 2.3.1 Chapter 3 – see 3.3.6.5 Chapter 4 – see 4.2; 4.7

Table 5.7: Questionnaire for validation panel

Section/Topic	Questions related to the features of the preliminary proposed framework	Type of question	Related topics in Chapters 2, 3, 4 and 6
Demographic information	• Gender • Home language • Age • Years of experience in the field of Teaching and Learning in higher education.	Closed Multiple choice (one answer) Open-ended	Used to report on the characteristics of participants (not organisations) and to create a contextual understanding in reporting the data and findings.
GAs considered to be important	• Evaluation of GAs considered important for graduates from the Faculty of EMS at the UFS to possess in the world of work.	Categorical rating questions. Open-ended for comment and suggestions.	Chapter 2 – see 2.2.1; Table 2.1; 2.2.2; 2.4; 2.5.2 Chapter 3 – see 3.2.8.1; 3.3.4.2; 3.4.1.1; 3.4.2; 3.5.3.1 Chapter 6 – see 6.3.1; 6.4.1; 6.4.8
Internal and external realities	• Evaluation of features related to internal and external realities to be taken into account when planning for accommodating GAs in undergraduate curricula.	Categorical rating questions. Open-ended for comment and suggestions	Chapter 3 – see 3.2.1; 3.2.6; 3.2.8; 3.3.1; 3.3.4; 3.4 Chapter 4 – see 4.5.2.4 Chapter 6 – see 6.4.2; 6.4.10
Undergraduate curriculum design: review and mapping	• Evaluation of features related to undergraduate curriculum review and mapping processes for accommodating GAs in undergraduate curricula.	Categorical rating questions. Open-ended for comment and suggestions	Chapter 2 – see Table 2.1, Table 2.3, 2.5.2 Chapter 3 – see 3.2.6; 3.3.4.4; 3.4; 3.5; Figure 3.9 Chapter 6 – see 6.4.3; 6.4.4, 6.4.8

Table 5.7: Questionnaire for validation panel (cont.)

Section/Topic	Questions related to the features of the preliminary proposed framework	Type of question	Related topics in Chapters 2, 3, 4 and 6
Teaching and learning practices for curriculum delivery	• Evaluation of features related to teaching-learning practices that may promote and support GA development, mastery and transfer.	Categorical rating questions. Open-ended for comment and suggestions	Chapter 2 – see 2.4.3 Chapter 3 – see 3.2.1, Table 3.2; 3.3.2; 3.3.4; 3.3.4.4; 3.3.5; 3.3.6; 3.4; 3.5.4 Chapter 4 – see 4.4.1; 4.2.1; 4.4.2.1; 4.4.2.2; Table 4.1; 4.3; 4.4.3; 4.4.4; 4.5.3.1; 4.5.3.3; 4.6; 4.7 Chapter 6 – see 6.3.6.1; 6.4.4; 6.4.5; 6.4.7; 6.4.10.1 Appendix A
Assessment practices for curriculum delivery	• Evaluation of features related to assessment practices that may promote and support GA development, mastery and transfer.	Categorical rating questions. Open-ended for comment and suggestions	Chapter 2 – see 2.3.1; Table 2.3; 2.5.2 Chapter 3 – see 3.2.1; 3.2.3; 3.2.6; 3.3.1.2; 3.3.2; 3.3.4; 3.3.5; 3.4.2; 3.4.3; 3.5.3.1; 3.5.4 Chapter 4 – see 4.2.4; 4.3; 4.4.3; 4.5. Chapter 6 – see 6.4.4; 6.4.6; 6.4.7; 6.4.10.1; 6.4.10.2 Appendix A
Evidence of graduate attribute development	• Evaluation of features related to practices that may promote the generation and collection and management of evidence related to GA development.	Categorical rating questions. Open-ended for comment and suggestions	Chapter 2 – see 2.2.1; Table 2.1 Chapter 3 – see 3.4.3.1 Chapter 4 – see 4.4.1.5; 4.4.5; 4.5.5; 4.5.6; 4.5.7; 4.7 Chapter 6 – see 6.4.7; 6.4.9

- Types of questions used

The use of open-form (open-ended) or closed-form items depends on the type of information that the researcher aims to collect. Closed-form items are best for obtaining demographic information and data that can be categorised easily (McMillan and Schumacher 2010:197-198). Open-ended questions require of the participants to provide their own answers to the questions. The danger of using open-ended questions is that participants may provide answers that are essentially irrelevant to the researcher's intent. However, in-depth qualitative research relies almost exclusively on open-ended questions (Babbie 2013:255).

In the first round of data collection, mainly open-form questions were used to elicit rich information from the various participants. The researcher used closed items to gather demographic information and kept other closed-form items to a minimum. Participants could also select the "other" option if the applicable response category was not listed and type in the applicable response. One of the demographic closed-form items in the questionnaire for human resource practitioners allowed for multiple choices, thus the participant could select more than one option.

The other closed-form items (not for demographic information) were used to direct participants to the next question (contingency questions), and were followed by an open-form question that required the participant to motivate the answer provided in the closed-item. This was done to avoid double-barrelled questions (*cf.* Babbie 2013:256,262; Patton 2002:354). Patton (2002:353-354) states that good questions should be non-dichotomous, neutral, singular, and clear, to permit the participant to use whatever words they wished to express themselves. In the light of this particular study and research design, the researcher aimed at eliciting such individual perspectives to investigate the different contextual viewpoints regarding the different themes addressed in the research (see Table 5.4 -5.7).

In the second round of data collection, the researcher made use of multiple choice closed-form questions to gather demographic information. The features of the preliminary proposed framework had to be rated as 'essential', 'useful' or 'not necessary' by means of categorical rating items. These items offered the researcher the opportunity to fuse measurement with opinion, quantity and quality (Cohen *et al.* 2007:327). The rating questions were followed by open-form questions where the

validation participants could make comments and suggestions regarding the specific features that they had rated (see Figure 5.6).

All questionnaires also allowed for further comments and suggestions to provide participants with the opportunity to make mention of any other aspects that in their opinions should be considered.

Examples of the open-form and closed-form items used in the questionnaires are provided below (Figure 5.3 -5.6).

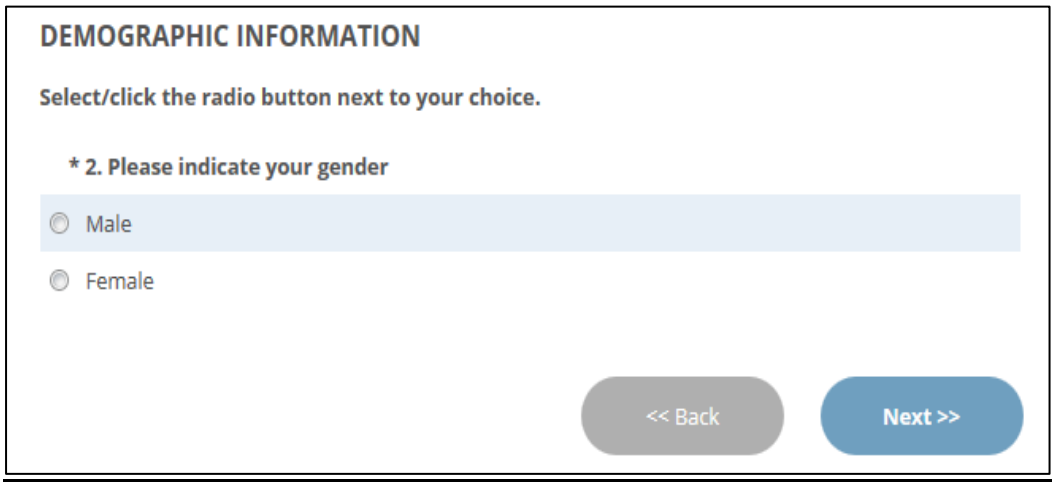


Figure 5.3: Example of a single-choice closed-form item for demographic information

Multi-choice closed-form item

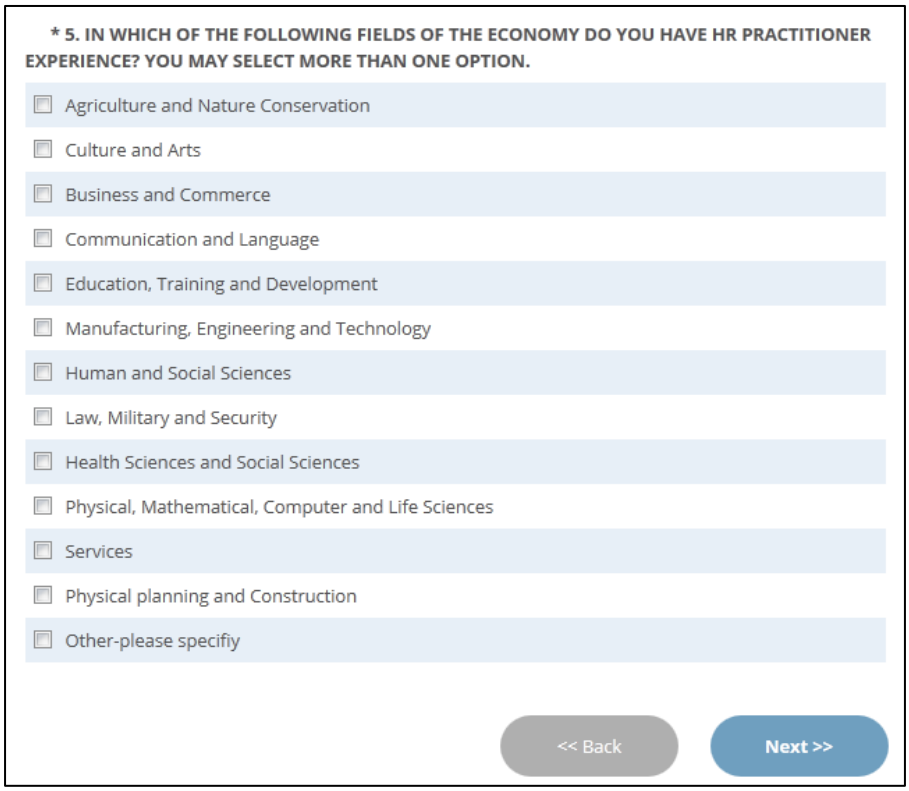


Figure 5.4: Example of a multi-choice closed-form item for demographic information

Single-choice closed-form item with open-form response question area.

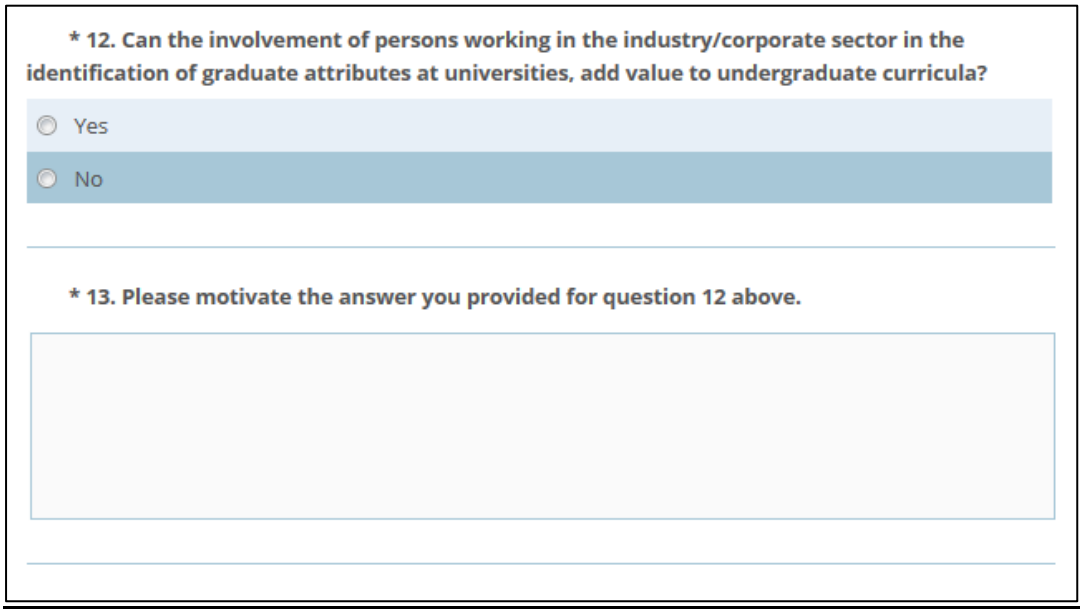
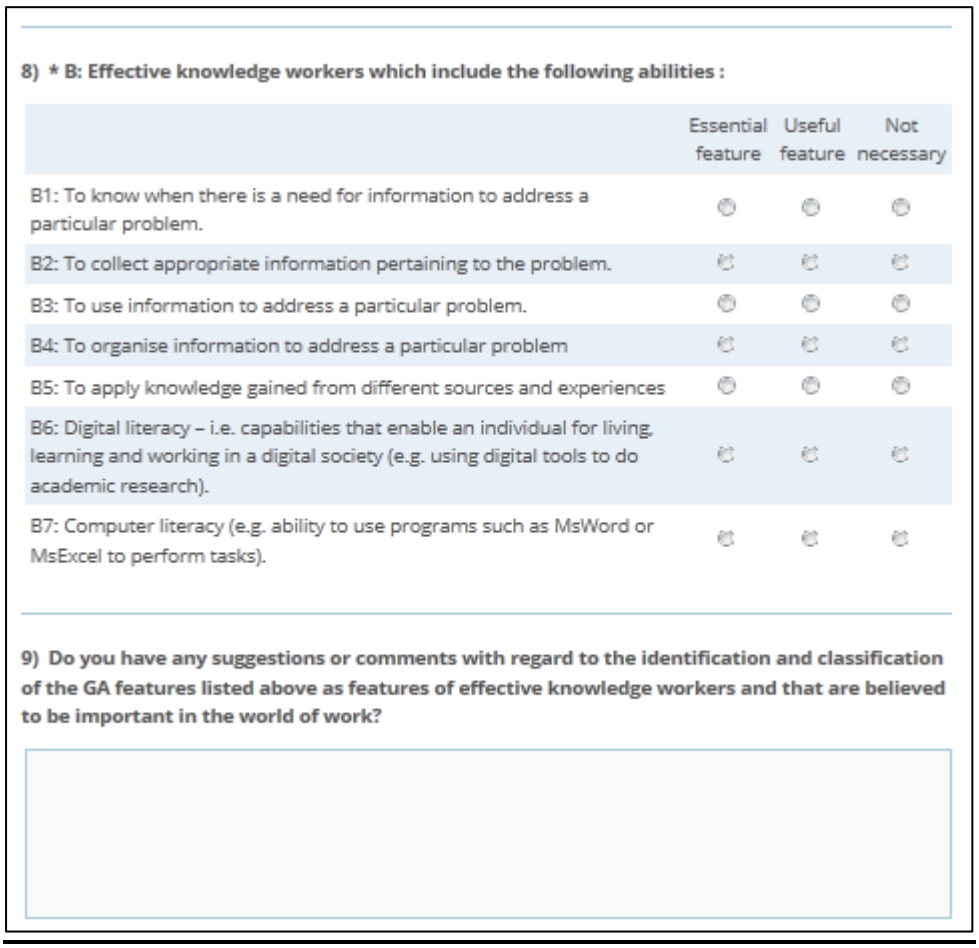


Figure 5.5: Example of a single-choice closed-form item with open-form response question area

Categorical rating-items with open-form response question area for comments and suggestions pertaining to the rated features



8) * B: Effective knowledge workers which include the following abilities :

	Essential feature	Useful feature	Not necessary
B1: To know when there is a need for information to address a particular problem.	○	○	○
B2: To collect appropriate information pertaining to the problem.	○	○	○
B3: To use information to address a particular problem.	○	○	○
B4: To organise information to address a particular problem	○	○	○
B5: To apply knowledge gained from different sources and experiences	○	○	○
B6: Digital literacy – i.e. capabilities that enable an individual for living, learning and working in a digital society (e.g. using digital tools to do academic research).	○	○	○
B7: Computer literacy (e.g. ability to use programs such as MsWord or MsExcel to perform tasks).	○	○	○

9) Do you have any suggestions or comments with regard to the identification and classification of the GA features listed above as features of effective knowledge workers and that are believed to be important in the world of work?

Figure 5.6: Categorical rating-items with open-form response question area

- General aspects related to the design of the questionnaires

In terms of the general aspects of the design of the questionnaires the researcher endeavoured to ensure that the spelling, grammar and other details were accurate. Care was taken that the font was clear and easy to read. Instructions were kept as brief as was allowed by the essential information that had to be communicated, and abbreviated items were avoided.

Related items were grouped to make their context clear to participants, and definitions that would aid the understanding of questions were provided with each 'question set'. Examples were provided for items that might have been difficult to understand. Participants were also directed to examples and short descriptions of graduate attributes if they chose to view them.

Individuals with insight that were experienced in qualitative research were asked to review and pre-test the items (questions). They were requested to comment on the clarity of the wording and the complexity of the questions, to indicate possible spelling and grammar errors, comment on the length of the questionnaires, and to make any other relevant comments that they regarded as important. The feedback was incorporated in the pilot questionnaires and a pilot test was completed by persons that had characteristics similar to the envisaged participant groups. Comments were requested about the same aspects as with the pre-test phase.

All of the above-mentioned general considerations are advised in research methodology literature, for example McMillan and Schumacher (2010:202-205).

e) Field issues

Field issues usually range from issues with interviews and observation to issues with documents and materials, as well as ethical issues. It is important to reflect on the relationship that exists between the researcher and the participants and to take issues with regard to power into consideration. A qualitative researcher faces many ethical issues that may arise during data collection, analysis and the writing of reports (Creswell 2013:171-175). The ethical considerations pertaining to the study receive more attention in section 5.3.3.4.

f) Storing data

The storage and safe-keeping of data are important aspects of a study of this nature, particularly in the case of electronic databases. It is suggested that data files be backed up. The identity of participants should be protected by masking their names in the data and rather assign numbers or letters to identify participants. It is also recommended that a system should be devised for the organised storage and retrieval of information, especially when a vast amount of data is used (Creswell 2013:176-177). To comply with these conditions, the data collected by means of the questionnaires were exported and saved on two removable hardware devices, and kept in a safe box that required a code. A backup copy of the data was thus made and kept secure by the researcher, protecting the data from being viewed by unauthorised individuals.

5.3.3.2 Data analysis

Figure 5.7 illustrates the process followed in the data analysis of the study.

The analysis process was guided and organised through the initial theoretical proposition that led to the case study. The original objectives and design reflect these propositions through the research questions and literature review (*cf.* Yin 2009:136).

First, all the information of the case was brought together. The data had to be easily retrievable (*cf.* Merriam 2009:203). The questionnaire data were organised and assigned codes that masked the identity of the participants. An intensive reading process and framework analysis preceded the coding process. Key thematic ideas were identified from the literature, as well as while reading through the transcripts. The coding of text followed and categories were added to the key thematic ideas as the coding (including descriptive and analytic codes) process evolved. Care was taken not to let the key thematic ideas cloud the emergence of categories and themes offered by the data (*cf.* Gibbs 2007:38-55; Ritchie *et al.* 2003:221).

In the light of the aforementioned, the researcher went back and forth between the different sources of data from the various groups of participants, as well the literature review, to achieve a comparative method of data analysis. The literature review and resultant theoretical framework served as valuable sources of comparison and analysis. The researcher highlighted theoretical categories and how they extended, transcended or challenged dominant ideas in the field by comparing her own ideas with those of other scholars. The latter served to enhance the accuracy and consistency of findings (*cf.* Gibbs 2007:46, 96; Merriam 2009:175-176; Miles and Huberman 1994:254). The data analysis process therefore included inductive and deductive reasoning.

Categories and subcategories (hierarchies) were constructed from the coding process (using both frequency and uniqueness of accounts). The framework and guidelines were ultimately constructed based on the categories, themes and patterns that emerged holistically from the data analysis (*cf.* Merriam 2009:177-192).

The researcher collected and analysed data until saturation occurred, that is, until no new information, insights or understandings were forthcoming (*cf.* Merriam 2009:83).

Miles and Huberman (1994:261) describe this process as “moving up from the empirical trenches to a more conceptual overview of the landscape”.

The qualitative data analysis software program, QSRNvivo, was deemed appropriate to facilitate the data management and analysis process of this study, because it, amongst others, provided security by storing the database and files together in a single file, and allowed the researcher to easily code, categorise and search for data. The programme also displays codes and categories graphically (*cf.* Babbie 2013:404-405; Bringer, Johnston and Brackenridge 2006:245-262; Creswell 2013:204; Gibbs 2007:107).

Figure 5.7 provides a depiction of the data analysis process.

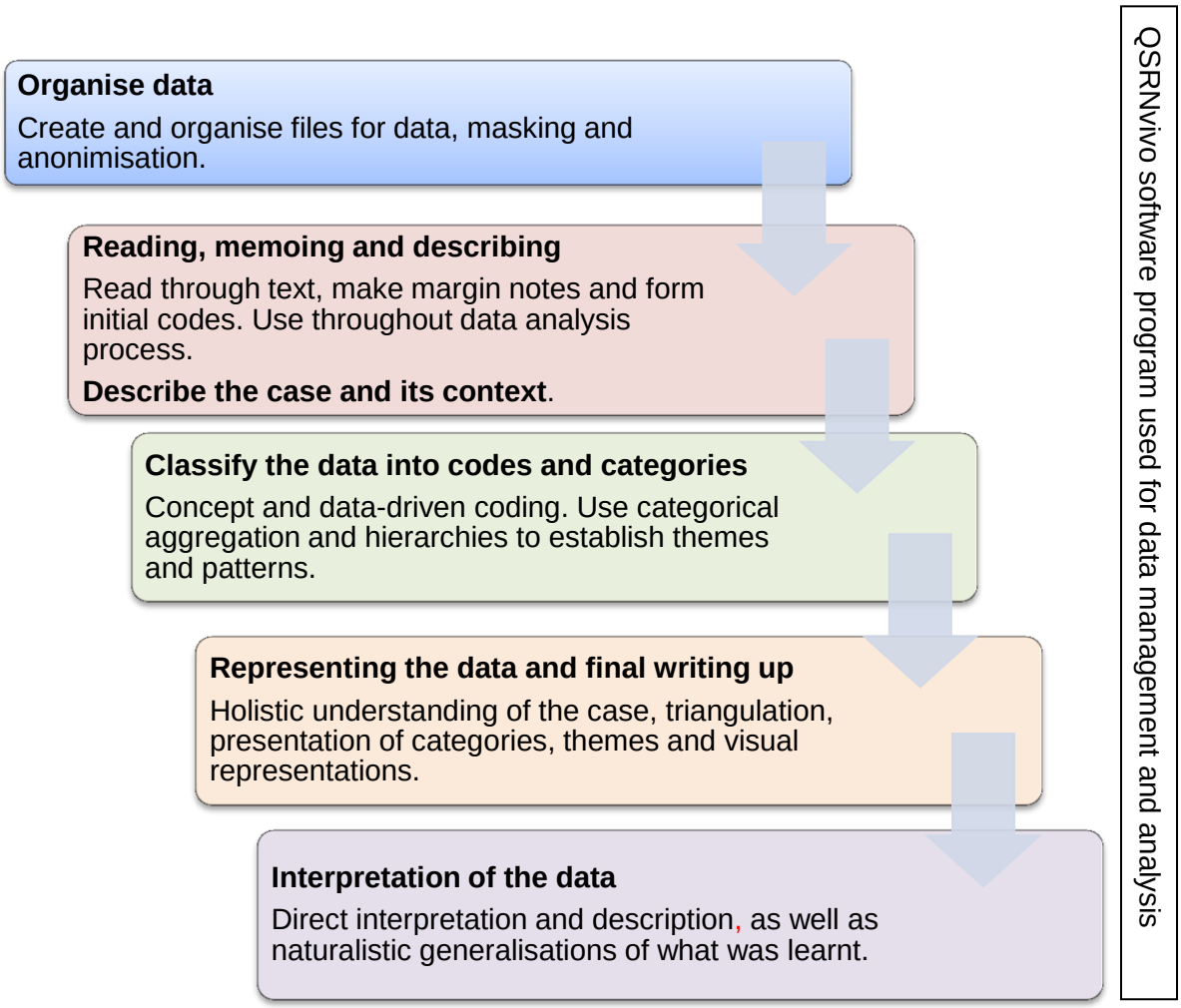


Figure 5.7: Data-analysis process followed in the study

Source: Compiled from Creswell (2013:191,199; 2014:197-198); Gibbs (2007:50, 86-87); Merriam (2009:202-204); Mertens (2010: 424-425).

5.3.3.3 Quality assurance (trustworthiness) and validation strategies

According to Babbie (2013:407), judging the quality of qualitative research is more abstract than in the case of quantitative studies, but not less important. Guba and Lincoln (1989:236-243) suggested alternative terminology for qualitative research, that would apply to natural axioms and correspond with quantitative validation elements. These terms are depicted in Table 5.8.

Table 5.8: Qualitative and quantitative terms for quality assurance

Qualitative terminology	Quantitative terminology
Credibility	Internal validity
Transferability	External validity
Dependability	Reliability
Confirmability	Objectivity

Source: Adapted from Lincoln and Guba (1989:236-243)

a) Credibility

Credibility has a bearing on how research findings match reality, in other words, whether there is correspondence between the actual perceptions of participants and the way in which the researcher portrays the viewpoints (Merriam 2009:213; Mertens 2010:388). The concept of credibility, however, denies complete objective reality for the concepts used and studied by qualitative researchers in contrast with older positivistic (objective reality) views of validity (Babbie 2013: 408).

When a survey questionnaire is designed, it is important to assess the extent to which the questions asked and the answer received reflect what is agreed to be meant by the terms (Babbie 2013:407-408).

Triangulation, the use of multiple and different sources, methods, and investigators also increase the credibility of findings (Cohen *et al.* 2007:141-142; Creswell 2013:251; Gibbs 2007:94; Merriam 2009:229,234; Patton 2002:247; Yin 2009:118-119). In this study the researcher used an extensive literature study, multiple perspectives from graduates, human resource practitioners and university teachers, as well validation questionnaire data from individuals regarded as knowledgeable

(i.e. information rich) in the field of teaching and learning in higher education to enhance the credibility of findings.

Peer review or debriefing provides an external check of the research process much like the inter-rater reliability in quantitative research. Peer-review means involving an individual who keeps the researcher honest, ask hard questions about the methods, meanings and interpretations, and provides the researcher with an opportunity to voice questions and concern (Creswell 2013:251; Merriam 2009:229, 234; Mertens 2010:257). The promoters of the study fulfilled the role to this end.

Member checking (also called respondent validation or participant review) solicits participants' views of the credibility of the findings and interpretations. The process may involve checking informally with participants for accuracy of interpretations (McMillan and Schumacher 2010:33; Gibbs 2007:95; Merriam 2009:229). Charmaz (2006:19) points out the importance of establishing rapport with participants to make such a process of checking possible. The researcher used member checking during validation of the preliminary proposed framework.

Using verbatim accounts (participant language/quotations) enhances the authenticity and credibility of the data. Quotations should be relevant, short and contextualised (Gibbs 2007:97; McMillan and Schumacher 2010:330,335). Direct quotations from the data were used in reporting the findings of the study in an attempt to enhance the authenticity and validity of the findings; however, care was taken not to make participants identifiable.

In summary, the credibility of this study was enhanced by the careful selection of participants, checking of findings with relevant others, as well as the thorough analysis of the data (see 5.3.3.2) and reporting of data.

b) Transferability

Transferability means that the findings have applicability in other contexts (Guba and Lincoln 1989; Merriam 2009:223). Rich, detailed descriptions of the participants and topics under study will enable the readers to connect the research findings to other settings, because of shared characteristics (*cf.* Creswell 2013:252). The researcher attempted to provide a rich description of the literature, the findings and the proposed framework that resulted from the study. However, the purpose of the rich

description was not merely to generalise the findings, but to illustrate and inform readers with regard to similar situations contextually (*cf.* McMillan and Schumacher 2010:335; Merriam 2009:229,234).

The researcher aimed to promote the extension of findings by citing the findings of existing research to indicate possible alignment or discrepancy (and enable the reader to possibly relate the findings to similar situations).

c) Dependability

The concept of reliability also is an elusive concept in social research, because what is observed/investigated may be constantly changing, the act of measuring may differ, and the act of measuring (such as asking a question) also may affect the person being studied (Babbie 2013:408). Dependability refers to the consistency of the findings and whether the findings can be repeated (Merriam 2009:220).

The researcher left an audit trail by providing a detailed description of how the findings were arrived at. Merriam (2009:222,234) and Babbie (2013:326) explain that by leaving an audit trail through the detailed description of how the study was conducted and how the findings were derived from the data can enhance the dependability of the data. A study based on rich, substantial and relevant data enhances the dependability of the study. As with internal validity, peer examination and triangulation can also enhance the dependability of findings.

d) Confirmability

Guba and Lincoln (1989) describe confirmability as the degree of neutrality, or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest.

Reflexivity is vital to clarify researcher bias in terms of past experiences, biases, prejudices and orientations that are likely to shape the interpretation of findings and the approach to the study. Reflexivity is a continuous process of self-scrutiny throughout the research process by not denying human subjectivity (disciplined subjectivity), but rather taking into account such subjectivity throughout the process. Strategies to enhance reflexivity include peer-review, recording research decisions,

ethical consideration, external auditing and member checking (Creswell 2013:251; Gibbs 2007:91; McMillan and Schumacher 2010:334-335).

The triangulation of data (as explained as part of validation procedures above) aids the identification of corroborative or discrepant findings. The goal is not to seek consensus, but to understand multiple perspectives and to identify blind spots or bias in the interpretive analysis. A finding supported by and supportive of other work has confirmatory significance (Patton 2002:467). For these reasons, the triangulation of data was used in this study.

Creswell (2013:253) recommends that qualitative researchers should employ or engage with at least two of the practices of quality assurance described above.

5.3.3.4 Ethical considerations

Ethical issues arise throughout the research process and the researcher (inquirer) needs to be sensitive to the needs of participants and other stakeholders.

a) Consent and voluntary participation

In gaining consent, most researchers give participants the assurance of confidentiality and anonymity and describe the intended use of the data (McMillan and Schumacher 2010:339). Participants must base their voluntary participation in research projects on a full understanding of the purpose of the research, use of the data, possible risks, and extent of confidentiality involved (Babbie 2013:64; Gibbs 2007:8,101; Patton 2002:408).

Informed consent and voluntary participation were explained in the invitation letter and obtained through the electronic questionnaire. If participants opted not to give informed consent, they were taken to the end of the questionnaire and thanked for their participation up to that stage (see Appendix C).

b) Anonymity and confidentiality

In terms of anonymity the researcher should routinely code the names of participants and places. Researchers have the dual responsibility of protecting the individuals' confidences from other persons and to protect the participant from the general reading public (McMillan and Schumacher 2010:339; Gibbs 2007:8,101). Because

qualitative data are so detailed, the chances are greater to breach confidentiality; thus, special care should be taken to protect the anonymity of participants (Gibbs 2007:104). According to Babbie (2013:66) a researcher guarantees confidentiality when he/she can identify individual responses, but essentially promises not to do so publicly.

In this study the researcher could identify the participants for the purpose of further validation or clarification of answers. However, during the data analysis and reporting process, the data were kept anonymous through the coding of names and the data were kept confidential by not allowing unauthorised persons access to the data. Further care was taken not to make participants identifiable by the detail of their messages in the reporting of data, as advised by Merriam (2009:161).

c) Caring and fairness

Physical harm rarely occurs in qualitative research, but some individuals may experience humiliation and loss of trust. The researcher should make a sense of caring and responsibility a part of his/her thinking, actions and personal morality (McMillan and Schumacher 2010:339). Researchers should be sensitive to the harm and upset that may be caused for participants (Gibbs 2007:8). Any cultural, religious, gender, or any other differences need to be respected (Creswell 2013:57).

The researcher aimed to be cognisant of the harm that may be caused during data collection, analyses and reporting. Participants were assured that they would not be harmed in any way and would be allowed to withdraw from the study at any time (communicated in the invitation letter to participate in this research).

d) Permission obtained

Prior to conducting a study it is necessary to gather university approval for the data collection involved in the study (Babbie 2013:69; Creswell 2013:57).

This study was approved by the Ethics Committee (Ethical clearance number: UFS-EDU-2012-0046), Title Registration Committee and Faculty Board of the Faculty of Education at the University of the Free State. Permission to conduct the study was obtained from the University of the Free State and the Faculty of Economic and

Management Sciences at the University of the Free State. This study therefore complies with all requirements in this regard.

e) Minimise potential misinterpretation of results

During the analysis of results the researcher should avoid siding with participants, or disclosing only positive or only negative results, and should respect the privacy of participants by not making them identifiable in data files and reports. In reporting the results the researcher should be honest, and should not plagiarise, and communicate in clear, appropriate language. The researcher also should be aware of the limitations of the study and make these (if present) known (Babbie 2013:65, 69; Creswell 2013:58-59; Gibbs 2007:104; Miles and Huberman 1994:263; Yin 2009:4,168). The limitations of the study are reported in Chapter 8.

Table 5.9 provides a summary of the research design and methodology of this study.

Table 5.9 Summary of the research design and methodology of the study

<table>
<tr><th colspan="2">Function and purpose of the research</th></tr>
<tr><td colspan="2">Elements of applied and evaluative research.</td></tr>
<tr><th colspan="2">Categories of research in higher education (Tight 2012)</th></tr>
<tr><td colspan="2">Course design, student experience and quality.</td></tr>
<tr><th colspan="2">Strategy of inquiry</th></tr>
<tr><td colspan="2">Qualitative research</td></tr>
<tr><th colspan="2">Type of qualitative research</th></tr>
<tr><td colspan="2">Case study (intrinsic)</td></tr>
<tr><th colspan="2">Philosophical view</th></tr>
<tr><td colspan="2">Constructivist</td></tr>
<tr><th colspan="2">Research methods</th></tr>
<tr><td>Data collection:
• Qualitative questionnaire survey
• Purposeful sampling
• Electronic questionnaire
• Electronic validation questionnaire</td><td>Data analysis:
• Focused, careful coding
• Categorisation
• Themes and patterns
• Holistic account of findings
• Triangulation
• Integration of validation feedback</td></tr>
<tr><th colspan="2">Actions taken in an attempt to enhance the quality assurance of the study</th></tr>
<tr><td colspan="2">Credibility:
• Admission of subjectivity
• Triangulation
• Peer-review
• Member checking where necessary
• Participant language</td></tr>
</table>

Dependability: • Rich, substantial and relevant data • Audit trail • Peer examination • Triangulation
Transferability: • Rich, detailed descriptions enabling readers to make contextual connections • Citing the findings of existing research
Confirmability: • Continual reflexivity (enhanced by peer-review, ethical considerations, audit trail) • Triangulation
Ethical behaviour: • Consent obtained • Anonymity and confidentiality - names coded and masked. Data stored away from unauthorised viewers • Caring and fairness - care taken to respect and build trust of participants • Permission obtained from relevant institutional committees • Minimise potential misinterpretation of results - Avoid siding with participants, not only disclosing positive results • Clear and honest reporting of results • Recognising the limitations of the study

5.4 CONCLUSION

In this chapter an overview was given of the research design and methodology employed in this study. The research design was discussed according to the research strategies, philosophical worldview and research methods applied.

In the discussion the researcher also dealt with the methodology used in addressing the research question:

- *What are the implications of the identified information for undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?*

In Chapter 6 the analysis and interpretation of the data will be discussed in order to respond to the abovementioned research question.

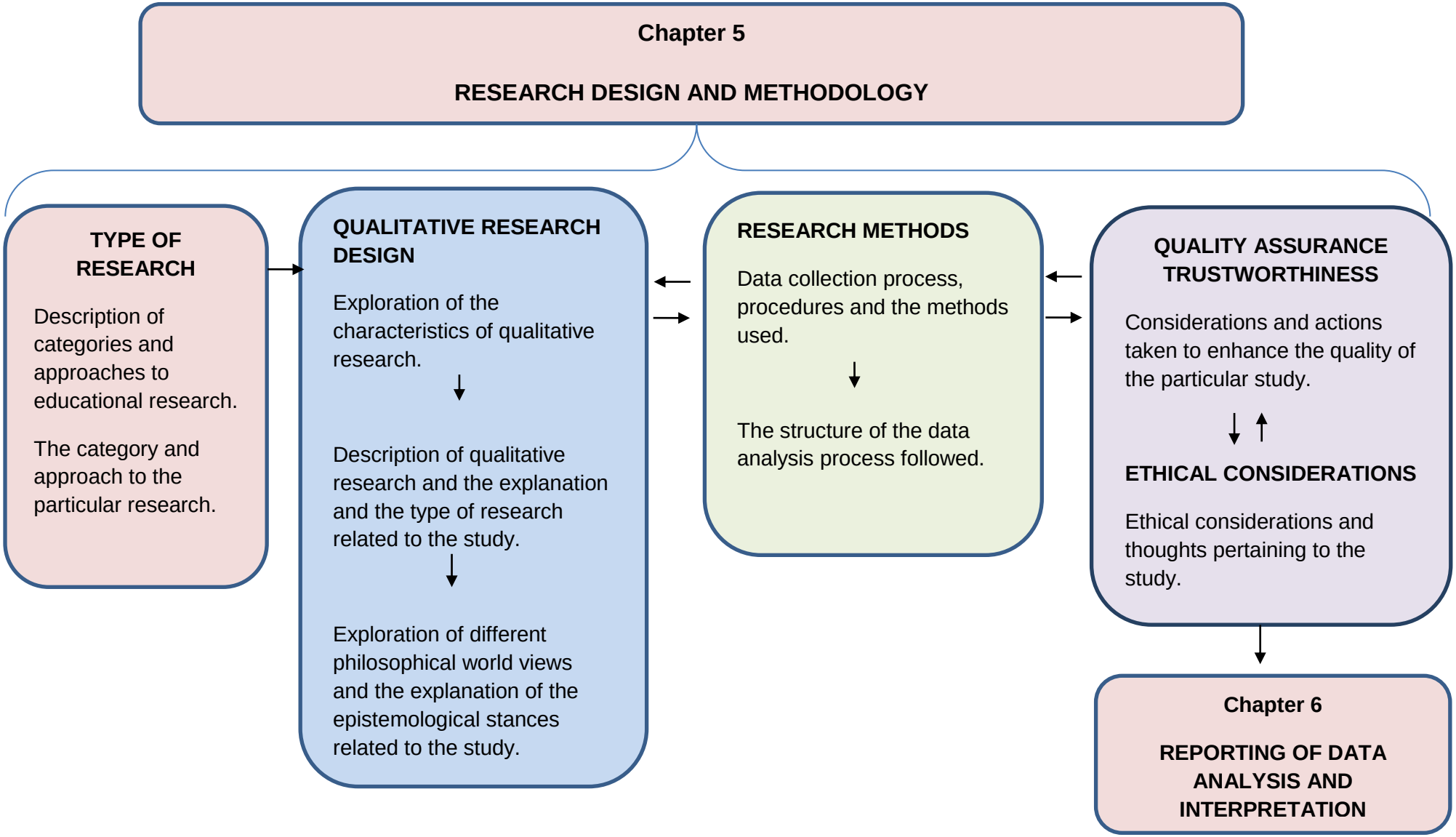


Figure 5.8: Themes addressed in Chapter 5

CHAPTER 6

DATA ANALYSIS AND INTERPRETATION

6.1 INTRODUCTION

Chapter 5 addressed the research design and methodology employed in the execution of the study. This chapter builds on Chapter 5 in an attempt to answer the following research question:

- What are different stakeholders' perceptions pertaining to graduate attributes required to prepare undergraduate EMS students of the UFS for the world of work?

The purpose of the study was, first, to identify graduate attributes that would appropriately prepare Economic and Managements Sciences students for the world of work and, secondly, to design a framework that would ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State.

During the first round of the data collection process, participant groups were asked questions on, amongst others, the graduate attributes they considered as important for the world of work, and the extent to which these graduate attributes were addressed in undergraduate curricula, as well as teaching-learning and assessment practices for optimising mastery and transfer of graduate attributes. The exploration of the findings will be threefold: first, the demographic characteristics and findings from the qualitative questionnaire data will be elaborated upon and second, the findings of the first round of data collection will be elaborated upon. Lastly the findings will be discussed in terms of perceived strengths, shortcomings, needs, and suggestions made by participants along with intersecting themes from the literature.

Based on the findings in this chapter and the extensive literature review, Chapter 7 will introduce a proposed framework that may assist in accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of

Economic and Management Sciences at the University of the Free State, presented along with an integration of the feedback from the validation panel as described in Chapter 5 (see 5.3.3.1 [d]).

The approach taken to the discussion of findings is depicted in Figure 6.1 below.

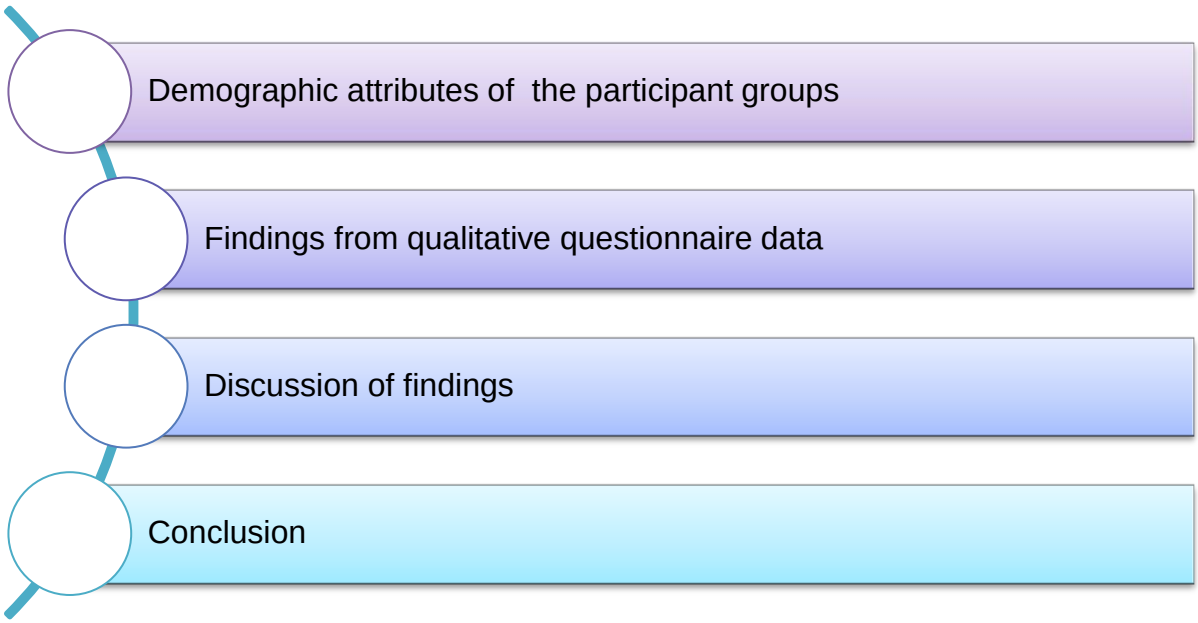


Figure 6.1: Discussion of the findings in Chapter 6

6.2 DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

This section reports on the demographic characteristics of the participants as collected during the first round of data collection of the study. Please note that the term 'majority' is used in this chapter to refer to the highest frequencies of selections made by participants for particular categories and does not necessarily indicate a frequency of more than 50%.

6.2.1 First round of data collection

The participants in the first round of data collection (that is, those who completed questionnaires with mainly qualitative open-ended questions) were graduates from the Faculty of Economic and Management Sciences at the University of the Free State, human resource practitioners working at different organisations that are involved in the recruitment, selection and training of, or works along with young graduates and teachers (i.e. university teachers/academic staff members/lecturers) from the Faculty of Economic and Management Sciences at the University of the Free State. The teachers included in the sample were all employed in different academic departments (i.e. Accounting, Business Management, Economics, Industrial Psychology and Public Management and Administration) in the Faculty of Economic and Management Sciences.

6.2.1.1 Gender

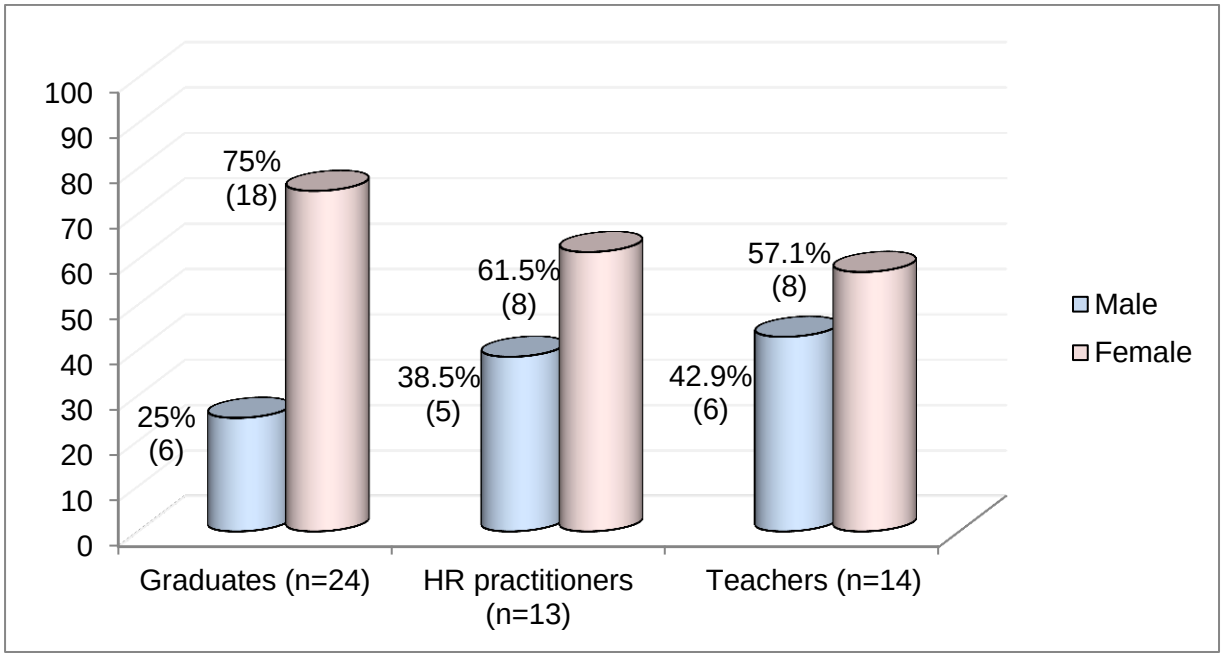


Figure 6.2: Gender distribution of participants

The majority of participants for all the participant groups were female (see Figure 6.2) (graduates 75%, HR practitioners 61.5% and teachers 57.1%). The significantly higher number of female participants can be attributed to the fact the focus of the study was not to differentiate between findings in terms of gender but rather the

availability of information rich participants that could inform the study. In addition, although the researcher, for example, invited male potentially information rich graduate participants, some of these male participants agreed to participate by completing the questionnaire when initial contact was made, but in actual fact eventually did not complete it (despite follow-up requests).

6.2.1.2 Home language

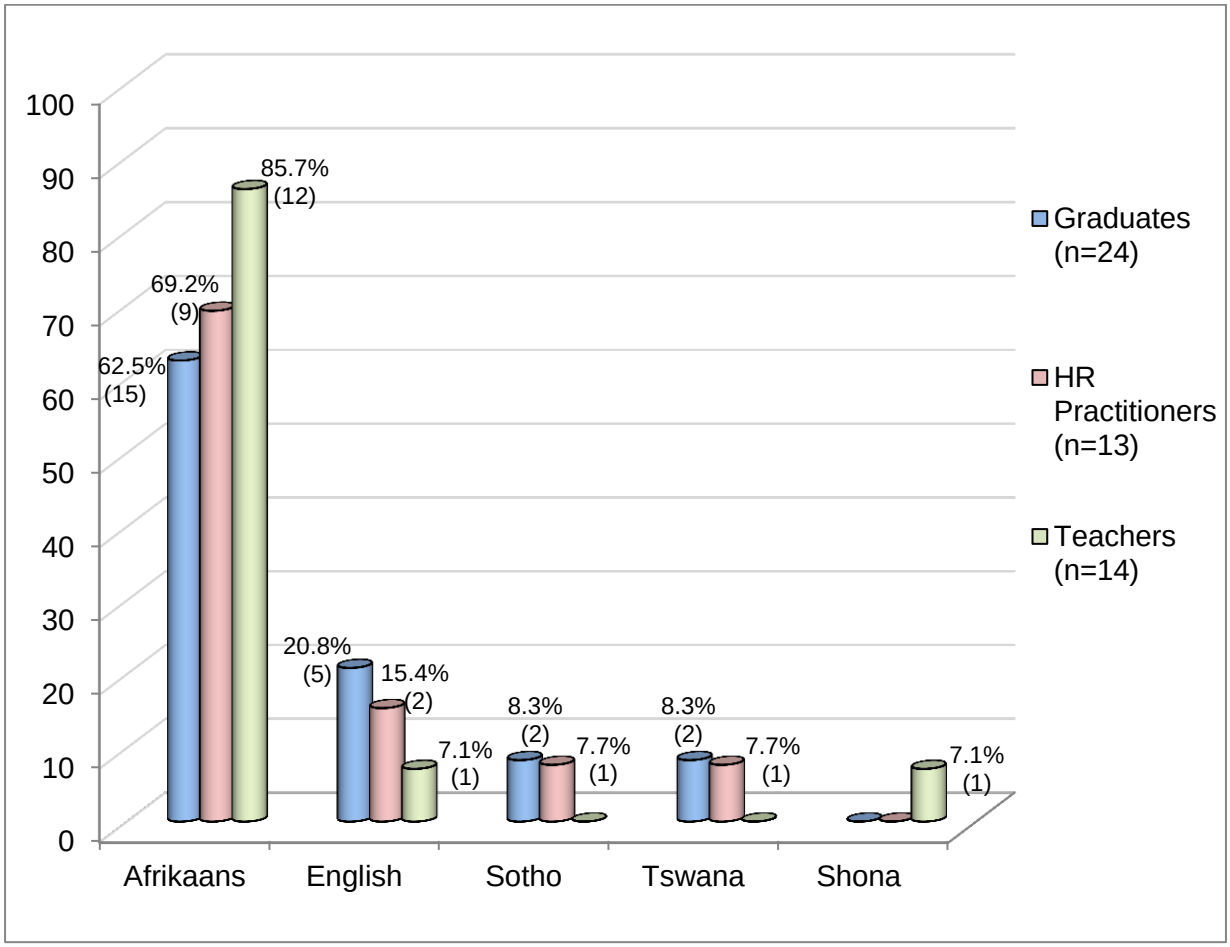


Figure 6.3: Home language distribution of participants

Figure 6.3 represents the language distribution of the participants. The majority of participants in the three participant groups indicated Afrikaans as their home language (graduates 62.5% [15], HR practitioners, 69.2% [9] and teachers 85.7% [12]). English was the second most prevalent home language indicated by participants [graduates 20.8% (5), HR practitioners 15.4% (2) and teachers 7.1% (1)]. Sotho was indicated to be the home language of 8.3% (2) of the graduate

participants and 7.7% (1) of the HR practitioner participants. Tswana was also indicated to be the home language of 8.3% (2) of the graduate participants and 7.7% (1) of the HR practitioner participants. Shona was indicated to be the home language of 7.1% (1) of the teacher participants.

6.2.1.3 Age

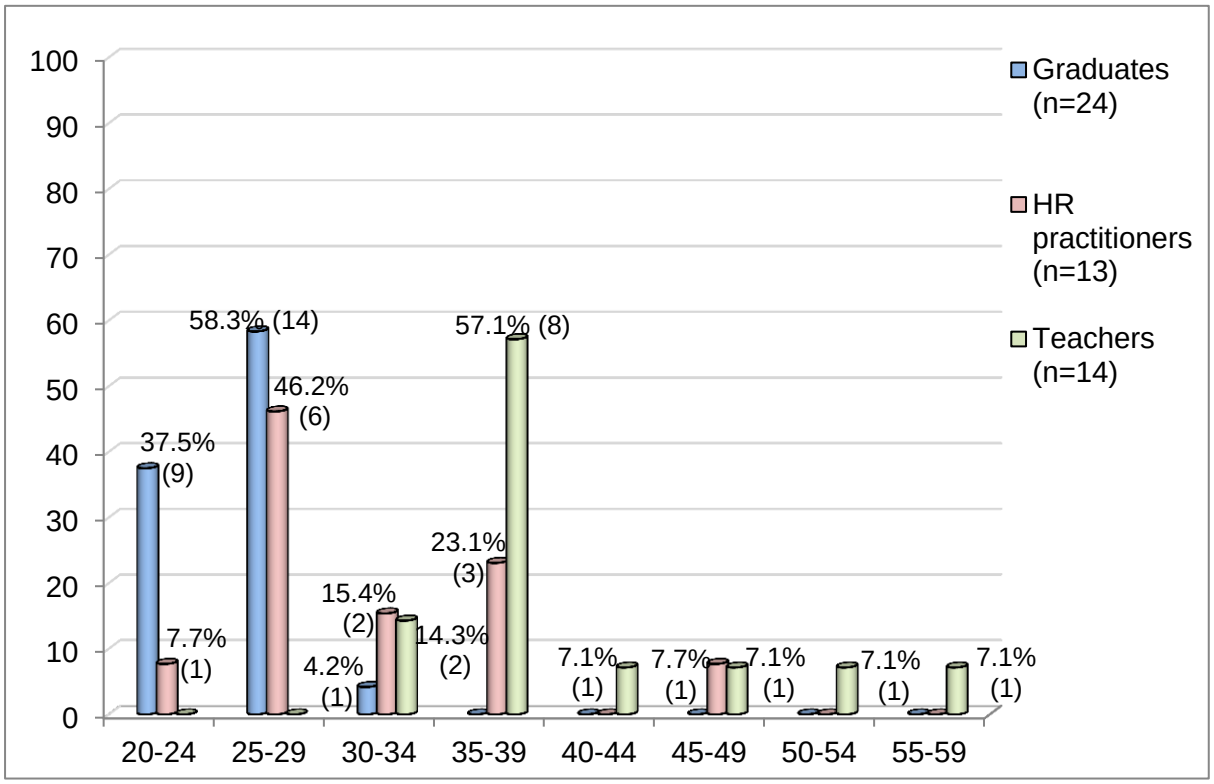


Figure 6.4: Age distribution of participants

As can be seen in Figure 6.4, the majority of graduate participants that participated in the study were between the ages of 20-24 (37.5% [9]) and 25-29 (58.3% [14]) with very few participants being 30-34 years of age or older (4.2% [1]). This distribution results from the criteria that graduate participants should not have graduated before 2008 in order to obtain a more 'current' view of graduate participant experiences.

In terms of the age distribution of the HR practitioner participants, the majority indicated that they were between the ages of 25-29 (46.2% [6]), fewer between 35-39 (23.1% [3]) and 30-34 (15.4% [2]), and only two between the ages of 20-24 and 45-49 (7.7% [1]), respectively.

The highest frequencies of teacher participants were between the ages of 35-39 (57.1% [8]) and 30-34 (14.3% [2]). The rest of the teacher participants indicated to have been between the ages of 40-44, 45-49, 50-54 and 55-59 (7.1% [1]) respectively.

6.2.1.4 Ethnicity

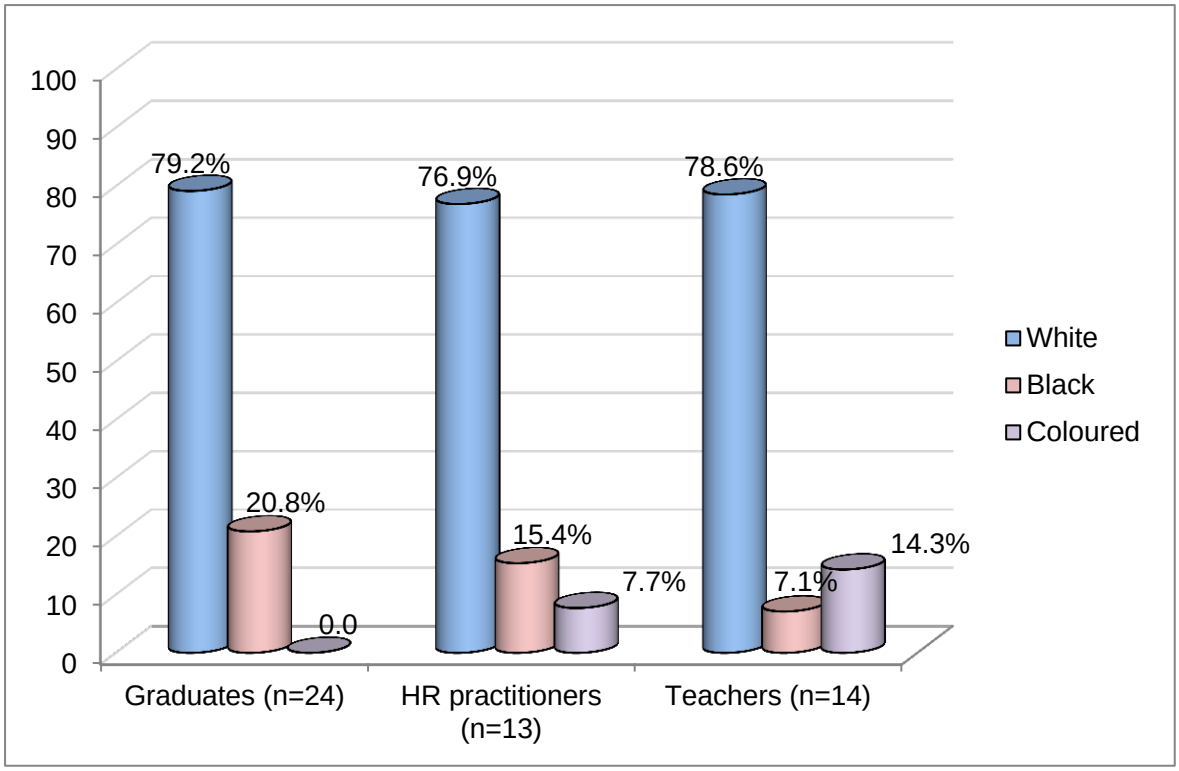


Figure 6.5: Ethnic distribution of participants

The majority of participants that took part were white (graduates 79.2% [19], HR practitioners 76.9% [10] and teachers 78.6% [11]). Only a few of the participants were black (graduates 20.8% [5], HR practitioners 15.4% [2] and teachers 7.1% [1]) and coloured (HR practitioners 7.7% [1] and teachers 14.3% [2]) (see Figure 6.5).

Although the researcher invited black, potentially information rich graduate participants, some of these participants agreed to complete the questionnaire when initial contact was made, but eventually did not complete it (despite follow-up requests). Furthermore, some of the invited graduate participants that were from other ethnic groups (other than white), that could have contributed to a more equal distribution, indicated that they were not working full time and thus could not

complete the questionnaire (see 5.3.3.1). Nonetheless, the focus of the study was not to differentiate between findings in terms of ethnicity, but rather the availability of information-rich participants that could inform the study.

6.2.1.5 Graduates: Year of graduation

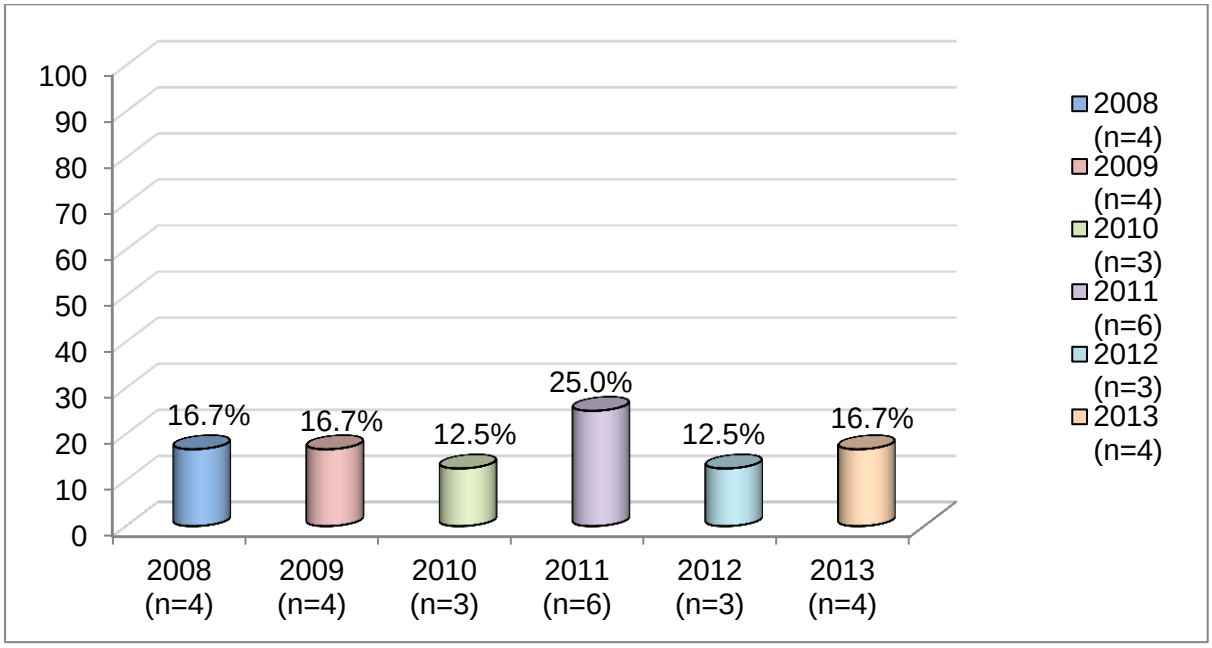


Figure 6.6: Year graduated (undergraduate degree obtained)

The highest frequency of graduate participants reported to had obtained their undergraduate degree in 2011 (25%). There was an equal distribution between those who obtained their undergraduate degrees in 2008, 2009 and 2013 (16.7%) respectively. Those who completed their undergraduate degrees in 2010 and 2012 comprised 12.5% of this participant group respectively. (See Figure 6.6 for a graph of the findings.)

6.2.1.6 Graduates' current employment: Field of economy

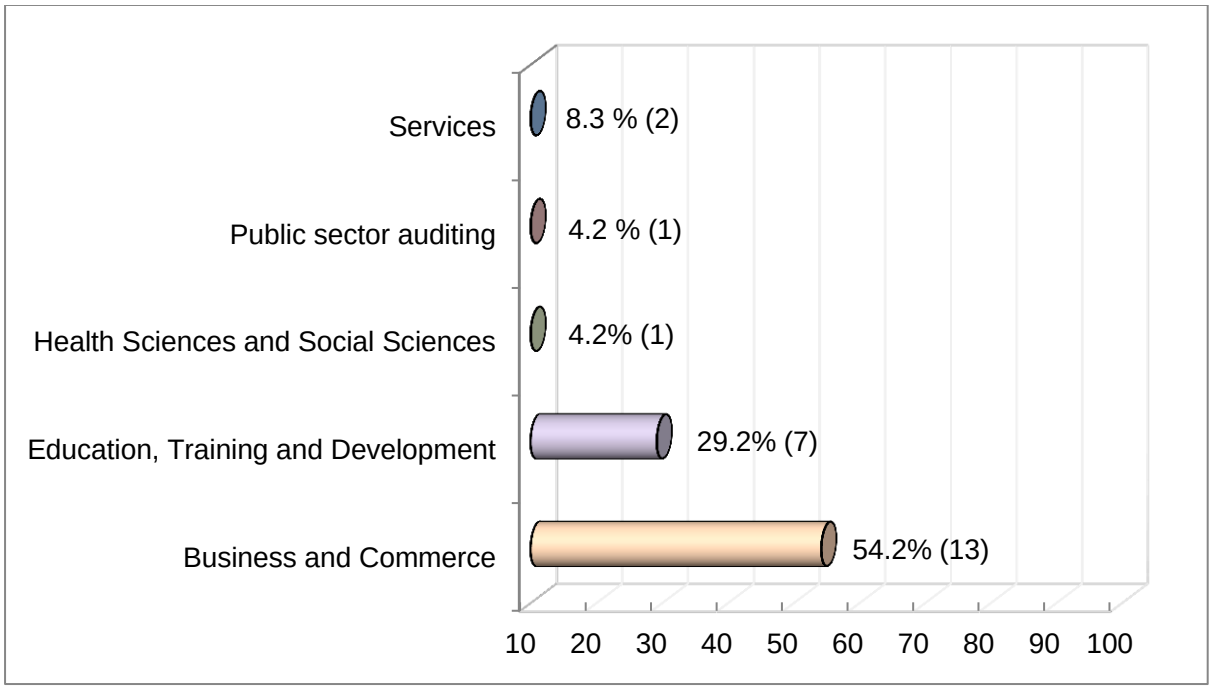
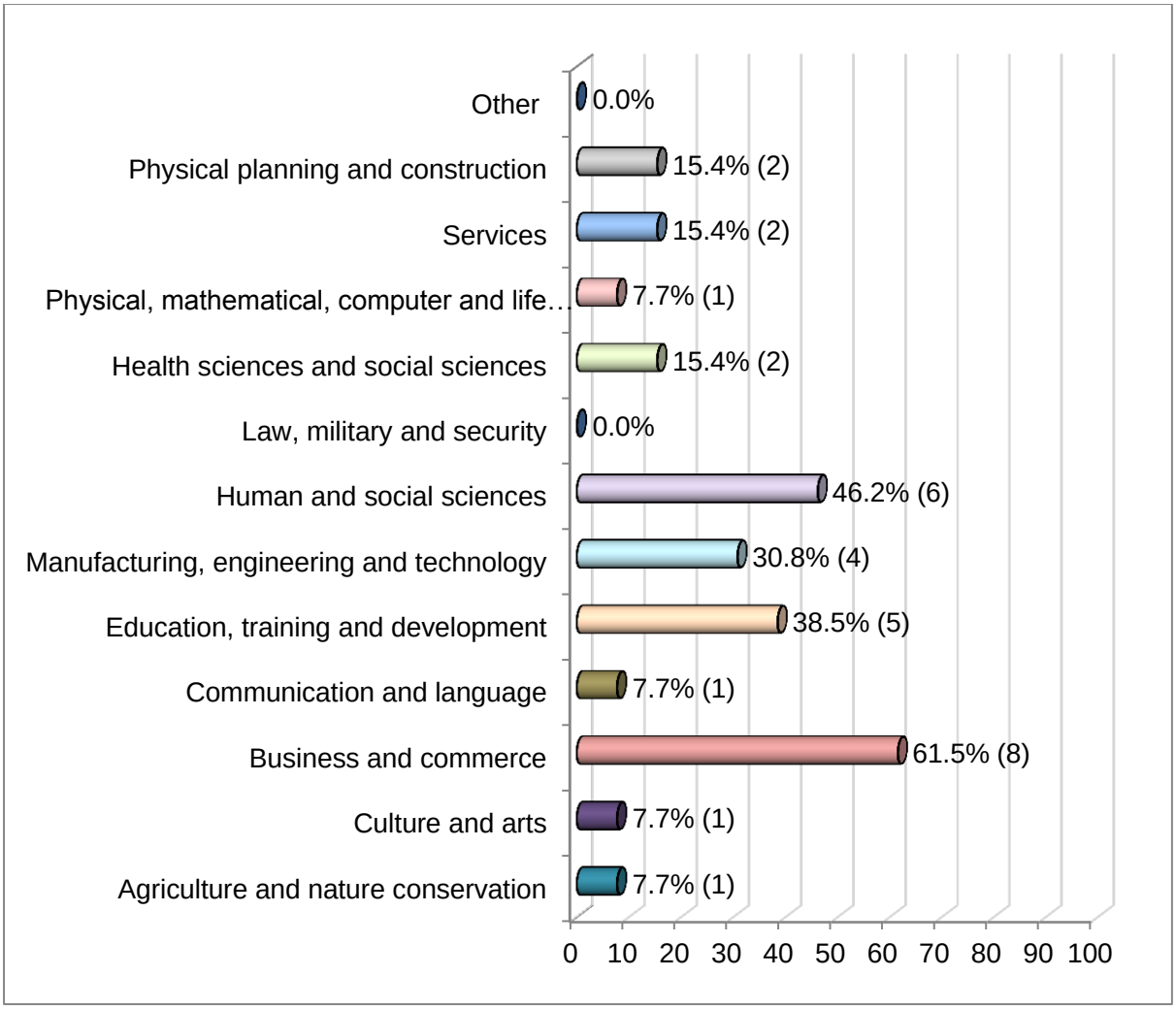


Figure 6.7: Graduates' current employment: Field of economy

As indicated in Figure 6.7 the majority of graduate participants indicated that their field of employment at the time was the business and commerce (54.2% [13]) and education, training and development (29.2% [7]) fields respectively. Other fields of employment indicated, included services (8.3% [2]), public sector auditing and health sciences and social sciences (4.2% [1] each). The distribution may be attributed to the fact that many graduates enter fields of economy other than business and commerce, but still can apply the discipline-specific knowledge they have accumulated during their undergraduate study in these positions.

6.2.1.7 Human resource practitioners: Fields of experience



* Values add up to more than 100% because participants could choose more than one option.

Figure 6.8: Human resource practitioners: Fields of experience

The human resource practitioners that participated in the study had experience in a wide variety of fields (see Figure 6.8). The fields of experience with the highest frequencies included business and commerce (61.5% [8]), human and social sciences (46.2% [6]), and education, training and development (38.5% [5]). Less common fields of experience included physical planning and construction (15.4% [2]), services (15.4% [2]), and health sciences and social sciences (15.4% [2]). The least frequent fields indicated were physical, mathematical, computer and life sciences, communication and language, culture and arts, as well as agriculture and nature conservation (7.7% [1] each).

6.2.1.8 Teachers: Fields of experience

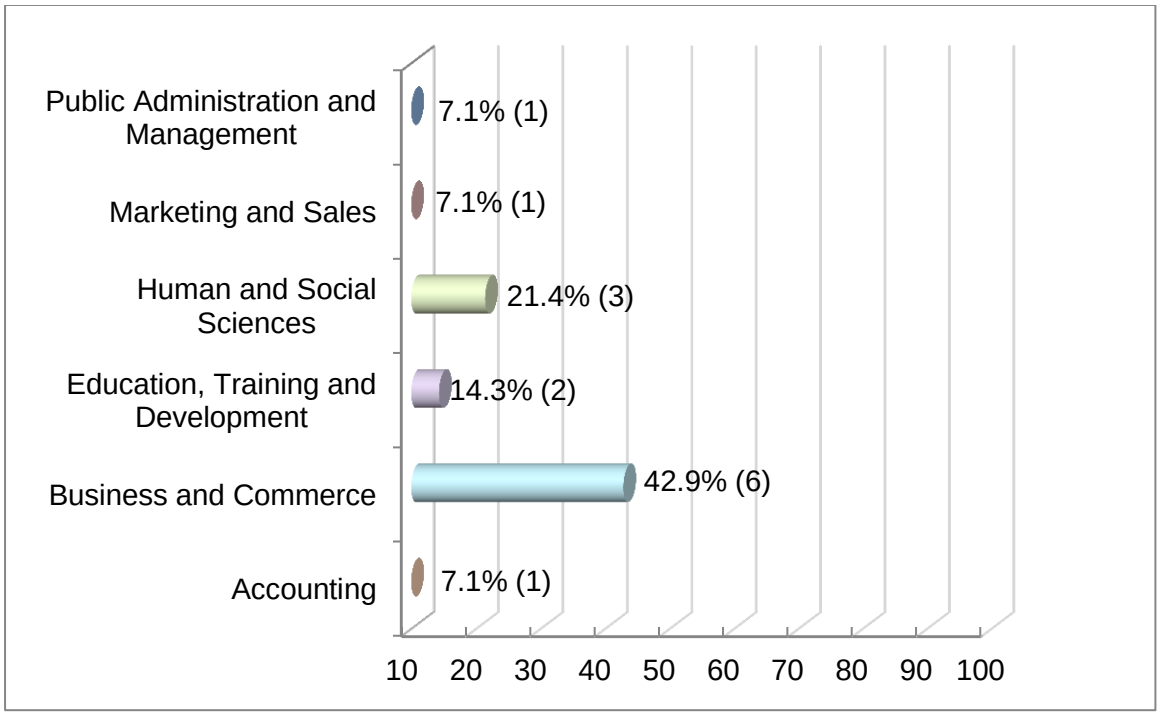


Figure 6.9: Teachers: Fields of experience

The majority of teacher participants from the Faculty of Economic and Management Sciences indicated their fields of experience to be in the field of business and commerce (42.9% [6]). Human and social sciences (21.4% [3]) and Education, training and development (14.3% [2]) had the second and third largest frequencies. Other fields of experience indicated by this group were public administration and management, marketing and sales, as well as accounting (7.1% [1] each) (see Figure 6.9). The fields of experience of the teacher participant group were representative of all the programmes offered in the Faculty of Economic and Management Sciences at the University of the Free State. At least one teacher participant from each department in the faculty took part in the study:

- Business Management - 1
- Centre of Accounting - 3
- Economics - 3
- Industrial Psychology - 5
- Public Management and Administration – 2

6.2.2 Response rates

The section below reports on the response rates of participants that took part in the first round of data collection. The response rates are depicted in Table 6.1, and a discussion follows.

Table 6.1: Response rate of participants

	Invited	Overall number of participants	Non-qualifying participants	Total qualifying participants	Response rate used
Graduates	**49**	**34**	**10**	**24**	**48.9%**
HR practitioners	**23**	**13**			**56.5%**
Teachers	**20**	**14**			**70%**

One of the disadvantages of using web-based (online) questionnaires is the low response rates obtained. It is suggested that personal contact with the participant prior to completion and follow-up reminders to complete the questionnaire may improve response rates (McMillan and Schumacher 2010:240-241). The researcher made personal contact with all of those invited to participate in the research and sent frequent reminder e-mails from the web-based *Questback* system (see 5.3.3.1[i]).

It is, however, important to note that the purpose and objective of this qualitative research were not to generalise the findings, but rather to obtain insight (and multiple perspectives) from information rich participants who have experience and understanding of the phenomenon under study (see 5.3.1.1; 5.3.1.2; 5.3.3.1[c]). Although the researcher could detect saturation in the data, she opted to analyse all the questionnaires for the purpose of thoroughness.

The demographic characteristics and response rate of the validation panel are discussed in Chapter 7.

6.3 DISCUSSION OF QUALITATIVE FINDINGS FROM QUESTIONNAIRE DATA

The findings from the first round of data collection will be discussed on the basis of the themes addressed in the literature review and the questions in the respective questionnaires for the participant groups. Cross-references to applicable information in the literature review of this study are made in the introduction to each section in 6.3.1 - 6.3.10. The findings of the questionnaire data will be reported according to identified themes. Finally, the data will be interpreted, and shortcomings will be identified.

In the discussion below, the term *majority* refers to prevalent views shared by participants and does not necessarily indicate a frequency of more than 50%.

The actual percentages and frequencies of answers to the few closed-form questions in the questionnaires are reported (see 6.3.3.1; 6.3.4.1; 6.3.4.2; Appendix C for examples of the questionnaires).

Note that the illustrative verbatim comments are truly verbatim and may contain spelling and grammar errors as made by participants (also see 5.3.3.3 [a]).

6.3.1 Graduate attributes

This section explores participants' views with regard to the graduate attributes perceived to be important for being successful within the world of work. The questions below were asked to identify the graduate attributes that were perceived to be important for students to develop during their undergraduate years of study in the Faculty of Economic and Management Sciences at the UFS.

6.3.1.1 Graduate attributes perceived as most important

The three participant groups were asked to identify four graduate attributes (that included knowledge, skills and/or values) (see 2.2) that they viewed as most important for graduates of the Faculty of EMS to possess in the workplace.

The emphasis placed on the graduate attributes considered most important for graduates from the Faculty of Economic and Management Sciences to possess in

the workplace, differed between the participant groups, but consensus could be detected regarding various attributes.

The attributes viewed as most important by the various groups are illustrated in Table 6.2. The graduate attributes put forward by the Draft Teaching and Learning Strategy for the UFS (UFS CTL 2013) were offered to participants as examples of graduate attributes that could be considered if the participant opted to do so. It was noticed that many reoccurring views of graduate attributes, considered as important to possess in the world of work, related to individual aspects of self-management. This was not made explicit in the examples of graduate attributes offered to participants to study (optional), but emerged from the data during the process of coding and identification of themes and categories.

In Table 6.2, the crosses (**x**) indicate in which group's responses particular views manifested. The researcher used the graduate attributes (put forward to stimulate institutional discussion in the Draft Teaching and Learning Strategy for the UFS (UFS CTL 2013), as a starting point for the categorisation, sub-categorisation and description of graduate attributes. The importance of the alignment of institutional graduate attribute statements with the graduate outcomes in different Faculties and academic programmes emerged from the literature review, and thus the use of the proposed graduate attributes may be of significant value (see 3.2.1; 3.2.8; 3.3.4 and 3.4). The views shared by the participant groups were then used to further adapt, and add categories and sub-elements to the proposed graduate attributes as they emerged from the data analysis and interpretation. Table 6.2 summarises the identified attributes and is followed by a few illustrative verbatim comments from the various participant responses.

Table 6.2*: Graduate attributes identified as most important by participants in first round of data collection

GRADUATE ATTRIBUTES CONSIDERED MOST IMPORTANT			
A: *Academic and professional competence* which include the following abilities:	**GR**	**HR**	**UT**
A sound discipline-specific knowledge base.	**x**	**x**	**x**
Communication - general (no distinction made between oral, written, etc.)	**x**	**x**	**x**
Oral communication (e.g. making presentations).	**x**	**x**	**x**
Written communication (e.g. report and essay writing).	**x**	**x**	**x**
Non-verbal communication (e.g. interpreting body language).			**x**
Creativity and innovation.	**x**	**x**	
Problem solving.	**x**	**x**	**x**
Decision making.	**x**		
Professional conduct which includes :	**x**	**x**	**x**
An understanding of ethics.	**x**	**x**	**x**
Acting with integrity.	**x**	**x**	**x**
Ability to work with diverse others in teams (includes interpersonal skills).	**x**	**x**	**x**
Conflict management (also related to self-management).			**x**
B: Effective knowledge workers which include the following abilities :	**GR**	**HR**	**UT**
Effective knowledge workers general (just stated, no description).	**x**	**x**	
To know when there is a need for information to address a particular problem.			
To collect appropriate information pertaining to the problem.			
To use information to address a particular problem.			
To organise information to address a particular problem.			**x**
To apply knowledge gained from different sources and experiences.	**x**	**x**	**x**
Digital literacy – i.e. capabilities that enable an individual for living, learning and working in a digital society (e.g. using digital tools to do academic research).	**x**		**x**
Computer literacy (e.g. ability to use programs such as MsWord or MsExcel to perform tasks).	**x**		
C: Being inquiry focused and critically inclined, which includes the ability to create new knowledge and understanding through:	**GR**	**HR**	**UT**
Inquiry focused and critical, general (just stated no description)	**x**		**x**
Analytical thinking - Analysis before accepting or formulating opinions or conclusions.	**x**	**x**	**x**
Critical thinking before accepting or formulating opinions or conclusions.	**x**	**x**	**x**
Systems thinking before accepting or formulating opinions or conclusions.		**x**	**x**
An interest in and *understanding of* global and local issues impacting on organisations and society as whole.	**x**	**x**	

D: Self-management that leads to career self-management in the workplace ***Self-management abilities* include aspects such as:**	**GR**	**HR**	**UT**
Having a favourable stance toward lifelong learning.	**x**	**x**	**x**
Working independently.	**x**	**x**	
Taking ownership and responsibility for tasks and career development.	**x**	**x**	**x**
Working under pressure.		**x**	
Adapting to changing circumstances.	**x**	**x**	**x**
Persisting in the face of adversity/ambiguity (resilience).	**x**	**x**	
Managing time effectively.	**x**	**x**	
Performance and goal-directed behaviour (also related to lifelong learning).	**x**	**x**	
Having confidence in one's abilities to complete tasks and achieve success (i.e. self-efficacy beliefs).	**x**	**x**	**x**
***Emotional literacy/intelligence* that includes the following:**			
The ability to understand one's own emotions.		**x**	
The ability to understand the emotions of others.		**x**	
The ability to manage one's own emotions.		**x**	
The ability to manage the emotions of others.		**x**	
E: Leadership which includes the ability to:	**GR**	**HR**	**UT**
Leadership generally (just stated, no description)		**x**	
Lead through an *awareness and understanding of community needs*.	**x**		
Delegate tasks effectively.		**x**	
Working soundly with diverse others.	**x**	**x**	**x**

*Note: The structure of the table above was informed by the graduate attributes proposed for the UFS in the draft Teaching and Learning Strategy for the UFS (UFS CTL 2013) and that stemmed from an integration of the work of Barrie (2004; 2005), Farrel, Delvin and James (2007), Griesel and Parker (2009), University of the Western Cape (2011) and the Association of American Colleges and Universities (AACU) (2010). The table further was informed by Beetham (2010,) Bezuidenhout (2011), and the participant views from the first round of data collection.

Illustrative verbatim comments:

GR P5: "…Many projects take place in teams and it is very important that everybody does their part for the project to work. It is also important to be able to work with a variety of different people as the workforce is diverse."

GR P8: "Verbal and written communication skills are essential for all employees in any professional career."

HR P2: "Emotional intelligence … But the ability to identify own emotions, and to understand how it will influence behaviour is critical. But also to understand the emotions and behaviour of others is more important."

HR P4: "…To take responsibility and be accountable for their contributions or work (positive or negative)."

UT P2: "…be able to integrate resources to solve a problem."

UT P9: " Integrity –being able to make the right and ethical decision in difficult work circumstances."

UT P11: "To be able to write reports (writing skills)."

Cases of congruence in terms of the graduate attributes viewed as important by all three participant groups are evident in Table 6.2. However, in some instances only certain participants groups indicated features as important for graduates to possess in the world of work. It is important, however, to take note of the differences in perceptions because these may explain the dissonance in terms of the perceived extent to which certain graduate attributes are adequately addressed in undergraduate curricula (see discussion in 6.4.1).

The sub-sections in Table 6.2 that are not marked with crosses (x) may be attributed to the fact that participants did not make particular reference to the sub-sections as constructed by the researcher, but indicated the name of the attribute such as "Effective knowledge worker" that encapsulates the sub-sections/ descriptions (see the note* containing an explanation of the approach taken in the compilation of the table above).

Although the researcher, for the purpose of the study, defined graduate attributes as the non-discipline-specific characteristics university graduates should develop throughout their university education, which in turn promote employability and cultivate social responsibility and lifelong learning, a sound discipline-specific knowledge base was repeatedly emphasised by all participant groups and was therefore included in Table 6.2 above under the heading *academic and professional competence.* In other words, graduate attributes include, but also extend beyond discipline-specific knowledge.

6.3.1.2 Graduate attributes applied by graduate participants in their current positions

Graduates were also asked to indicate which graduate attributes they needed to apply in the position/occupation they held at the time.

The attributes indicated by the graduate participants (marked by an **x**) are listed in Table 6.3 below.

Table 6.3*: Attributes indicated to be applied by graduates in the positions they held

A: *Academic and professional competence* which includes the following abilities:	**GR**
A sound discipline-specific knowledge base.	**x**
Communication, general (no distinction made between oral, written, etc.)	**x**
Oral communication (e.g. making presentations).	**x**
Written communication (e.g. report and essay writing).	**x**
Non-verbal communication (e.g. interpreting body language).	
Creativity and innovation.	**x**
Problem solving.	**x**
Decision making.	
Professional conduct which includes :	
An understanding of ethics.	**x**
Acting with integrity.	**x**
Ability to work with diverse others in teams (includes interpersonal skills).	**x**
Conflict management (also related to self-management).	
B: Effective knowledge workers which include the following abilities :	
Effective knowledge workers general (just stated, no description).	**x**
To know when there is a need for information to address a particular problem.	
To collect appropriate information pertaining to the problem.	**x**
To use information to address a particular problem.	**x**
To organise information to address a particular problem.	**x**
To apply knowledge gained from different sources and experiences.	
Digital literacy – i.e. capabilities that enable an individual for living, learning and working in a digital society (e.g. using digital tools to do academic research).	**x**
Computer literacy (e.g. ability to use programs such as MsWord or MsExcel to perform tasks).	
C: Being inquiry focused and critically inclined, which include the ability to create new knowledge and understanding through:	
Inquiry focused and critical general (just stated no description)	**x**
Analytical thinking - Analysis before accepting or formulating opinions or conclusions.	**x**
Critical thinking before accepting or formulating opinions or conclusions.	**x**
Systems thinking before accepting or formulating opinions or conclusions.	**x**

An interest in and *understanding of* global and local issues impacting on organisations and society as a whole.	
D: Self-management that leads to career self-management in the workplace ***Self-management abilities* include aspects such as:**	
Having a favourable stance toward lifelong learning.	**x**
Working independently.	
Taking ownership and responsibility for tasks and career development.	**x**
Working under pressure.	**x**
Adapting to changing circumstances.	**x**
Persisting in the face of adversity/ambiguity (resilience).	
Managing time effectively.	**x**
Performance and goal-directed behaviour (also related to lifelong learning).	
Having confidence in one's abilities to complete tasks and achieve success (i.e. self-efficacy beliefs).	**x**
***Emotional literacy/intelligence* that includes the following:**	
The ability to understand one's own emotions.	
The ability to understand the emotions of others.	
The ability to manage one's own emotions.	
The ability to manage the emotions of others.	
E: Leadership which includes the ability to:	
Leadership, general (just stated, no description)	**x**
Lead through an *awareness and understanding of community needs*.	**x**
Delegate tasks effectively.	**x**
Working soundly with diverse others.	**x**

*Note: The structure of table above was informed by the graduate attributes proposed for the UFS in the draft Teaching and Learning Strategy for the UFS (UFS CTL 2013) that stemmed from an integration of the work of Barrie (2004; 2005), Farrel, Delvin and James (2007), Griesel and Parker (2009), University of the Western Cape (2011), and the Association of American Colleges and Universities (AACU) (2010). The tables were further informed by Beetham (2010); Bezuidenhout (2011) and the participant views from the first round of data collection.

When Table 6.2 and Table 6.3 are compared, many of the graduate attributes indicated by the graduate participants to be important for graduates to possess in the world of work, correlated with the graduate attributes indicated to be applied in the graduate participants' positions (e.g. problem solving, acting with integrity, ability to work with diverse others, to organise information to address a problem, managing time effectively and working independently). There are cases, however, where the graduate attributes indicated to be important to possess in the world of work by graduate participants, were not indicated to be applied in the graduate participants' positions. The aforementioned dissonance may be attributed to the responsibilities of

different occupations or positions requiring differing degrees of particular graduate attribute application at that moment in time.

There are also cases of correspondence between the graduate attributes indicated by human resource practitioners and teacher participants to be important for graduates to possess in the world of work (see Table 6.3), and those graduate attributes indicated in Table 6.2 to be applied in the positions the graduate participants' held (e.g. oral communication, written communication, the ability to work with diverse others in teams, to collect, organise and use information to address a particular problem, critical thinking, analytical thinking and adapting to changing circumstances).

These findings indicate the importance of graduate attribute development during undergraduate years of study, as the graduate attributes identified as important to possess are indicated to be important and indeed applied in the world of work. Another aspect of significance is that the views regarding graduate attributes to be considered important for graduates to possess in the world of work should in reality correspond with what is required and applied in the world of work (see 6.4.1).

6.3.1.3 Current duties and responsibilities of graduate participants

As part of the demographic information requested, graduate participants were asked to briefly describe the nature of their current duties and responsibilities in an open-ended question.

The researcher argues that graduate attributes, if transferred effectively, should enable graduates to perform their duties more efficiently over a range of different contexts in the world of work and society in general (see Table 2.1; 2.2.1; 4.2.7; 4.7). The graduate attributes that were viewed by the various participant groups as important to possess in the world of work (see Table 6.2), correlate with and can be applied to the duties and responsibilities indicated by the graduate participants. An example of such correspondence between duties and application of graduate attributes would be the use of time management to finish tasks in given timeframes. Another example would be the application of written communication skills to report writing, document compilation and general administrative tasks.

The researcher summarised the duties and responsibilities described by the participants as follows:

- The application of discipline-specific knowledge (e.g. auditing).
- Management and coordination of teams.
- Management and coordination of projects (operational or client-based).
- Marketing of projects or products.
- General administrative duties.
- Administrative support to senior colleagues.
- Training and mentoring.
- Financial analysis.
- Content or document compilation (e.g. reports).
- Research.
- Interpretation of data.
- Problem solving.
- Making decisions based on the careful analysis of available information.
- Communication.
- Finishing tasks within given timeframes.

6.3.2 Extent to which graduate attributes are adequately addressed in undergraduate curricula

The section below elaborates upon participants' views and experiences with regard to the extent to which graduate attributes are indeed addressed in undergraduate curricula. The literature review done revealed that, although documents from governing and professional bodies make known the need for graduate attribute development, a perceived gap still exists between what employers require at both a national and international level (e.g. that graduates should be equipped with more than discipline-specific knowledge), and what higher education institutions are delivering (see 2.1; 2.2; 2.4 and 2.5). Furthermore, perspectives on curriculum design (reported in Chapter 3) revealed the importance of the alignment between the espoused and enacted curriculum outcomes and the subsequent teaching-learning and assessment activities/tasks (see 3.4 and 3.5).

6.3.2.1 Graduate participants' views of the extent to which graduate attributes were addressed during undergraduate years of study

Graduate participants were asked to what extent the graduate attributes that they identified as important (discussed in 6.3.1.2), were indeed addressed during the course of their undergraduate studies at the UFS.

The majority of participants indicated that knowledge was adequately addressed during undergraduate years of study; however, graduate attributes were not explicitly addressed, or only superficially addressed (e.g. insufficient practice in terms of adaptability, real-world examples, communication skills, computer literacy and lack of a holistic understanding).

Instances and opportunities where graduate attributes were addressed, included, according to some of the participants, practice with regard to working with diverse others, assignments and presentations. Some of the graduate participants also indicated that they learnt integrity through the university culture and rules. Others developed self-management abilities through the nature of their academic responsibilities. Furthermore, mention was made that ethics was addressed in ethics modules in some programmes, while critical thinking was expected in most modules.

Illustrative verbatim comments:

GR P2: "Basic courses on the above were presented in the first year of undergraduate studies. This was however not done in depth and in my opinion not of much value. Post-graduate studies did however address these skills to a larger extent. "

GR P4: "Assignments in various subjects helped, but you it does not prepare you for eg. Honours nor the workplace to submit a research essay/thesis or any written piece that requires extensive research."

GR P5: "I would say "Team work" was the only attribute which was addressed through assignments that we had to do as a group. We were sometimes told in which groups to be which forced us to work with people we do not know. This definitely showed us how to work with a diverse workforce."

GR P8: “In think it was addressed at a very superficial level. During my undergraduate studies I struggled to the larger picture and understand how things are integrated and connected. To say that I was academically and professionally competent, ethically and socially aware, information literate and had the required disciplinary knowledge on completion of my undergraduate studies would definitely be a stretch. I think I was definitely aware of the need to acquire these attributes, some maybe more than others, but to say I possessed them after completing my undergraduate degree would be untrue.”

GR P12: “Only to the extent that theory can assist in creating/developing these attributes. Probably 50%.”

GR P15: “The culture on campus helped me to form values of integrity and transparency.”

GR P21: “… However, through assignment presentations, I learned to better my communication skills and presentation skills.”

GR P2 above refers to ‘basic course’ in the first year of study. Information surrounding the skills modules referred to is provided in 1.2 and 6.4.11. It is also significant that this participant indicated that some of the graduate attributes were addressed to a larger extent during post-graduate studies. However, GR P4 and some of the teacher participants pointed out that graduate attribute development during undergraduate years of study is important as it is required to prepare students for the teaching-learning and assessment experiences in post-graduate programmes (see 6.3.2.6 and 6.4.7).

Some graduate participants indicated the importance of digital literacy skills and software training, such as *MsExcel* and other programmes (however, not prevalent), as graduates need to be able to use these programmes for functions such as report writing, calculations, etc.

6.3.2.2 Graduate participants' views of graduate attributes to be developed to improve employability

The graduates also were asked to indicate the graduate attributes they felt they needed to develop in particular in order to improve their current employability (see 2.2.1).

The attributes indicated, varied among participants, but the most prevalent views related to aspects of the self and self-management (e.g. patience, balancing time and quality, taking initiative, assertiveness and enthusiasm), and lifelong learning and continuous professional development. Less prevalent views included obtaining, sorting and analysing information in a timely manner, interaction with others, analytical thinking, communication and problem-solving skills.

Illustrative verbatim comments:

GR P4: "Getting reliable information, sorting and analysing it in a timely manner. Basically – doing research. Undergrad, proper research was not done."

GR P10: "…. in the current position where I am several laws, legislation and regulations which were not part of my course load at university is now applicable to my day to day job. I need to ensure that I am up to date with all of these information in order to perform my work adequately."

GR P13: "I try to read as much as possible (although not always as much as I should) to gain a better understanding of what is happening in the world around me."

6.3.2.3 Human resource participants' views of the extent to which graduates possess graduate attributes

HR practitioner participants were asked to what extent the young graduates with whom they come into contact, possess the graduate attributes that they identified as important (and that are reported in section 6.3.1.2).

The majority of HR practitioner participants described the extent to which the graduates with whom they come into contact with possess the identified graduate attributes, as limited. Reference was made to some graduates' lack of ability to work

independently, not knowing what was going on in the world, a deficient stance toward lifelong learning, lack of maturity, struggling to cope with workplace demands and/or pressure, and an inability to solve problems practically. The limited number of graduates that possess the graduate attributes identified by HR practitioners as important and therefore seem to be in demand in the labour market, indicates that graduates that are well equipped with these attributes will be more likely to be employed.

Illustrative verbatim comments:

HR P11: "A small number of graduates have these attributes and they are snatched up quickly by companies. Most of the graduates do not have it and rather have a sense of entitlement."

HR P3: "Graduates lack the ability to work independently and require a great amount of guidance."

HR P4: "It seems that the transition from academia to business have a huge gap, and they struggle to perform in a corporate environment where a certain level of maturity is expected."

HR P9: "The[y] struggle communicating with others especially on a professional level."

6.3.2.4 HR participants' views of the extent to which graduate attributes are adequately addressed in undergraduate curricula

HR practitioner participants were also asked to explain to what extent they believed the graduate attributes they identified as important, are addressed in undergraduate curricula.

The majority of the HR practitioner participants believed that the identified graduate attributes are neither adequately nor explicitly addressed in undergraduate curricula. These participants were of the opinion that discipline specific content is addressed comprehensively/sufficiently, but that the practical application of knowledge receives too little attention. Some views highlighted shortcomings pertaining to graduate

attributes such as lifelong learning, local and global knowledge, critical thinking and ethical behaviour.

Illustrative verbatim comments:

HR P4: “In all programs there is a link towards ethics, but never experienced, the essence of ethics and professionalism is not highlighted or practised enough.”

HR P9: “There is limited focus on how these skills can be transferred into a working environment. … As mentioned the theory of the previously mentioned attributes are covered effectively but not how this should be practically applied and the challenges graduates may come into contact with in the workplace with regard to these attributes.”

HR P7: “Lifelong learning – this is not addressed in such a matter to make students aware of it. Active glocal citizens – students do not know that it is important to know what is going on in the world.”

6.3.2.5 HR practitioner participants’ views of the developmental training needs of graduates

The HR practitioner participants were asked what developmental training graduates most often need in their organisation.

The views shared included on-the-job training to learn how to apply knowledge and problem solving, working with diverse others, computer and ‘job-specific’ software programmes, stress and conflict management, diversity workshops, ethical behaviour, general induction, and mentorship.

Illustrative verbatim comments:

HR P9: “Conflict management, interpersonal skills, programme/system specific training …, diversity workshops.”

HR P10: “We have mentee programmes that assist inexperienced graduates to develop their skills.”

6.3.2.6 Teachers participants' views of the extent to which graduate attributes are addressed in undergraduate curricula

The teacher participants were asked to what extent the graduate attributes they identified as important (discussed in 6.3.1.2), had been adequately addressed in the undergraduate curricula in the Faculty of Economic and Management Sciences at the University of the Free State over the past four (4) years.

The majority of the teacher participants indicated that graduate attributes were addressed to some extent (e.g. ethical conduct, objective thinking and teamwork), but various areas required improvement (e.g. more attention should be paid to the development of systems and critical thinking, respect for others, entrepreneurship, report writing and ethical behaviour). It was further mentioned that in some programmes graduate attributes are sufficiently addressed because of the fact that the mapped attributes are signed off by the applicable professional body on an annual basis. It came to light that a concerted effort is made by some teachers to address graduate attributes in their modules; however, there is an apparent inconsistency in efforts made by different departments. Some of the teacher participants also made mention of the influence of graduate attribute development at undergraduate level on student performance and ability at post-graduate level.

Illustrative verbatim comments:

UT P1: "I do not think it has been addressed at all since each module functions very much on its own without real knowledge or interaction needed with other modules."

UT P9: "Some of the attributes described in question 8 is evident in some degrees. Other degrees just try to teach candidates the theoretical knowledge and do not require graduates to apply critical thinking."

UT P15: "I think the faculty has made a concerted effort because I think there is a realisation tha[t] the market needs more than just a person with a degree. I just think there is inconsistency in terms of how colleagues/departments apply the rules and policies."

UT P11: "if it is not developed at undergraduate level, [it] is very difficult to work with the students at post-graduate level (i.e. writing skills)."

UT P12: “Students are not engaging with the subject content at a “Deep Level” which creates a problem at Post Graduate level.”

6.3.3 The undergraduate curriculum: review and mapping processes

This section elaborates on teacher participants’ views about curriculum review and mapping processes for the embedding of graduate attributes in undergraduate curricula (see 2.2.2; Table 2.2; Table 2.3; 3.2.3.4; 3.3.2.2; 3.4.1; 3.4.2; 3.5.1; 4.4.1.6).

6.3.3.1 Curriculum review and mapping of graduate attributes

The teacher participants were asked whether there was a process of mapping graduate attribute development across different programmes at that stage and to offer examples of such processes, where applicable.

The majority of teacher participants were clearly not sure what curriculum mapping involves and were mostly unaware of such practices in their respective departments or in the Faculty as a whole. From the 14 teacher participants, 35.7% [5] indicated ‘I don’t know’, 28.6% [4] indicated ‘no’ and 37.5% [5] indicated ‘yes’.

Teacher participants were further asked how such a mapping (documenting) process could take place.

There were inconsistent views and uncertainty regarding the overall process of the mapping of graduate attributes in undergraduate curricula. Suggestions for how such a process for the mapping of graduate attributes might take place included the following:

- It is important to consider institutional statements regarding graduate attributes.
- Mapping workshops.
- It should be done with colleagues and the teaching and learning office of the faculty.
- It should be done within departments and linked between different modules.
- The process should also be informed by industry (departments should have a link with industry).
- Graduate attributes should be made known in study guides.

Illustrative verbatim comments:

UT P9: "... It is important to determine what the UfS think the type of graduates are that they want to deliver. This should be coupled not only with theoretical knowledge but include pervasive skills such as comm[un]ication, integrity, critical thinking etc."

UT P2: "In my notebook, with my colleagues, and then hopefully it shows in the studyguide and assessment tools."

UT P3: "Before the start of a[n] academic year and drawing up a study guide the lecturer along with the line manager, and teaching and learning office should have a workshop where the the mapping will take place. The activities can be planned during this session."

UT P7: "It must start from departments and then to faculty level. Within departments, we may have sub-groups but there is need for such groups to link and work coherently. Departments must also have a strong link with industry and commerce so that they are aware of what the industry wants."

6.3.3.2 Stakeholder inputs

The teacher participants were also asked to explain which stakeholder inputs should be considered during the mapping process (see 2.1; Table 2.2; Table 2.3; 2.4.5; 3.2.6; 3.3.4; 3.4).

The stakeholders identified by the teachers included industry (a majority view), teachers (majority view), students, alumni, the teaching and learning office of the faculty, professional accreditation bodies, government and the Directorate for Institutional Research and Academic Planning (DIRAP). These views correlate with the views expressed in the literature pertaining to stakeholder input and needs analysis during curriculum design and mapping processes (see 2.1; Table 2.2; Table 2.3; 2.4.5; 3.2.6; 3.3.4; 3.4).

Illustrative verbatim comment:

UT P4: “I think business icons in the private sector. Their inputs will be more valuable than an academic’s input who never set foot in the private sector.”

6.3.4 The undergraduate curriculum: Graduate attributes as learning outcomes and assessment criteria

This section relates to participants’ views pertaining to the inclusion of graduate attributes in learning outcomes which form part of a bigger curriculum design and delivery process (see 2.5.2; 3.2.1; 3.2.8; 3.3.4; 3.4.2; 4.2.2; 4.3.1 ;4.3.2; and 4.4.4).

6.3.4.1 Teacher participants’ views pertaining to learning outcomes

The teacher participants were asked whether graduate attributes should be made explicit as learning outcomes in each module and unit.

The majority of the teacher participants (71.4% [10]) indicated that graduate attributes should be made explicit as learning outcomes in each module and each unit. Reasons provided for these views were that making graduate attributes explicit as learning outcomes in each module and unit would convey the expectations, importance and reasons for graduate attribute development. In addition, it was indicated that if graduate attributes were stated as learning outcomes, it would inform and direct assessment on the part of both the lecturer and the student. Interestingly, some participants also indicated that such activities would help teachers to focus their attention on graduate attributes.

Illustrative verbatim comments:

UT P3: “When making the attributes explicit in the learning outcomes the students will know they are being educated on the skills. This will help them to understand why some activities are done in the class and they will have a professional mindset aslo.”

UT P12: “The student will then know exactly what will be expected of him/her and how he/she will get there.”

UT P2: “To help lecturers focus on it and to helps students understand why we do certain activities and assessment.”

UT P1: ‘If it is not stated specifically, it usually gets lost in the content learning outcomes, and is not assessed.”

Some of the participants, however, were of the opinion that graduate attributes are implicit (and non-concrete) by nature and should not be included in modules as explicit learning outcomes.

Illustrative verbatim comments:

UT P7: “By their very nature, some graduate attributes are implicit. Yes [i]t is important to consider and uphold the achievements of such attributes but some are difficult to measure. Again, these attributes are the totality of the graduate, the whole package. They are not offered in one module. As an institution, we must try to make sure that the attributes are met but not by stating them like learning outcome in each module. Neither can attributes be considered a module on their own.”

UT P15: “I think you can only make content specific outcomes enforceable. It is important in departments to agree on additional skills, but it is difficult in my view to make it explicit outcomes.”

6.3.4.2 Teacher participants’ views pertaining to assessment criteria

This section relates to participants’ views about the inclusion of graduate attributes in assessment criteria. The inclusion of graduate attributes in assessment practices and assessment criteria forms part of a bigger curriculum design and delivery process (see 3.3.4.4; 3.4.2.3; 4.3.2 and 4.5.3).

The teacher participants were asked whether graduate attributes should be made explicit as assessment criteria in each module and unit. This closely relates to views regarding graduate attributes as learning outcomes.

The majority of the teacher participants indicated (71.4% [10]) that graduate attributes should be made explicit as assessment criteria in each module and unit. Reasons provided for these opinions held, were that graduates would be expected to

apply in the workplace what they had learnt; it would make it possible to determine whether and at which level the graduate attributes had been achieved, and that if the attributes are not stated in assessment criteria, they cannot be assessed. In addition, inclusion of graduate attributes in assessment criteria will convey the expectations, importance and reasons for graduate attribute development.

Illustrative verbatim comment:

UT P1: “This is the only way to determine whether the graduate has achieved an attribute and to what level. Otherwise it just gets lost in the module knowledge content.”

UT P10: “Assessing graduate attributes ensures that more attention is given to develop the attribute.”

Some of the participants, however, were of the opinion that graduate attributes should not be included in modules and units as explicit assessment criteria. Reasons provided were that graduate attributes are mostly practical, difficult to measure and interpreted differently by people.

Illustrative verbatim comment:

UT P7: “Like I said some are difficult to measure. Those that are measurable yes they are always assessed e.g. understanding of content.”

6.3.5 The undergraduate curriculum: Teaching-learning practices for optimising the mastery of graduate attributes

This section elaborates upon participants’ views pertaining to teaching-learning practices that may optimise the mastery (i.e. achieving a high level of competence) of graduate attributes. These practices are related to a broader curriculum design process and have a significant influence on curriculum delivery, and ultimately, the mastery of graduate attributes (see 2.2.1; Table 2.2, 2.3; 2.4.5; 2.5.2; 3.3.4; 3.3.5; 3.4; 3.5; 4.4.2; 4.4.3; 4.4.4; 4.7; Appendix A).

6.3.5.1 Graduate participants' views of how attributes were learnt during under-graduate years of study

Graduate participants were asked to explain how the graduate attributes they identified as important were taught during their undergraduate years of study. In other words, how did they learn the attributes that they viewed to be important (as discussed in 6.3.1.1).

The majority of the graduate participants indicated that they had learnt the graduate attributes that they identified as important through group work and individual and group assignments, as well as through tests and exams. In terms of group and individual assignments, it was indicated that they learnt to work with diverse others, communicate and engage with people, write essays and do presentations. With reference to tests and exams, the participants pointed out the practical application of what had been learnt in tests and exams. The use of case studies, practical examples, homework activities, service learning and special ethics modules also were mentioned. Only one participant referred to learning graduate attributes through working while studying. Another participant mentioned having been involved in a mentorship programme.

Illustrative verbatim comments:

GR P13: "Group assignments contributed to the ability to work amongst a diverse group of people and the ability to engage and communicate with people."

GR P10: "In the first few years of studying, analytical thinking were promoted through tasks and group work as well as during tests and exams. In later years it was mostly tested through semester tests and exams."

GR P18: "In our tests we did not get exactly the same questions than what we had as examples. So you need to learn to solve problems and how to get the correct answer."

GR P7: "As mentioned earlier, business ethics was a specific module. The other things sort of come through time and the nature of the business environment i am in."

Significantly, it also became evident from graduate participants' shared views that graduate attributes had been developed (learnt) through the self-management responsibilities required by the nature of their studies or degree programme, as well as the related teaching-learning and assessment tasks.

Illustrative verbatim comments:

GR P10: "Discipline and time management were addressed through the quantity of our workload in each subject which lead to that we have to design a study schedule to ensure that all course material can be covered before a test or exam. Also tests were time bound but most tests being difficult to complete all questions in the given time frame."

GR P13: "In terms of hard work and resilience I think these are more personal attributes, however they can be shaped and developed at university, e.g. a structured and well crafted learning programme and schedule can shape a graduate's ability to organise and prioritise."

6.3.5.2 Graduates participants' suggestions regarding practices that may promote the mastery of graduate attributes

The graduate participants were requested to explain how they thought the mastery of graduate attributes could be accomplished during undergraduate years of study.

Majority views held by the graduate participants included practical application in a works setting, case studies and business simulations. Other, less prevalent but valuable suggestions, included industry involvement, regular feedback on tests, mentorship, the provision of short courses, and opportunities for oral presentation. Making graduate attributes explicit in learning outcomes was quite perceptible in these participant views.

Illustrative verbatim comments:

GR P15: "Providing the students with the means of applying their knowledge practically during time of study. I found it was much easier to learn my theory when I articled at the firm where I did my accounting articles."

GR P4: “Theoretical knowledge can only be so good when you can apply the knowledge in practice.”

GR P2: “These skills should be taught/addressed later in the degree, ie. close to when a student starts a career and when a student is a bit more mature. This should be done with practical examples, case studies and projects, rather than tests.”

GR P8: “Yes, I think it can be accomplished if learning outcomes are developed by considering graduate attributes throughout (from first year through to third/fourth year) and if this is aligned with assessment activities.”

GR P16: “I think the mastery of graduate attributes can be accomplished during undergraduate studies by making students more aware of the process of attaining attributes. Most of the time students don’t even realize that they are gaining skills during an assignment. Also then ask students to collect evidence of the attributes being improved, this will make them work even harder to master their attributes.”

GR P12: “Mentorship from someone who has already mastered the attributes.”

GR P20: “… Private sector needs to be involved to ensure [that] courses are relevant and practical.”

6.3.5.3 Teacher participants’ suggestions regarding teaching-learning that may promote the mastery of graduate attributes

Teacher participants were also asked to explain what teaching-learning practices they thought would optimise the mastery of graduate attributes required for the world of work.

The majority of teacher participants indicated that group assignments, group work in diversely populated teams, and exposure to the world of work (e.g. field trips, learnerships, inviting/involving people from the industry, and internships) would optimise the mastery of graduate attributes for the world of work. Less prevalent, but significant views further included assignments that promote real-life communication and writing skills, activities on the learning management system such as journals, reflective exercises, role play of real-life scenarios in class, and student-teacher

contact. It was further evident that large class sizes and other practical constraints may impact on what is viewed as 'practical' suggestions for practices that could enhance the mastery of graduate attributes (see comment UT P11 and UT P15 below).

Illustrative verbatim comments:

UT P11: "I am not sure. Since undergraduate classes are so large, it is difficult to really find practices where attention can be give[n] to the mastery of these attributes (time and capacity constrain[ts]. Unless tutors are appointed to assist and assess students in small groups"

UT P15: "That depends on a lot of factors, such as the size of the group, the different learning styles and even facilities available for exercising certain methods. One thing is clear and that is that one need to adopt more than just the traditional style of teaching and constantly [i]nteract with students. That to me, especially in smaller groups is the key. I know it is not possible in bigger classes, but in my case with smaller classes I see the students who perform better are the ones who you have more one on one interaction outside class time."

6.3.6 The undergraduate curriculum: Assessment practices for optimising the mastery of graduate attributes

This section elaborates upon participants' views pertaining to assessment practices that may optimise the mastery (i.e. achieving a high level of competence) of graduate attributes. This is related to a broader curriculum design process and has a significant influence on curriculum delivery and, ultimately, the mastery of graduate attributes (see Table 2.2, 2.3; 2.5.2; 3.2.3.1; 3.2.6; 3.3.4; 3.3.5; 3.4; 3.5; 4.2.6; 4.3; 4.4.2; 4.5; 4.6; 4.7; Appendix A).

6.3.6.1 Graduate participants' views of the assessment of graduate attribute development during undergraduate years of study

Graduate participants were asked to explain how the development of the graduate attributes they identified as important, had been assessed during their undergraduate years of study. In other words, they had to indicate what tasks and activities were used to determine whether the attributes were sufficiently mastered (e.g. assignments, tests, portfolios, or other related methods).

The majority of graduate participants indicated that graduate attributes had been assessed mainly through individual and group assignments (teamwork, presentations, and communication), and tests and exams; however, mostly knowledge was assessed. Some mention was made of assessment in tutorial activities. The minority of views included the use of portfolio assessment, reflective journals and case studies as assessment tasks. Significant mention was made of the lack of timely feedback on assignments and that the feedback they received was not about relevant graduate attributes in particular.

The use of group assignments was perceived to be effective in the development of teamwork (working with diverse others), as well as communication skills. However, teachers need to make provision for mechanisms that will keep all group members accountable for that which they are responsible for in the completion of the group assignment, as illustrated by the representative comments below:

Illustrative verbatim comments:

GR P4: "Assignments - to answer specific topic/subject-related questions (very book-wise and no in-depth research was required.) Semester tests and exams - used to test your knowledge of what you have learnt, not really applying your knowledge (more parrot-learning)."

GR P7: "There were written assignments that could possibly have assessed professionalism to a certain limited extent. Owing to the large number of students, the marking process and time constraints correction is often not addressed, rather simple assessment."

GR P16: “Group assignments and individual assignments were the main methods of assessment of my graduate attributes. Group assignments involved the development and management of new ideas, group problem solving as well as completing the final product. Many skills are improved when working with people in a group to complete a task as you need to apply what you know, debate which concept you support or not, work with many role players outside the group and also finalise an idea and complete a project that you can be proud of. These projects results contributed to my semester marks.”

GR P4: “Group assignments – to address teamwork and communication, b[u]t group-work always ends up in the diligent students’ hands who in the end do all the work because they actually care about their success.”

6.3.6.2 Teacher participants’ views of assessment practices for optimising the mastery of graduate attributes

Teacher participants were asked to explain which assessment practices they thought would optimise the mastery of graduate attributes required for the world of work.

Prevalent views with regard to assessment tasks that could be used included real-life case studies, role plays, and assignments. Other perspectives included report writing, portfolios, reflective journals, and application questions used in tests.

The approaches (i.e. forms of) to assessment identified included peer-assessment, self-assessment, continuous assessment and integrated assessment across modules. One participant made mention of using a well-designed rubric which could be very valuable in the sense that it could make expectations and assessment criteria explicit, provide a source of immediate feedback to students, and increase the general transparency and reliability of assessment results (especially if different assessors are used) (see 4.5.3.4; 4.5.3.6).

Illustrative verbatim comments:

UT P9: “Play acting different scenarios as if real life.”

UT P10: “Assignments instead of tests.”

UT P14: “Case studies where critical thinking is tested.”

UT P1: “Integrated assessment across module, departments and faculties i.e. a gap assessment as well as portfolio assessment with reflection diaries.”

6.3.7 The undergraduate curriculum: Teaching-learning and assessment practices for optimising the transfer of graduate attributes

The section below relates to participants’ views regarding practices that may optimise the transfer of graduate attributes. The literature indicates that graduates should ultimately be able to apply what they have learnt in and to different contexts (see 2.2.1; 2.4.1; 2.4.5; 3.3.2.1. 4.2.7; 4.4.3; 4.5.3; 4.7).

6.3.7.1 HR practitioner participants’ views of the extent of transfer

HR practitioner participants were asked to what extent the young graduates with whom they come in contact are able to apply the graduate attributes that they had identified as important (discussed in 6.3.1.2). In this context, application relates to transfer of graduate attributes in and to different contexts (see 4.2.7).

The majority of HR practitioner participants indicated that the graduates with whom they come into contact with have difficulty (or limited ability) in applying what they had learnt, resulting in organisations having to invest large amounts of additional time to support and guide these individuals. Views further included that graduates lack the ability to work under pressure, to delegate effectively, solve problems practically, work autonomously, act professionally, or have an adequate understanding of ethical behaviour.

Illustrative verbatim comments:

HR P4: “They are not able which result in a huge time investment.”

HR P9: “I think they struggle to apply these attributes. As mentioned they have the theoretical knowledge but when when they get into the workplace they struggle with interpersonal skill and they cannot function autonomously and require a great deal of guidance.”

HR P12: “According to my opinion, graduates struggle to apply the important attributes and are not prepared for the world of work.”

6.3.7.2 Graduate participants' views of optimising the transfer of graduate attributes

Graduate participants were asked how they thought the transfer of graduate attributes could be optimised during undergraduate studies.

The most popular view held by the graduate participants was that transfer of graduate attributes could be optimised through the practical application of knowledge in a work setting, such as internships and job shadowing. Other suggestions included presentations, having teachers with industry experience, taking on peer-leadership positions, assignments, compulsory graduate attribute development courses, class discussions, and business simulations.

Illustrative verbatim comments:

GR P4: "Stress the importance of internships or make them compulsory in the student's field of expertise. On the job training and seeing what you are going to be doing is the best way to learn and make decisions."

GR P5: "I think there is nothing more important than being exposed to a real work environment and applying what you learned in theory in the workplace when you learnt it. When you studied something in first year you've forgotten it by third year. Thus I would suggest that each year gets a practical period where the students get placed at a company. I know this probably would not be possible because of the amount of students studying in the EMS but I truly feel it [is] necessary."

GR P6: "With all [the] knowledge that is obtained it is key that it be thoroughly understood to ensure that the graduates will be able to identify the different application options of the theories and concepts they have learned and not only limit[ed] to one sector or problem area."

GR P15: "By amending the courses to create an environment where the learner[s] not only learn theory, but also learn how their chosen profession works in practice."

GR P18: "I think if you have more practical experience, you will be able to apply it better, as it is different if you need to learn it or apply it practically."

GR P20: “Undergraduates can be required to have at least one mentor and the feedback on the development of the student can be reported on by the mentor and the student himself.

6.3.7.3 Teacher participants’ views of optimising the transfer of graduate attributes

Teacher participants were asked how they thought the transfer of graduate attributes could be optimised during undergraduate studies.

The teacher participant views varied significantly in terms of how the transfer of graduate attributes could be optimised. Their suggestions included internships, inviting persons from industry to classes, the use of assignments, role play, self-assessment exercises, specific graduate attribute modules, the use of an effective tutoring system, and the integration of graduate attributes in each module.

Illustrative verbatim comments:

UT P1: “Internships/practical work in organisations.”

UT P3: “The academic staff member should invite more staff members from the corporate world for sessions where students can learn about the world of work and the ethics at work places. Most lecturers have not worked in the corporate environment and they will not be able to give a true reflection of what should and should not be done.”

UT P9: “A module can be developed to develop skills … Skills like how to read and analyze a scenario provided. How to communicate on paper and write an argument … ”

UT P10: “Effective tutoring system.”

UT P14: “It should not be separate modules but integrated in each module and if practically possible, be assessed - like for communication skills and problem solving.”

6.3.8 The undergraduate curriculum: Industry involvement

This section elaborates upon participants' views about the involvement of industry in teaching-learning and assessment practices that may contribute to graduate attribute development. The role and influence of the industry (labour market) in relation to higher education curricula indeed became evident throughout the literature review of this study (see Table 2.2; 2.4.1; 2.4.5; 2.5; 3.3.3; 3.4.2; 3.4.3; 4.2.5; 4.4.4; 4.5.2.5; 4.5.7; Appendix A).

6.3.8.1 HR practitioner participants' views of industry involvement in teaching-learning and assessment practices

HR practitioner participants were asked whether they thought that involving persons working in the industry/corporate sector in the teaching-learning and assessment of graduate attributes could add value to graduate attribute development.

All the HR practitioner participants confirmed that involving persons working in the industry/corporate sector in the teaching-learning and assessment of graduate attributes could add value to graduate attribute development. Reasons provided for these views were that persons from industry are aware of the job skills required, what the industry is looking for, as well as the fact that persons from industry have current, practical world of work knowledge and experience.

Illustrative verbatim comments:

HR P9: "Individuals working in the industry know what they want from graduates. They know which skills etc. are required for their specific industries. By getting the input of these individuals the gap between tertiary education and the professional working environment will be reduced …."

HR P2: "People working in the industry have practical experience and practical knowledge of the attributes."

HR P5: "Universities need to be aware of the needs of the industry as these [are] the future employers of their products."

HR P6: "it will assist in giving the curricula development a more work related reflection and to enhance the practical side the curricula is to entail."

Teacher participants also indicated that stakeholder inputs from industry should be considered during curriculum mapping processes and that inviting persons from industry as part of teaching-learning and assessment practices might promote the mastery of graduate attributes (see 6.3.3.2 and 6.3.5.3). Graduate participants likewise indicated that industry involvement mighty promote the mastery of graduate attributes (see 6.3.5.2).

6.3.9 The undergraduate curriculum: Evidence of graduate attribute development

The section below elaborates upon participants' viewpoints on how evidence of the development and attainment of graduate attributes may be collected, generated and the types of evidence preferred by employers. The evidence should ideally indicate a graduate's relative suitability for a particular job/jobs (i.e. employability). Evidence of graduate attribute development thus becomes an important consideration when planning for teaching-learning and assessment tasks, as they should ideally produce evidence of graduate attribute development and acquisition (see Table 2.1; 4.2.4; 4.5.1; 4.5.3.6; 4.5.5; 4.5.6; 4.5.7).

6.3.9.1 Graduate participants' views of evidence of graduate attribute development

Graduate participants were asked whether they themselves collected evidence of their graduate attribute development during their undergraduate years of study (e.g. in a portfolio of evidence). They were also requested to use specific examples in support of their view or opinion.

The majority of graduate participants (79.2% [19]) indicated that they did not collect evidence of their graduate attribute development during their undergraduate years of study. The two participants that confirmed that they did collect evidence indicated that they had collected certificates in a file, compiled a portfolio of leadership, and/or had to provide proof of additional articles read in training and development.

> GR P9: "Certificates, achievement and all relavant certification was kept in a file as well as a protfolio of leadership was alspo compiled."

GR P15: “We had provide proof of additional articles we read in training and development.”

6.3.9.2 HR practitioner participants’ views of evidence of graduate attribute development

HR practitioner participants were asked what evidence of graduate attribute development is presented to them by young graduates (e.g. portfolios, certificates). In addition, they were asked to elaborate upon the types of evidence of the development of graduate attributes that might add value to the graduate recruitment and employment process.

The majority of HR practitioners indicated that they are presented mainly with certificates (mainly degree certificates). Only one participant indicated that he/she has been presented with portfolios.

Illustrative verbatim comments:

HR P7: “ No evidence is provided.”

HR P9: “None. They only present their degrees and academic records.”

HR P12: “ Just their degree certificates.”

HR P13: “Certificates.”

In terms of preferred evidence, the views of the HR practitioners varied and included the following: evidence of computer literacy, a good curriculum vitae (that includes extracurricular activities at university), evidence of research projects, portfolios with evidence of training attended (including accredited courses), the actual demonstration of attributes (e.g. doing presentations and role plays), references from mentors, and feedback reports from internships.

Illustrative verbatim comments:

HR P3: “Computer literacy…”

HR P6: “small resea[r]ch projects, the gathering of information and how it was practically applied, to some extend.”

HR P8: “Attendance of short courses or workshops.”

HR P11: “Certificates and they are frequently required to do presentations or participate in role plays to display their skills.”

6.3.9.3 Teacher participants’ views of evidence of graduate attribute development

Teacher participants were asked what evidence of graduate attribute development they thought could be generated through teaching-learning and assessment practices.

The views of teacher participants also varied. Their suggestions included portfolios, reflective journals to show growth and understanding and evidence from peer evaluations. Some of the teacher participants did not know or were unsure about what evidence could be generated through teaching-learning and assessment practice.

UT P9: “Portfolios can be presented of work done on development of skills. Continuous peer evaluations.”

UT P3: “Reflective journals can be used for assessment to measure the growth and understanding of the student.”

UT P11: “ I do not know.”

UT P15: “Not sure.”

6.3.10 Resource implications related to the embedding of graduate attributes in undergraduate curricula

This section relates to participants’ views pertaining to the perceived resource implications of embedding graduate attributes in undergraduate curricula. Several realities also are faced by the higher education system in South Africa, and the University of the Free State in particular, that may pose significant resource demands in terms of embedding graduate attributes in undergraduate curricula as

part of a larger curriculum design process (see 2.4.3; 2.4.4; 3.3.4; 3.3.6; 3.4.1.3; 3.4.2.4; 3.4.3; 3.5.2; 3.5.4; 4.4.1; 4.5.2; 4.5.3.6; 4.5.5.2; 4.5.6).

6.3.10.1 Teacher participants' views of resource implications

Teacher participants were asked to explain what implications (i.e. financial, physical, human resources) they thought the embedding of, and teaching-learning and assessment of graduate attributes hold for the Faculty of Economic and Management Sciences at the University of the Free State.

Some teacher participants highlighted that the embedding of graduate attributes could have a major financial (long-term funding) and human resources (such as facilitators/tutors) impact on the Faculty if one considers factors such as large student numbers, related administrative requirements, training, and research demands. They further mentioned aspects such as physical space required for small group sessions.

Illustrative verbatim comment:

UT P1: "Portfolio assessment takes longer to mark (time constraints)[.] Furthermore, there is a lot more administrative responsibilities when students go to the organisations for practical work or to the community. There is also more risks involved, and financially it can also put a burden on the faculty as more human resources and physical resources, i.e. transport are necessary."

UT P3: "Huge financial implication because the staff members needs to be trained in graduate attributes. Facilitators and markers should be appointed to mark journal activities and continuous assessment activities … Proper and long term funding should be in the budget in order for this to be a success."

UT P7: "some suggestions highlighted above may mean more finance required, more space, and more human resources."

UT P10: "Due to the high demands on staff for research, lecturing in both languages, large classes, staff might be reluctant."

UT P14: "This should be properly planned[.] It will need human resource capacity and hence financial resources."

Although graduates were not asked explicitly about the resource implications pertaining to embedding graduate attributes in undergraduate curricula, some of the graduate participants seemed to be aware of the challenges and resource constraints faced by teachers.

Illustrative verbatim comment:
GR P7: “Often University focuses only on the technical side of educating an individual rather than focusing on a holistic professional being raised up. Obviously this isn't an ideal world and constraints such as timing, resources and volume impact this.”

6.3.10.2 Teacher participants’ views of policy implications

It is important that national, institutional and faculty stances and guidelines with regard to graduate attributes be made explicit in policy documents. This serves as an important guide for implementation and practice (see 2.3.1; Table 2.3; 2.5.1; 2.5.2; 3.3.1.2; 3.5.4; 4.4.1.6 and 4.5.2.3). The section below provides participants’ views regarding the policy implications of embedding graduate attributes in undergraduate curricula.

Teacher participants were asked to explain what they thought the possible implications of embedding graduate attributes in undergraduate curricula would be for institutional and faculty policies.

Teacher participants identified a need for policy revision (e.g. the current assessment policy) and additional policy requirements to be considered with regard to graduate attributes. It was indicated that policies should allow for alternative methods of assessment. One participant suggested that the graduate attribute outcomes should be documented in the faculty calendar (i.e. the yearbook containing information about the degree programmes such as module names, etc.). It was further stated that graduate attributes should be made explicit in institutional policy documents. Concerns pertaining to curriculum overload also came to the fore.

Some of the participants were unsure or did not know what the possible implications of embedding graduate attributes in undergraduate curricula could be for institutional and faculty policies.

Illustrative verbatim comments:

UT P3: "… Assessment policy will also need to be looked at. Institutional - the aim of the UFS can mention they learn and educate students about the world of work and they are ready to enter the corporate world after graduation."

UT P7: "… a serious revisit of some policies."

UT P9: "Personnel should be allowed to develop curricula that does not fit the traditional mo[u]ld[,] i[.]e[.] assessments should differ, all modules should not be tested with an exam and written test, class sizes should be reconsidered."

UT P14: "Syllabus and outcomes should address the attributes. Module outcomes should be documented in the faculty calendar."

6.4 DISCUSSION OF THE REPORTED FINDINGS

The sections below provide a short description of the themes and possible shortcomings that arose from the views shared by graduate, HR practitioner and teacher participants, as interpreted by the researcher.

6.4.1 Graduate attribute statements

The graduate attributes identified as important by the three participant groups seem to be complexly interwoven. One aspect of an attribute may relate to various aspects of another at the same time (see 6.3.1.1). It is therefore very difficult and problematic to compartmentalise graduate attributes. Nevertheless, categorisation can make the interpretation and goals of graduate attributes somewhat easier.

Because of the above-mentioned complexity, the graduate attributes viewed as important (by graduates, HR practitioners and teachers) to possess in the world of work, need to be documented in order to serve the Faculty of Economic and

Management Sciences contextually (taking into consideration the unique nature of disciplines and programmes). Such documentation can stimulate further discussion, adaptation and refinement of graduate attribute statements and guidelines for the embedding, teaching-learning and assessment graduate attributes.

Ultimately, there should be agreement on the understanding of the viewpoints and needs of all relevant stakeholders in terms of the graduate attributes regarded as important for the graduates of the Faculty of Economic and Management Sciences at the University of the Free State to possess when they enter the world of work (see 2.4; 2.5; 3.2.6; 3.3.4; 3.4.2; 6.3.1.1; 6.3.1.2; 6.3.1.3).

6.4.2 The extent to which graduate attributes are adequately addressed in undergraduate curricula

Views from all three participant groups mirror contemporary perspectives from literature, namely that there is a discrepancy between labour market needs, requirements from governing and professional bodies, and what graduates have to offer in addition to discipline-specific knowledge (see 2.5).

Graduate participant views also illustrate this experience of a discrepancy or gap when they enter the world of work. It seems that the areas that graduate participants identified as requiring further development, relate to aspects of self-management and lifelong learning (see 6.3.2.2). These views correlate with statements made in the literature about graduates being required to be lifelong learners that are able to manage the demands of an ever-changing world of work, where the application of knowledge in differing and often ambiguous contexts is key (see 2.2.1 and 2.5.2). The comments made by HR P4 and HR P7 (see 6.3.2.3), for example, might reflect a lack of ownership or inability of graduates to take responsibility for their own development and employment prospects through showcasing and recognising what they have to offer to employers.

HR practitioner participants' views regarding the training needs of graduates indicate that many of the graduate attributes (e.g. knowledge application, problem solving and dealing with work pressure) that enable graduates to cope with workplace demands, may already be cultivated during undergraduate studies (see 6.3.2.3). However, it is also acknowledged that no graduate will be completely 'work-ready'

when they enter the world of work and will still need some orientation and job-specific/on-the-job training (see 2.4.5; 6.3.2.5).

The current strengths of what is offered to students lie in a strong discipline-specific foundation, opportunities for learning to work with diverse others, and specific modules related to ethics (although not part of all programmes). However, a need exists for opportunities for the practical application of such knowledge (see 6.3.2.4).

Teacher participant views highlight that concerted efforts are already made by some teachers to address graduate attribute development, but that there is inconsistency in efforts made within different departments (see 6.3.2.6). This may be due to a variety of reasons and challenges experienced contextually. These challenges are epistemological, cultural, structural, intrinsic and pedagogical in nature (see 3.4.1, 4.4.1 and 4.5.2). These challenges will be elaborated upon in 6.4.3.

6.4.3 The undergraduate curriculum: Review and mapping processes

The teacher participant views discussed in section 6.3.3.1, first of all point to a need for conceptual clarity of what curriculum review and mapping processes are (as well as their value and importance). This became evident through the general uncertainty among the teacher participants about whether such processes were employed at the time for embedding graduate attributes in curricula, and how such processes should take place in practice (see 6.3.3.1).

Curriculum mapping forms part of a wider curriculum development process (i.e. design, dissemination, implementation and evaluation). Curriculum mapping is a process by which all relevant role-players document the curriculum associated with programmes and modules (and consider the alignment or gaps between outcomes, teaching-learning activities and assessment tasks) (see 3.2.6; 3.3.3 and 3.4.2). A need also exists for the involvement of industry in the identification, teaching and assessment of graduate attributes as described in 6.3.3.2. Effective communication between university and industry may indeed influence the development of graduate attributes, for example by providing information that can inform curriculum development and the alignment of teaching and learning outcomes with industry requirements (see 3.4.3.2).

Decisions that are taken in the process of curriculum design and delivery, as well as the monitoring and evaluation of such decisions, form part of the mapping process (see 3.2.3). The suggestions for how such a process for the mapping of graduate attributes may take place, correspond with some of the steps or processes suggested in Chapter 3 (see 3.4.2; 3.4.3; 3.5. and 6.3.3).

Current official institutional and faculty documents do not take a clear stance on graduate attribute development; neither do they make the teaching-learning and assessment thereof explicitly clear (see 4.5 – contribution to study). In Chapter 3, the importance of a holistic approach was highlighted, which means that graduate attributes cannot only be embedded as part of module-specific outcomes, but that they need to be communicated in policies and guidelines at faculty, institutional, national and professional body/association level (see 3.4.2.4 and 6.3.3.1). In Chapter 4 (see 4.5.2.3), it also has come to the fore that policy revision is required in order to establish and communicate institutional commitment to graduate attribute development (in terms of the Teaching-learning and Assessment Policies). These policies are currently going through a revision process at the University of the Free State.

6.4.4 Graduate attributes as learning outcomes and assessment criteria

Although the majority of teacher participants were of the opinion that graduate attributes should be made explicit in learning outcomes and assessment criteria (see 6.3.4), there were converse views too, indicating that graduate attributes were implicit (and non-concrete) by nature and should not be included in modules as explicit learning outcomes and assessment criteria (see 6.3.4.1; comments by UT P7 and UT P15).

In the light of these opinions, the conceptual understanding of the nature of graduate attributes and their position in curricula has a significant impact on the implementation of teaching-learning and assessment practices aimed at promoting graduate attribute development. A need for conceptual clarification thus exists as it will also influence all curriculum review, design and implementation processes (see 2.2.2). Barrie (2006:223-228) identifies four complex understandings of graduate attributes, namely the precursory, complementary, translation and enabling

conceptions (see 2.2.2). Other challenges include epistemological, pedagogical, intrinsic, cultural, and practical realities that have an impact on the stances taken on graduate attributes (see 3.4.1 and 4.4.1) Furthermore, views pertaining to the curriculum itself (content and purpose) also influence curriculum delivery, and ultimately, the development of graduate attributes in undergraduate curricula. Here clarity regarding traditionalist and progressivist, product and process orientations also becomes important (see 3.3.1 and 3.3.2).

With the above-mentioned in mind, some graduate attributes are easier to embed, teach and assess than others, and often the complex interaction between different learning outcomes, learning experiences and assessment tasks over the duration of degree results in the sufficient development of some graduate attributes.

Though not asked about the explicit inclusion of graduate attributes as learning outcomes and assessment criteria, the graduate participants made reference to the need for such practices in order to ensure that students are cognisant of the importance of and consequent development of graduate attributes (see 6.3.4.2 comments made by GR P8 and GR P16).

6.4.5 Teaching practices for optimising the mastery of graduate attributes

For the purpose of this study, mastery is defined as the attainment of a high degree of competence within a particular area (Ambrose *et al*. 2010:95; also see 4.2.6).

The graduate participants indicated a wide variety of practices used that, according to them, contributed to their graduate attribute development (in other words, how they learnt the graduate attributes that they viewed to be important to possess in the world of work) (see 6.3.5.1). It also came to light that institutional culture and the nature of responsibilities related to the degree programme itself, might lead to the development of graduate attributes (see 6.3.5.1). Furthermore, there appears to be a need to make graduate attribute development explicit to students (see 6.3.5.2; comments made by GR P8 and GR P16).

In answer to how graduate participants thought the mastery (defined in 4.7.1) of graduate attributes could be accomplished in undergraduate curricula, the majority of the participants made reference to practices that relate to Work Integrated Learning

(WIL) and the application of knowledge (e.g. case studies; see 6.3.5.2). In this study, the concept of Work Integrated Learning (WIL) is used as an umbrella term to describe curricular, pedagogic and assessment practices across a range of academic disciplines, which integrate formal learning and workplace concerns. The concept implies career-focused education that includes classroom-based and workplace-based forms of learning that are appropriate for a particular professional qualification and address concerns such as graduateness, employability and civic responsibility (CHE 2011:4; see 4.2.5).

The teacher participants mainly proposed group assignments and group work in diversely populated teams as teaching-learning practices that they thought could optimise the mastery of graduate attributes. However, some mention also was made of WIL practices (see 6.3.5.3). A need therefore exists for more real world of work-related experiences in undergraduate curricula.

There does not appear to be a shortage of the use of assignments in current practices (see 6.3.2.1 and 6.3.5.1). The content, goals and general quality of assignments perhaps need to be reconsidered, given the perceived lack of proficiency in, for example, report writing skills and the related gathering, organising and use of information, which may require attention (see 4.4.3 and 4.5).

Teacher participants clearly were aware of some of the teaching-learning activities which are confirmed by literature and research findings to be effective in the development of graduate attributes (see 6.3.5.3 and Appendix A). However, a need exists to determine and explore what the challenges (and gaps) are that teachers are facing with regard to the practices that may promote the mastery and transfer of graduate attributes. Practical restrictions, such as large class sizes, were also evident in teacher participant views (see 6.3.5.3 and 6.3.10.1). Teachers can indeed experience a variety of challenges in the teaching of graduate attributes, which include the diverse and often underprepared student population, practical difficulties, lack of training and support, as well as the resistance (often caused by confusion) of students to graduate attribute development (see 4.4.1).

Moreover, it seems that a wider scope of teaching-learning practices and activities may need to be considered that may promote student engagement, exposure to practical learning tasks and reflection (see Appendix A). Teacher participants did not

sufficiently describe what *actions* (practices) or 'how' the mastery and transfer may be facilitated by their teaching and facilitation approaches (see 6.3.5.3). They therefore seem to know 'what' activities may be used, but perhaps lack the knowledge or 'know how' of how these activities should be facilitated and managed. Principles for the enhancement of teaching-learning practices, as well as strategies for promoting mastery and transfer of what is learnt, were not referred to in participant views (see 4.4.2, 4.4.3, 4.6 and 4.7). This could imply a need for training and the dissemination of good quality learning material for teachers.

Little mention also is made of the use or value of technology to aid teaching-learning experiences and assessment tasks in the teachers' views; thus technology as a resource and tool should be explored (see 3.2.5; 3.3.5; Table 4.1; 4.4.3; 4.5.3.4; 4.5.4 and 4.5.5.2).

6.4.6 Assessment practices for optimising the mastery of graduate attributes

Graduate participants mainly indicated that the graduate attributes they had identified as important, were assessed during their undergraduate years of study by means of individual and group assignments (assessing teamwork, presentation and communication), and tests and exams.

If applied effectively, group assignments may hold significant value for the development of graduate attributes (see 2.4.1; 3.3.2; 4.4.3; 4.5.3.5; 4.5.4 and 4.7.3). The converse may demotivate students to actively take part in future group assignments and interaction (see 6.3.6.1, comment made by GR P4). Furthermore, graduate participants commented on the lack of feedback on teaching-learning and assessment tasks (see 6.3.6.2; comment of GR P7).

The teacher participants indicated a variety of assessment tasks that they thought could optimise the mastery of graduate attributes (see 6.3.6.2), and which are supported by the literature (see 4.5.3; Appendix A), but very little mention was made of the 'how to' practices, such as student-centred assessment practices, balancing summative and formative assessment, timely and constructive feedback, as well as opportunities to practise (see 4.5.3). This again could imply a need for training and the dissemination of good quality learning material for teachers regarding assessment practices and methods that can contribute to the mastery of graduate

attributes.

There also appears to be a need to contextually (i.e. taking into account realities and challenges) reconsider the suitability of traditional assessment practices and guidelines in policies in terms of graduate attribute development (see Table 4.1; 4.5.2.3; and 6.3.10.2).

The comment made by GR P10 in section 6.3.5.1 suggests a lack of continuity in teaching-learning activities and assessment tasks, as well as regular feedback. There also seems to be a lack of horizontal and vertical alignment of outcomes, and teaching-learning and assessment tasks (as proposed in the literature; see 3.3.4.4) that relate to graduate attribute development.

Participant responses make little mention of the use of technology to aid the management and provision of summative and formative assessment tasks (see Table 4.1; 4.4.3 and 4.5.4); thus technology as a resource and tool needs to be explored further (e.g. using discussion forums and reflective journals).

6.4.7 The transfer of graduate attributes

For the purpose of this study, transfer is described as a graduate's ability to apply the knowledge, skills and values that were developed in one context (for e.g. undergraduate studies), to another context (e.g. the workplace) (Ambrose *et al.* 2010:108; see 4.7).

The HR practitioners predominantly reported that graduates had limited ability to apply what they had learnt during their undergraduate years of study in the work environment (see 6.3.2.3). Thus it is evident that a gap exists in graduates' ability to apply the knowledge, skills and values developed during their undergraduate years to different contexts (see Table 2.3; Figure 2.2; 2.4.5).

Graduate and teacher participants mainly proposed practices that involve exposure to work settings, and the involvement and invitation of persons from industry to partake in teaching-learning activities and assessment tasks, as well as modules or short courses that focus on graduate attribute development (see 6.3.7).

It also came to the fore that above and beyond the type of teaching-learning activities and assessment tasks suggested to be used, there is an overarching need

for students to be granted *opportunities to practise and apply* what they learn (see 4.7; 6.3.2.1; 6.3.4.2; 6.3.2.5; 6.3.5.2; 6.3.6.1; 6.3.7.1; 6.3.7.2; Appendix A).

Transfer also links with transfer to post-graduate studies where students are (for example) required to do research, evaluate and synthesise information. There thus is a need for undergraduate degree programmes to optimally develop graduate attributes to prepare students for post-graduate study as well (see 3.2.7). This is illustrated by the comments made by teachers (6.3.2.1; comments made by GR P4; 6.3.2.6; comments made by UT P11 and UT P12).

6.4.8 Industry involvement

There was majority agreement among all three participant groups that persons from industry should be involved in the identification, teaching and assessment of graduate attributes. Persons from industry can provide useful information regarding job requirements, as well as processes of recruitment and selection. The majority of teachers indicated that industry was one of the stakeholders whose inputs need to be considered in curriculum mapping and review processes (see 6.3.3.2). This corresponds with views expressed in the literature (see Table 2.3; 2.4.5; 3.4.2.3; 3.4.3.2).

6.4.9 Evidence of graduate attribute development

From the graduate participants' views it seems that students are either not aware of the importance of managing and keeping record of their own graduate attribute development, or do not actively manage evidence of their learning experiences and abilities (see 6.3.7.1).

From the HR practitioner participants' views, it is also clear that employers prefer additional evidence, besides that with which they currently are presented (CVs and degree certificates; see 6.3.9.2). The teachers also appeared to be generally unsure of the documentation and generation of evidence of graduate attribute development (see 6.3.9.3)

The above therefore points to a need for both students and teachers to be informed, trained and supported with regard to processes and practices for the generation and management of evidence of graduate attribute development (see 4.5.5 and 4.5.6).

6.4.10 Resource and policy implications related to embedding graduate attributes in undergraduate curricula

The sections below pertain to the resource and policy implications presented by embedding graduate attributes in undergraduate curricula.

6.4.10.1 Resource implications

Teacher participants indicated that a vast amount of resources (physical, financial, and human resources) will be required for embedding graduate attributes in the teaching-learning and assessment of students (see 6.3.10.1).

Because of aspects such as large student numbers, related administrative duties, training, and research demands, there seems to be a need to make the relevant support available to those involved with the embedding, teaching-learning and assessment of graduate attributes. In addition, the comment made by a participant UT P10 (see 6.3.10.1), illustrates how resource implications will impact on the attitude and reception of practices that can promote graduate attribute development. This correlates with challenges experienced with the embedding, teaching-learning and assessment of graduates attributes, elaborated on in the literature review (see 3.3.6.3; 3.4.1; 4.4.1; 4.5.2).

6.4.10.2 Policy implications

It is clear that policy revision is required to communicate institutional and faculty commitment to graduate attribute development. Current official institutional and faculty documents neither take a clear stance on graduate attribute development, nor make the teaching-learning and assessment thereof explicitly clear (see 6.3.10.2).

Furthermore, the revision of the current assessment policy at the institution may have a significant impact on the expectations that academics hold of assessment practice in general (see 4.4.1.6, 4.5.2.3 and 4.5.3.6).

6.4.11 The skills modules referred to by participants

Because of the discontinuation of the skills development modules explicated in section 1.2, the perceived purpose and value of the incremental development intended by the modules spread over all three years of study, may have been compromised. This is illustrated by the comments by a graduate participant (see 6.3.2.1 and 6.3.2.4; comments made by GR P2).

6.5 CONCLUSION

This chapter was aimed at presenting the different stakeholders' perceptions pertaining to graduate attributes that are required to prepare undergraduate EMS students of the UFS for the world of work.

The researcher also started to partially address the implications of the identified information for undergraduate curriculum design and delivery in the Faculty of EMS at the UFS by identifying themes for consideration and the possible shortcomings related to the respective themes.

Chapter 7 continues to address the research question by putting forward a proposed framework for accommodating graduate attributes in undergraduate curriculum design at the Faculty of Economic and Management Sciences at the University of the Free State. The proposed framework contains an integration of the findings presented in this chapter and the literature reviewed, as well as the feedback from the validation panel in the second round of data collection who evaluated and provided feedback on the semi-final proposed framework.

Figure 6.10 illustrates the interrelated themes discussed in this chapter and how they relate to one another.

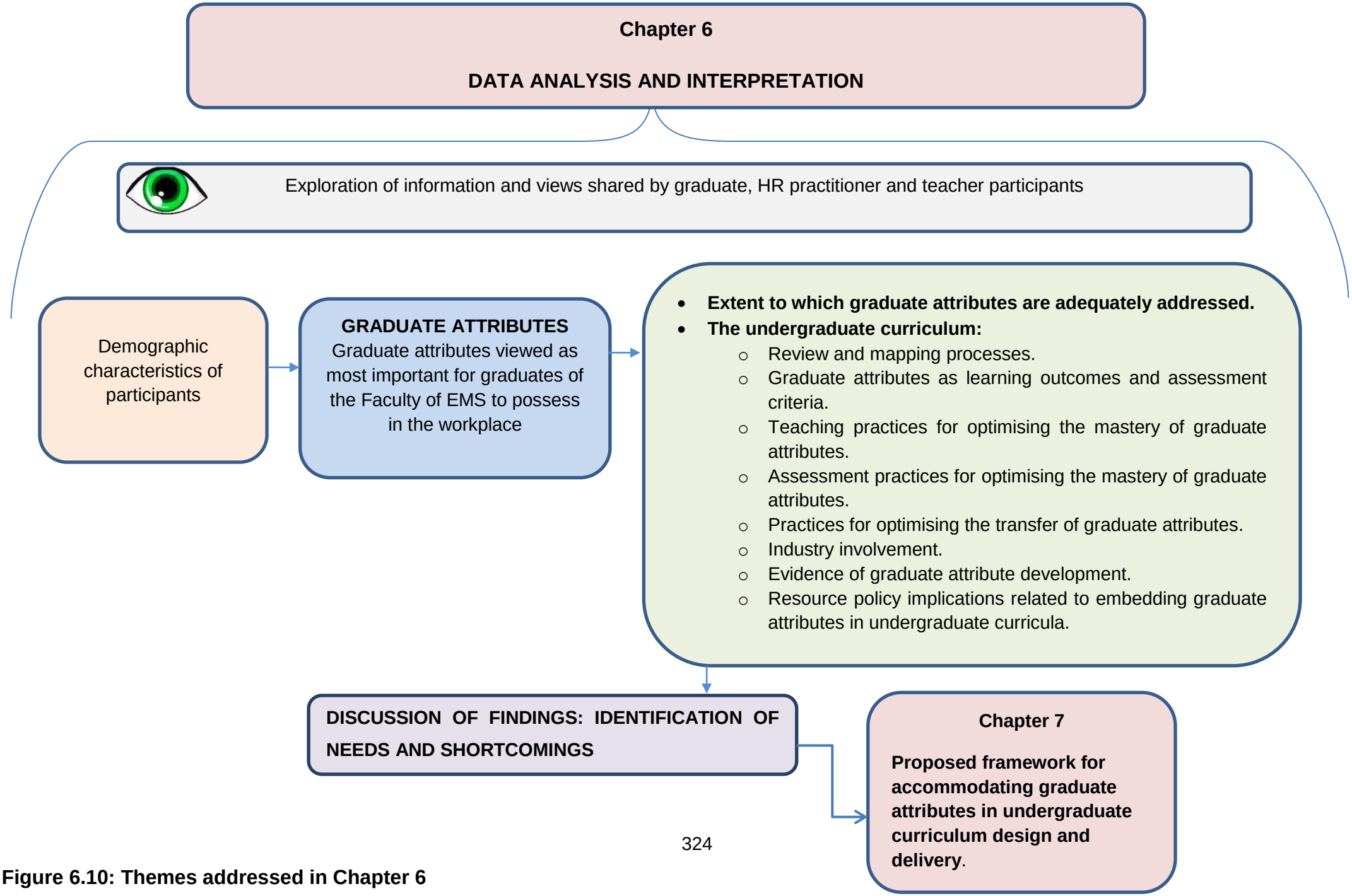


Figure 6.10: Themes addressed in Chapter 6

CHAPTER 7

PROPOSED FRAMEWORK FOR ACCOMMODATING GRADUATE ATTRIBUTES IN CURRICULUM DESIGN AND DELIVERY

7.1 INTRODUCTION

This chapter builds on Chapter 6 in which different stakeholders' perceptions pertaining to graduate attributes required to prepare undergraduate Economic and Management Sciences students of the University of the Free State for the world of work, were explored. These perceptions stem from the first round of data collection in which the participants were graduates from the Faculty of Economic and Managements Sciences at the University of the Free State, human resource practitioners and teachers from the particular faculty.

Based on the above exploration and interpretation of the views explored in Chapter 6 and the perspectives gained from the literature review done for the study, this chapter aims to address the sixth research question:

- *What are the implications of the identified information for undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?*

With this research question in mind, a proposed framework that may assist in accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State is presented together with an integration of the feedback from the validation panel (second round of data collection), described in Chapter 5 (see 5.3.3.1 [d]).

The chapter will commence with the demographic information of the validation panel that was purposefully selected to evaluate the potential feasibility and value of the proposed framework, based on their relevant expertise and experiences (see 5.3.3.1). Secondly, an introduction to the composition and evaluation of the proposed framework will follow. In the third instance, each component of the proposed framework will be discussed in terms of the following:

- Information about the component, based on the needs and shortcomings identified from the participants' perspectives gained from the results of the first round of data collection, as well as the perspectives gained from the literature review of the study.
- The evaluation of the proposed framework by the validation panel (i.e. the second round of data collection).
- Interpretation of the feedback and findings, as well as consequent adaptations made.

The chapter is concluded and the final framework is presented in Chapter 8, along with conclusions and implications.

The outline of the sections in this chapter is depicted in Figure 7.1 below.

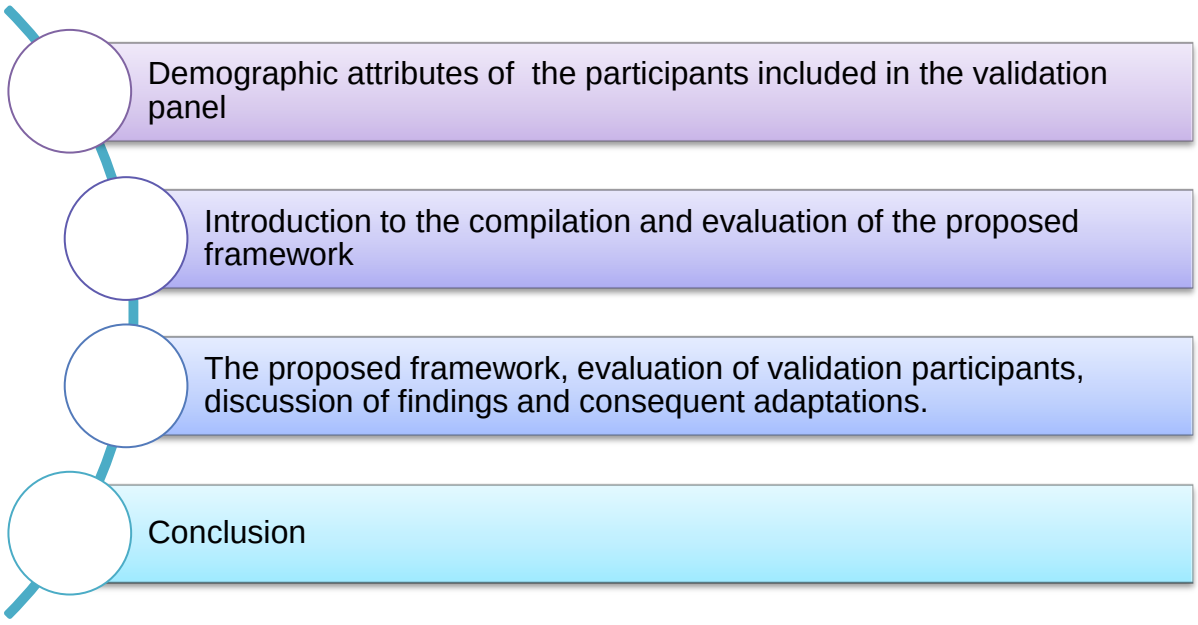


Figure 7.1: Outline of sections in Chapter 7

7.2 DEMOGRAPHIC CHARACTERISTICS OF VALIDATION PARTICIPANTS

The section below provides information about the gender, home language, age, and years of experience in higher education of the participants that took part in the evaluation of the proposed framework. The aim of the presentation of these characteristics is not to indicate representation in terms of a wider population, but to describe the validation panel in general.

7.2.1 Nature of position and expertise

The validation panel consisted of eight (8) participants. The nature of the occupational position and expertise of the participants of the validation panel was as follows:

- The Academic Director of the Centre of Teaching and Learning at the University of the Free State.
- The Teaching and Learning Manager of the Faculty of Economic and Management Sciences.
- A learning designer from the Centre of Teaching and Learning at the University of the Free State that assists the Faculty of Economic and Management Sciences with curriculum design and delivery (including technology as an aid to teaching-learning and assessment practices.
- A specialist in Work Integrated Learning (WIL) and skills development.
- A teacher in the Faculty of Economic and Management Sciences at the University of the Free State with a strong contextual teaching-learning knowledge base. (Two teachers were invited but only one took part; see section 7.2.6 on the response rate.)
- A graduate from the Faculty of Economic and Management Sciences. (Two graduates were invited, but only one took part; see section 7.2.6 on the response rate.)
- The Dean of Teaching and Learning: Higher Education Access and Development Services at another higher education institution in South Africa.
- A researcher on Teaching and Learning at the University of the Free State.

7.2.2 Gender

The gender distribution of the validation participants is shown in Figure 7.2.

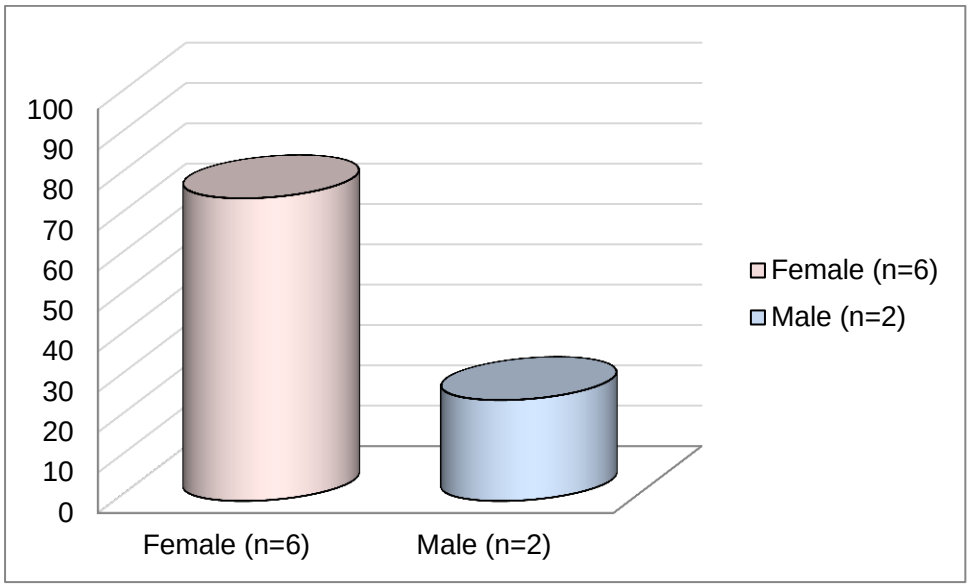


Figure 7.2: Gender distribution of validation participants (n=8)

The majority of the validation participants were female (75% [6]) which leaves the minority being male [25% (2)]. The significantly higher number of female participants can be attributed to the fact that for the purpose of the study, the validation participants were invited based on their expertise and the nature of their experience; in other words, the inclusion and availability of information-rich participants.

7.2.3 Age

The age distribution of the validation participants is shown in Figure 7.3

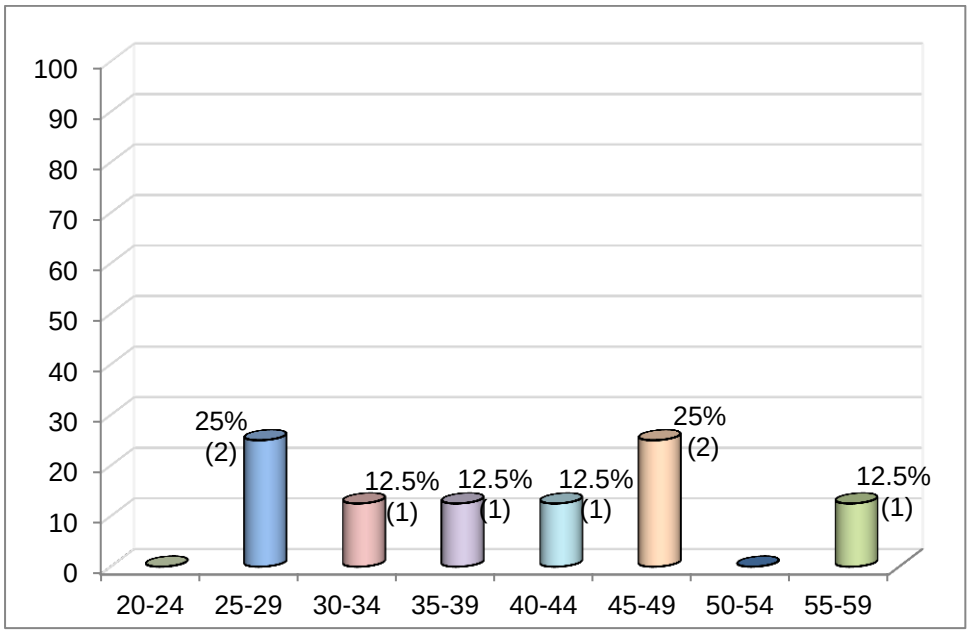


Figure 7.3: Age distribution of validation participants (n=8)

The majority of participants (25% [2]) were between the ages of 25 to 29, and 45 to 49 respectively. The rest of the participants were equally divided between the age categories of 30-34, 35-39, 40-44 and 55-59 (12.5% [1] each) respectively.

7.2.4 Ethnicity

In terms of ethnicity, all the participants were white. The absence of other ethnic groups may be attributed to the fact that for the purpose of the study, the validation participants were invited based on their expertise and the nature of their experience; in other words, the inclusion and availability of information-rich participants. It is also important to note that a study conducted in 2011 to determine the demographic profile of the 23 universities in South Africa's higher education sector reveals that the demographic transformation of staff in higher education institutions in South Africa has been particularly slow and has not yet reached its envisioned targets (Govinder, Zondo and Makgoba 2013:1-11).

7.2.5 Years of experience in the field of teaching and learning in higher education

The validation participants were asked to indicate how many years of experience they had in the field of teaching and learning in higher education. Seven (7) of the eight (8) participants answered the question. The graduate validation panel participant reported to have been a graduate for three years. The years of experience indicated by the participants range from three (3) to thirty-two (32) years and are shown in Figure 7.4 below.

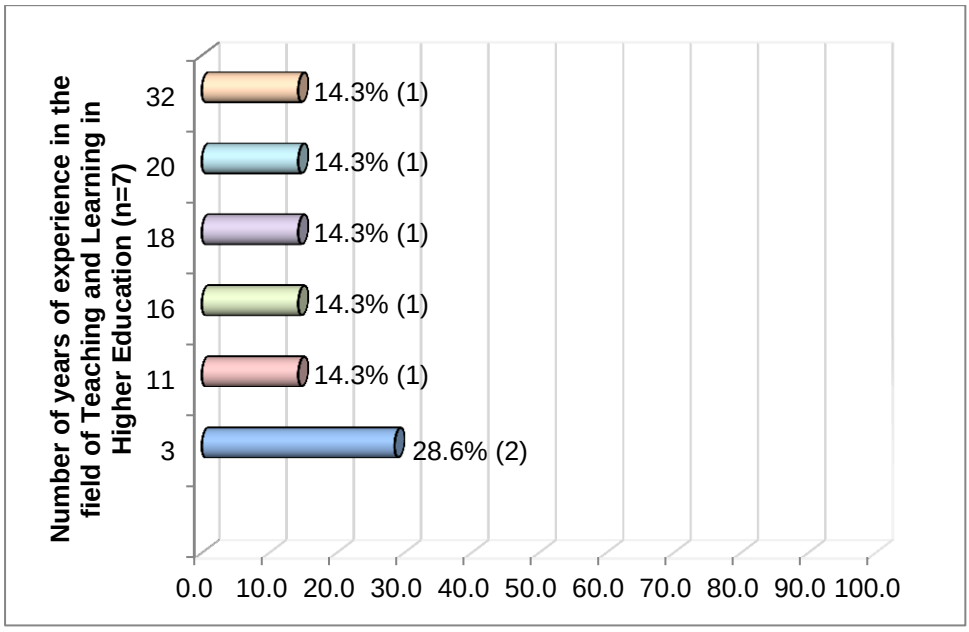


Figure 7.4: Years of experience in the field of Teaching and Learning in Higher Education

The seven (7) participants (excluding the graduate participant) all indicated to have had at least three years' experience in the field of teaching and learning in higher education. The participants included in the validation panel were regarded as suitable to evaluate the proposed framework based on their years of experience and their respective areas of expertise (see 5.3.3.1 [c]).

7.2.6 Response rate

Table 7.1 below illustrates the response rates of the validation participants that were invited to take part in the second round of data collection (evaluation of the proposed framework).

Table 7.1: Response rate of participants

	Invited	Number of participants that responded	Response rate
Validation panel	**10**	**8**	**80%**

The response rate is satisfactory, as only two participants that had been invited (i.e. a teacher and a graduate participant) did not complete the evaluation questionnaire (see 5.3.3.1 [c]). However, one (1) teacher and one (1) graduate did take part in the validation of the proposed framework, and thus the views of these categories of participants were represented in the validation processes.

7.3. INTRODUCTION TO THE COMPILATION AND EVALUATION OF THE PROPOSED FRAMEWORK

The section below elaborates upon the compilation of the proposed framework and the process related to its evaluation.

7.3.1 Compilation of proposed framework

As mentioned earlier, the proposed framework was compiled based on the integration of the perspectives gained (including the perceived needs and possible shortcomings) from the first round of data collection elaborated upon in Chapter 6, as well as the perspectives gained from the literature review done for the study.

The proposed framework consists of the following six main interrelated sections:

- Graduate attributes identified as important for graduates from the Faculty of Economic and Management Sciences to possess in the world of work.

- The internal and external realities (i.e. context) surrounding graduate attribute development that need to be taken into consideration.
- Undergraduate curriculum design and review processes (including the mapping of graduate attributes).
- Teaching-learning practices for curriculum delivery that promote graduate attribute development.
- Assessment practices that enable graduate attribute development.
- The collection and management of evidence of graduate attribute development.

The above-mentioned sections warrant a concise discussion (see 7.4.1 to 7.4.6). In this discussion reference is made to the applicable sections in the report on the literature review, as well as the needs and shortcomings identified in the participant views of the first round of data collection, explicated in Chapter 6.

7.3.2 The evaluation of the proposed framework

The structure and distribution of the questionnaire completed by the validation participants have been discussed in detail in Chapter 5 (see 5.3.3.1).

In sections 7.4.1 to 7.4.6 each main component (theme) of the proposed framework is presented along with the results of the evaluation survey, the discussion of the findings as well as the adaptations made where appropriate.

In the questionnaire (see Appendix C), the participants had to rate each feature of the framework in accordance with its perceived importance by making use of the following rating scale: Essential feature = E; Useful feature = U; Not necessary = N.

In addition to the rating, each main section allowed for qualitative comments and suggestions pertaining to the content of the particular section evaluated. The purpose of the rating and open-ended space for comments or suggestions was to give the panel the opportunity to highlight the perceived strengths and weaknesses of the framework from multiple perspectives, based on the nature of their experience and expertise. The information and viewpoints provided by the participants informed the researcher with regard to further refinement and improvement of the framework.

In the Tables 7.2 to 7.14 the features of the proposed framework are listed. The number of participants who rated each feature as either essential (E), useful (U) or not necessary (N) during the evaluation survey is simultaneously reported. Comments made by participants on the proposed the features are also presented in the relevant table. It is important to note that not all participants made use of the opportunity to provide additional comments or suggestions. Following each table, the results are discussed, as well as the consequent adaptations required for the refinement of the framework.

When a feature was rated as ‘essential’, the rating was interpreted as that the specific feature should definitely be retained in the framework. When a feature was rated ‘useful’, it was viewed as an indication that the participant was not against such a feature being included in the proposed framework, but rather supported the inclusion of the feature. If a feature was rated ‘not necessary’, however, it was interpreted as indicative of the feature being considered as inappropriate/redundant and thus should be removed.

Taking cognisance of this interpretation procedure, the decision was made that if 75% (i.e. 6 out of 8) of the participants rated a feature as either ‘essential’ or ‘useful’, it would be regarded as an indication that it should be retained in the framework. If more than 25% (i.e. 3 or more [37.5%]) of the participants thus rated a feature as ‘not necessary’, it would be removed from the framework and reconsidered in totality. All ratings were interpreted and considered with due consideration of the comments and suggestions made by the participants.

7.4 THE EVALUATION OF THE PROPOSED FRAMEWORK FOR ACCOMMODATING GRADUATE ATTRIBUTES IN UNDERGRADUATE CURRICULUM DESIGN AND DELIVERY IN THE FACULTY OF EMS AT THE UFS

In this section each main component of the proposed framework is discussed according to the basis for its inclusion, followed by an elucidation of the evaluation of the framework, and a discussion of the findings and the ensuing adaptations.

7.4.1 Graduate attributes considered to be most important

The basis of or motivation for the inclusion in the proposed framework of the graduate attributes which are viewed as important in the world of work should be explicated, before attention is paid to the evaluation, the findings, and the adaptations.

7.4.1.1 Basis for the inclusion of the component

The study aimed to identify graduate attributes that are viewed as important for graduates from the Faculty of Economic and Management Sciences from the University of the Free State in the world of work. It became clear from the literature review of the study as well as participant views that there is a gap between industry requirements for graduates (both international and nationally), and what higher education institutions are delivering (i.e. what graduates have to offer) (see 2.4; 2.5; 6.4.2).

There should be agreement at national, institutional and faculty level about the graduate attributes that students are required to develop during their undergraduate years of study. Graduate attribute statements should stem from the articulation of industry, government, professional body, institutional, programme and intricate disciplinary culture needs (see 2.2.2; 2.5.2; 3.2.8.1; 3.3.4.2; 3.4.1.1; 3.4.2; 3.5.3.1; 6.4.1; 6.4.8).

Graduate attributes and the description of graduate attribute outcomes are described differently by different institutions worldwide, but share various commonalities. The conceptual understanding about the position, purpose and value of graduate attributes can further impact greatly on the description and consequent development

of graduate attributes in undergraduate curricula (see 2.2.2; 2.5.2; 3.4.1; 4.4.1; 6.4.1).

The graduate attributes suggested in Table 7.2 of the proposed framework mainly have been inferred from the graduate attributes put forward by the Draft Teaching and Learning Strategy for the UFS (UFS CTL 2013). These attributes have been supplemented by the insights gained from participants' views in the first round of data collection (see 6.3.1.1; 6.4.1 and Appendices A and C).

The categorisation and description of graduate attributes proved to be a complex task and the components of the respective attributes are complexly interwoven and interdependent.

7.4.1.2 Evaluation, discussion of findings, and appropriate adaptations

This section pertains to the graduate attributes identified as important for graduates from the Faculty of Economic and Management Sciences at the University of the Free State, to possess in the world of work (see 6.3.1 and 6.4.1)**.** The process and sources used for the compilation and categorisation of the graduate attributes are discussed in section 7.4.1.1.

In Table 7.2 the graduate attributes that were taken up in the draft framework in the category *Academic and professional competence* are presented, as well as the findings of the evaluation that was done by the evaluation panel in round one of the data collection.

In the framework, the acronym 'GA' is used for 'graduate attribute'.

Table 7.2: Proposed graduate attributes: Academic and professional competence (n=8)

A: *Academic and professional competence* which includes the following abilities:				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
		E	**U**	**N**
A1	A sound discipline-specific knowledge base.	**6**	**2**	**0**
A2	Oral communication (e.g. making presentations).	**8**	**0**	**0**
A3	Written communication (e.g. report and essay writing).	**8**	**0**	**0**
A4	Non-verbal communication (e.g. interpreting body language).	**3**	**3**	**2**
A5	Conflict management.	**3**	**5**	**0**
A6	Problem solving.	**8**	**0**	**0**
A7	Decision making.	**7**	**1**	**0**
A8	Professional conduct which includes :	**7**	**1**	**0**
A8.1	An understanding of ethics.	**4**	**4**	**0**
A8.2	Acting with integrity.	**6**	**2**	**0**
A8.3	Ability to work with diverse others in teams.	**5**	**2**	**1**
A8.4	Ability to work with diverse others in pairs.	**5**	**2**	**1**
A9	Creativity and innovation.	**5**	**3**	**0**

Verbatim comments from participants:

VP P2: “I would rather suggest the application of ethics in the relevant work environment.”

VP P3: “Wh[i]lst some of the above may not be deemed important academic abilities, e.g. conflict management, these are essential adult skills that should be demonstrated by persons who passed through the higher education system.”

VP P4: “I do not agree with the split of diversity skills into teams or pairs. In the world of work students will not have the choice to choose. I would rather make this one item. I like that fact that teamwork is imbedded within the diversity context.”

a) Academic and professional competence

Academic and professional competence and the majority of the sub-features were supported by the participants who either rated the features as ‘essential’ or ‘useful’.

Feature A4 (non-verbal communication) was rated as ‘not necessary’ by two (2) of the participants. Although the exclusion rate was determined to be a ‘not necessary’ rating by three (3) or more participants, the researcher decided to retain the feature in the final proposed framework, and argued that an understanding and sensitivity

toward non-verbal communication may be more applicable to certain programmes and disciplines than other.

A comment made by VP P2 about the application of ethics in the work environment was considered by the researcher as an important contribution related to the importance of transfer/application (see 4.2.7 and 4.7) of graduate attributes in different contexts. The researcher therefore added the application of ethical principles in addition to the understanding of ethics to the final proposed framework (see A 8.2).

Features A8.3 and A8.4 were both rated as ‘not necessary’ by one (1) participant respectively. The comment made by participant VP P4 suggests that working with diverse others is an unavoidable reality in the world of work and therefore need not be split into two between working in pairs and in teams. The two descriptions were subsequently refined and combined in the final proposed framework, and it is argued that the nature of the interaction with diverse others will differ based on the nature and responsibilities of the job or position occupied by the graduate (see A8.4 in Table 8.1).

b) Effective knowledge workers

The abilities associated with effective knowledge workers were rated as either ‘essential’ or ‘useful’. Each sub-feature was rated as ‘essential’ by at least half (4) of the participants, and as ‘useful’ by at least another participant. None of the participants viewed any of the features as ‘not necessary’. The researcher viewed this rating pattern as an indication that all the features pertaining to the particular graduate attribute were supported. They therefore were retained in the final proposed framework after refinement based on the comments and suggestions made by participants.

Table 7.3: Proposed graduate attributes: Effective knowledge workers (n=8)

B: *Effective knowledge workers* which include the following abilities :				
		E	**U**	**N**
B1	To know when there is a need for information to address a particular problem.	**4**	**4**	**0**
B2	To collect appropriate information pertaining to the problem.	**6**	**2**	**0**
B3	To use information to address a particular problem.	**7**	**1**	**0**
B4	To organise information to address a particular problem.	**5**	**3**	**0**
B5	To apply knowledge gained from different sources and experiences	**7**	**1**	**0**
B6	Digital literacy – i.e. capabilities that enable an individual for living, learning and working in a digital society (e.g. using digital tools to do academic research).	**6**	**2**	**0**
B7	Computer literacy (e.g. ability to use programs such as MsWord or MsExcel to perform tasks).	**8**	**0**	**0**

Verbatim comments from participants:

VP P5: "I am not sure whether the distinction between digital and computer literacy in necessary. … Just make sure that this is not too specific as this appears to be a grey area."

VP P6: "There seems to be some overlap with category A (e.g., problem-solving). It's interesting that digital and computer literacy have been included in the knowledge work category, but I'm sure you can justify this."

The comments made by VP P5 and VP P6 pertained to concerns about the inclusion of digital and computer literacy as separate abilities that promote graduates' competence in knowing when a need for information exists, and to acquire and use the information effectively and responsibly to address a problem. The researcher earlier argued that digital literacy and computer literacy both are vital for acquiring and presenting information and findings to solve problems in the 21st century knowledge economy (see 2.4.1). These features (B6 and B7), however, were revised and included as information technology skills (that assist information literacy and effective knowledge work) that an individual needs to use computers, software applications, databases, and other technologies to complete academic, personal goals and work-related tasks effectively (ACRL 2015:Online) (see feature B6 in Table 8.1).

The comment made by VP P6 pertaining to the overlap of problem solving with category A (academic and professional competence), illustrates the complex interrelatedness of graduate attributes; however, the researcher argued that this particular section focused on one aspect of problem solving in particular, namely the acquisition, use, presentation and management of information in a wide range of contexts.

c) Inquiry focused and critical

The results pertaining to being inquiry focused and critically inclined to develop new knowledge and understanding show that all of the features were either rated 'essential' or 'useful' by 75% (6) or more participants in each case (Table 7.4).

Table 7.4: Proposed graduate attributes: Inquiry focused and critically inclined (n=8)

C: *Being inquiry focused and critically inclined*, which includes the ability *to create new knowledge and understanding* through:				
		E	**U**	**N**
C1	Inquiry before accepting or formulating opinions or conclusions.	**5**	**3**	**0**
C2	Analysis before accepting or formulating opinions or conclusions.	**6**	**2**	**0**
C3	Critical thinking before accepting or formulating opinions or conclusions.	**7**	**1**	**0**
C4	Systems thinking before accepting or formulating opinions or conclusions.	**2**	**6**	**0**
C5	An *interest in* global and local issues impacting on organisations and society as a whole.	**1**	**5**	**2**
C6	An *understanding of* global and local issues impacting on organisations and society as a whole.	**5**	**2**	**1**

Verbatim comments from participants:

VP P4: "I do not think interest in global and local issues should be an option. Students need to develop the ability to relate what they do to what is going on around them."

VP P6: " ... Also, the way the aspects are conceptualised might fit better with some disciplines than others."

Feature C5, namely an interest in global and local issues impacting on organisations and society as a whole was rated 'not necessary' by one (1) participant. Feature C6, namely an understanding of global and local issues impacting on organisations and society as a whole was rated 'not necessary' by two (2) participants. The comment

made by VP P4, on the other hand, points out the importance of both interest in and understanding of global and local issues impacting on organisations and society as a whole. Based on the exclusion rates determined by the researcher (see 7.3.) all the features in this section were retained in the final proposed framework.

VP P6 justly states in a comment that some graduate attributes may fit better with some disciplines than with others. As mentioned in section 7.4.1.1, it is indeed vital to take into account the unique nature of disciplines and programmes along with industry and other stakeholder requirements.

d) Self-management that leads to career self-management in the workplace

All the components related to self-management abilities were rated as either 'essential' or 'useful' by 75% (6) or more of the participants. Features D1, D2, D4, D5, D6 and D11 were rated 'essential' by 75% (6) or more of the participants, while time management (D9) was rated as 'essential' by all the participants. Table 7.5 relates the outcome of this category.

Table 7.5 Proposed graduate attributes: Self-management (n=8)

D: *Self-management* that leads to *career self-management* in the workplace				
		E	**U**	**N**
***Self-management abilities* include aspects such as:**				
D1	The management of oneself or by oneself.	**6**	**2**	**0**
D2	Taking responsibility for one's own behaviour and well-being.	**7**	**1**	**0**
D3	Having a favourable stance toward lifelong learning.	**2**	**6**	**0**
D4	Working independently.	**6**	**2**	**0**
D5	Taking ownership and responsibility for tasks and career development.	**7**	**1**	**0**
D6	Working under pressure.	**6**	**2**	**0**
D7	Adapting to changing circumstances.	**5**	**3**	**0**
D8	Persisting in the face of adversity/ambiguity (resilience).	**5**	**2**	**1**
D9	Managing time effectively.	**8**	**0**	**0**
D10	Performance and goal directed behaviour (also related to lifelong learning).	**2**	**6**	**0**
D11	Having confidence in one's abilities to complete tasks and achieve success (i.e. self-efficacy beliefs).	**6**	**2**	**0**
D12	***Emotional literacy/intelligence* that includes the following:**	**5**	**2**	**1**
D12.1	The ability to understand one's own emotions.	**4**	**3**	**1**
D12.2	The ability to understand the emotions of others.	**3**	**4**	**1**
D12.3	The ability to manage one's own emotions.	**5**	**2**	**1**
D12.4	The ability to manage the emotions of others.	**3**	**4**	**1**

Verbatim comments from participants:

VP P4: “I would change the wording of D12.4 to - The ability to manage (to some extent) the emotions of others.”

One (1) participant viewed persisting in the face of adversity/ambiguity (i.e. resilience) as ‘not necessary’ (D8). Emotional intelligence and its sub-features were also rated to be ‘not necessary’ by one participant(D12 to D12.4).

Participant VP P4 suggested that a sub-feature of emotional intelligence, the ability to manage the emotions of others (D12; D12.1 to D12.4) should rather be adapted to ‘The ability to manage (to some extent) the emotions of others’. The researcher decided to revise the wording of the feature in totality to ensure clarity in the basic description. She used the work of Mayer and Salovey (1997:5;10-14) and consequently adapted D12.2 and D12.4 to make provision for identifying the emotions of others and selectively engaging in or detaching from the emotions of others, where appropriate (see D12.2 and D12.4 in Table 8.1) . Furthermore, features D12.1 and D12.3 were also adapted to include ‘the understanding of the origin of one’s own emotions and the ability to engage, express or detach from one’s own emotions, where appropriate (see D12.1 and D12.3 in Table 8.1). The researcher also decided to indicate some of the attributes that relate to emotional intelligence in D12.

Although some amendments were made, all the features were retained in the final proposed framework.

e) Leadership

All the features pertaining to leadership were rated as either 'essential' or 'useful' by at least 75% (6) or more of the participants (see Table 7.6).

Table 7.6: Proposed graduate attributes: Leadership (n=8)

E: *Leadership* which includes the *ability to*:				
		E	**U**	**N**
E1	Lead through *integrity* (i.e. with an awareness and understanding of *ethics*).	**5**	**3**	**0**
E2	Lead through an *awareness and understanding of community needs*.	**4**	**3**	**1**
E3	Delegate tasks effectively.	**7**	**0**	**1**
E4	Working soundly with diverse others.	**6**	**2**	**0**

Verbatim comments from participants:

VP P1: "Respect others in the workplace and being able to trust the people whom you delegate tasks to, and at the same time make sure they do quality work. And off course, being consistent and lead by example."

VP P2: "I would include emotional intelligence here as well as maturity."

VP P4: "I would suggest changing E4 to "Working effectively with diverse others"."

VP P6: "It's interesting that diversity is included with leadership. Should there be something about team work? What about something around servant [l]eadership?"

VP P8: " Communicate effectively with others. Conflict Management."

The comments and suggestions made by participants VP P1, VP P2, VP P4, VP P6 and VP P8 with regard to leadership were carefully considered and integrated with the existing features of the final proposed framework to ensure clarity of the qualities implied by the sub-features. For example, the researcher argued that respect for others, conflict management, and effective communication are encapsulated by feature E4 (i.e. working effectively with diverse others) (see VP P1, VP P2 and VP P8). The aforementioned is also related to the graduate attribute of academic and professional competence (see section A of Table 7.2). Feature E4 was consequently adapted to indicate some of the features related to working effectively with diverse others (e.g. conflict management; see E4 in Table 8.1).

The researcher considered the comment made by VP P6 regarding the idea of servant leadership (see comment by VP P6) and argued that characteristics of servant leadership do indeed form part of the sub-features of leadership (see feature E). Feature E2 was also consequently adapted to describe an understanding of community needs better. The concept of servant leadership was conceived by Robert K. Greenleaf in 1970. The Greenleaf Center for Servant Leadership describes the servant leader as one that focuses mainly on the growth and well-being of people and the communities to which they belong. It differs from traditional leadership which generally involves the accumulation and exercise of power by one in a higher or top position (Greenleaf 1970; Greenleaf Center for Servant Leadership n.d.:Online).

All the features pertaining to leadership thus were retained, but adapted based on the ratings, comments and suggestions made by participants.

f) The enabling outcomes of higher education

The complex interaction of graduate attribute development above ideally should lead to enabling outcomes in higher education which are described as scholarship, active glocal citizenship and lifelong learning respectively. Table 7.7 provides a description of the enabling outcomes, as well as the related evaluation and comments by the validation participants.

Table 7.7: Proposed enabling outcomes of higher education (n=8)

		E	U	N
FA	***SCHOLARSHIP*: A CRITICAL ATTITUDE TOWARDS KNOWLEDGE AND UNDERSTANDING WHICH INCLUDES:**	**7**	**1**	**0**
F1	A scholarly attitude towards knowledge and understanding.	**5**	**2**	**1**
F2	Generating knowledge through inquiry, critique and synthesis.	**5**	**3**	**0**
F3	Applying the generated knowledge to relevant problems.	**8**	**0**	**0**
F4	Communicating understanding in a professional, effective and confident manner.	**8**	**0**	**0**
FB	***ACTIVE GLOCAL CITIZENSHIP*: A FAVOURABLE ATTITUDE OR STANCE TOWARDS COMPLEX GLOCAL (i.e. LOCAL AND GLOBAL) SYSTEMS WHICH INCLUDES:**	**5**	**3**	**0**
F5	Developing an understanding of complex, interdependent global systems.	**1**	**7**	**0**
F6	An aspiration to contribute to society in meaningful ways.	**2**	**5**	**1**
F7	*Contributing to society in meaningful ways* which include, inter alia, *the following traits*:	**4**	**3**	**1**
F7.1	• Accepting social responsibilities.	**3**	**4**	**1**
F7.2	• Advocating the sustainability of the environment.	**3**	**4**	**1**
F7.3	• Having a broad understanding and high regard for human rights, equity and ethics in local, national and global communities.	**5**	**3**	**0**
FC	***LIFELONG LEARNING*: A FAVOURABLE ATTITUDE OR STANCE TOWARD ONESELF WHICH INCLUDES:**	**5**	**3**	**0**
F8	Being committed to and capable of continuous collaborative learning.	**4**	**4**	**0**
F9	Being committed to and capable of continuous individual learning.	**3**	**5**	**0**
F10	Critical reflection for the purpose of furthering one's own personal knowledge, skills, attitudes, values and competence.	**3**	**5**	**0**
F11	An understanding of the world and one's place in it.	**2**	**4**	**2**

Verbatim comments from participants:

VP P2: "F5 and F6: this needs to developed by exposure to society and the global environment together with a critical reflection on your own views."

VP P6: "This seems like a very large category with some overlap with other categories. I'm not sure if the name of the category is correct - maybe it needs so[m]e rethinking?"

All the features of the enabling outcomes of higher education (scholarship, glocal citizenship and lifelong learning) portrayed in Table 7.7 were either rated 'essential' or 'useful' and were thus supported by at least 75% (6) of the participants. In terms of scholarship (FA), the application of knowledge to relevant problems (F3), and communicating understanding in a professional, effective and confident manner (F4) were both rated by all participants as 'essential'.

In terms of the active glocal citizenship (FB), there was only one sub-feature (F7.3; namely having a broad understanding of and high regard for human rights, equity and ethics in local, national and global communities) that was rated ‘essential’ by more than half of the participants (62.5% [5]). Feature F6 (an aspiration to contribute to society in meaningful ways) was rated as ‘not necessary’ by one (1) participant.

‘Contributing to society in meaningful ways’ (F7) which includes, among other traits, two sub-features, namely accepting social responsibilities (F7.1) and advocating the sustainability of the environment (F7.2), was also rated as ‘not necessary’ by one participant.

The comment made by VP P6 caused the researcher to realise that the numbering and presentation of the three enabling outcomes of higher education might have caused the reader to perceive these separate outcomes as one large category and might have created considerable confusion. The researcher renumbered and attempted to present these outcomes in a more logical manner and also provided a visual presentation in the final proposed framework (see F, G and H in Table 8.2).

These enabling outcomes thus encapsulate the development of the graduate attributes in Table 7.3.

All the features of the enabling outcomes of higher education (which include scholarship, glocal citizenship and lifelong learning) were consequently retained in the final proposed framework.

7.4.2 The internal and external realities to be taken into account

In this section the basis/motivation for the inclusion of the features related to internal and external realities to be taken into account in the proposed framework, is discussed, followed by the evaluation, discussion of the findings, as well as the appropriate adaptations pertaining to the respective features.

7.4.2.1 Basis for the inclusion of the component

If embedding graduate attributes in curricula is considered, various internal and external contextual realities should be taken into account and managed effectively to ensure the positive outcomes of initiatives taken. The alignment between institutional

and faculty commitment, graduate attribute statements, outcomes and guiding documentation is essential. Furthermore, realistic expectations in terms of the time required for the effective implementation of graduate attribute development in undergraduate curricula are important (see 3.2.1; 3.2.8; 3.3.1; 3.3.4; 3.4; 4.5.2.4; 6.4.2; 6.4.10)

Human and financial resources required for the effective integration and meaningful development of graduate attributes in undergraduate curricula need careful consideration at national and institutional level so that those responsible for the implementation (i.e. enactment/delivery) are empowered and motivated to contribute to the holistic development of students (see 3.2.6; 3.3.4; 3.4; 3.5.4; 4.5.2.4; 6.4.10).

7.4.2.2 Evaluation, discussion of findings and appropriate adaptations

This section elaborates on findings pertaining to internal and external contextual realities to take into account in the accommodation of graduate attributes in undergraduate curriculum design and delivery. The findings will be discussed in terms of participant ratings and comments concerning the respective features in this category Table 7.8).

Table 7.8: The internal and external realities to be taken into account (n=8)

		E	U	N
1.	GA statements (in policy documents, syllabus/faculty calendars) for the institution and the faculty should communicate the importance and commitment to development of the student as a whole.	**7**	**1**	**0**
2.	This explicit commitment of the institution and the faculty to GA development implies that teachers should be motivated/ convinced to become involved in curriculum review, mapping and embedding processes.	**8**	**0**	**0**
3.	The explicit commitment of the institution and the faculty to GA development should lead to increased empowerment and participation of those responsible for the successful implementation of GAs.	**8**	**0**	**0**
4.	The cultivation of many of the attributes required in the world of work should already be initiated during undergraduate years of study.	**8**	**0**	**0**
5.	Given the resource implications of the meaningful development of GAs in undergraduate curricula, human resources on a national and institutional level needs careful consideration.	**5**	**3**	**0**
6.	Given the resource implications of the meaningful development of GAs in undergraduate curricula, financial forecasting on a national and institutional level needs careful consideration.	**5**	**3**	**0**

7.	Realistic expectations in terms of timeframes are essential for such gradual implementation.	**8**	**0**	**0**

Verbatim comments from participants:

VP P1: “This is a very important section. When you want to start implementing something you always need to start at the top and then the implementation of it would sift through easier.”

VP P2: “The commitment of the institution must be accompanied by the required resources otherwise it won't become a reality.”

VP P3: “Whilst consideration of human and financial resources are useful, these should not prevent the holistic development of students.”

VP P6: “Resource implications depends if GAs are an add on or are embedded in curricular and co-curricular activities.”

VP P7: “Lectures and faculty staff should have an understanding of curriculum development and flow between NQF levels, the deepens knowledge and increase skill implementation; the ultimate outcomes of the programme and type of graduates UFS is releasing into the job market. This refers to not just viewing moldule and/or programme outcomes as objective statements that would "sound great in the yearbook" but the actual implementations required to achieve these outcomes, the continuous monitoring and evaluation of teaching practices to ensure these outcomes are achieved. There should be open communication regarding National, professional and institutional expectations and objectives; and faculty members should expose students to market related experience, students should be cultivated to think critically from undergraduate level and not just in post graduate (honours) programmes.”

In Table 7.8 the results pertaining to the internal and external realities that need to be taken into account when accommodating graduate attributes in undergraduate curriculum design and delivery, clearly show the support of all the participants. Each of the features where rated as ‘essential’ by more than half of the participants. Features 2, 3, 4 and 7 actually were rated ‘essential’ by all the participants (100% [8]) (see Table 7.8, features 1-7). The researcher therefore views the ratings and comments (especially the comments made by VP P1, VP P2 and VP7) of the

participants as an indication that all the implications and features should be retained in the final proposed framework presented in Chapter 8 of this report.

From the additional comments and suggestions pertaining to the considerations in terms of resource requirements made by participants, it seems important to encourage the holistic development of students regardless of possible resource constraints. This means that novel approaches still should be implemented within the boundaries of current available resources (see comments by VP P3 and VP P6 in Table 7.8). The amount and scope of resources required will depend on the nature of the embedding of graduate attributes in curricula. The researcher consequently decided to articulate these comments in the features of the final framework (see Feature 7 in Table 8.3).

7.4.3 Undergraduate curriculum design and review processes

In this section the basis/motivation for the inclusion of the features related to undergraduate curriculum design and review processes in the proposed framework is discussed followed by the evaluation, discussion of the findings, as well as the appropriate adaptations pertaining to the respective features.

7.4.3.1 Basis for the inclusion of the component

a) Curriculum mapping to aid the embedding of graduate attributes in undergraduate curricula

Students should be able to recognise and be aware of their graduate attribute development and therefore undergraduate curricula need to explicitly identify and address the graduate attributes required by the world of work. Curriculum design, review and mapping can aid asset-based approaches of determining how graduate attributes are already (currently) effectively addressed, as well as possible gaps in existing practice. Before such processes are undertaken, conceptual clarification and exploration of perceptions on the nature and value of curriculum design and review/mapping processes should take place. This common understanding is required for consistent implementation and general acceptance of practices that may promote graduate attribute development in undergraduate curricula (see 3.2.6; 3.4.2; 3.5.3; 6.4.3; 6.4.4).

b) Curriculum mapping process

Mapping processes ultimately should result in the vertical and horizontal alignment of outcomes and practices across each academic programme. During such a process the relevant HEQSF and NQF level requirements should also be kept in mind. Software programmes are available that facilitate the management of mapping processes and make it possible to track aspects such as cognitive levels, curriculum load, redundancies and gaps. A trail of data and activities should be maintained that provides those involved with rich data sources from which future reflective practice can arise (see Table 2.1; Table 2.3; 2.5.2; 3.3.4.4; 3.4 and 6.4.3).

Suggestions for actions to be taken during the process of mapping graduate attributes in undergraduate curricula include a needs analysis of relevant stakeholder needs (such as industry, governing bodies, professional bodies, feedback from students and past graduates, as well as discipline-specific needs). Secondly individual teachers should identify the existing graduate attribute outcomes, and teaching-learning and assessment practices in their own modules. It also will be helpful to identify those graduate attributes that are taught or assessed implicitly. Thirdly, once graduate attribute outcomes, and teaching-learning and assessment practices have been identified at module level, the process should be repeated at programme/departmental level (see 3.2.6; 3.4; 3.5; figure 3.9; 6.4.3 and 6.4.8).

Fourthly, collective workshops involving different departments that contribute to programmes should be conducted. A whole-programme approach is necessary to identify where and to what extent graduate attributes are addressed, the applicability of certain graduate attributes in different programmes/ disciplines, possible redundancies and gaps, as well as the credit loads in each programme (credit loads are also related to notional learning hours). Fifthly, adaptations should be made to existing programmes by considering appropriate modules, outcomes, and teaching-learning activities and assessment tasks for graduate attribute development. Lastly, the changes should be implemented and continually revised so that the curriculum does not remain static and the envisioned outcomes indeed are achieved. Sufficient time should be made available for curriculum review and mapping processes to ensure the quality of decisions and outcomes (see 3.2.6; 3.4; 3.5; Figure 3.9; 6.4.3 and 6.4.8).

7.4.3.2 Evaluation, discussion of findings, and appropriate adaptations

The findings that apply to the accommodation of graduate attributes in undergraduate curriculum design and review processes will be discussed in terms of participant ratings and comments concerning the respective features in this category. Table 7.9 contains the features addressed in this category, and a summary of the responses to the questionnaire survey.

Table 7.9: Undergraduate curriculum design and review processes (n=8)

		E	U	N
8	Undergraduate curricula need to explicitly identify and address the GAs required by the world of work.	**6**	**2**	**0**
9	It is necessary to learn from and build on meaningful efforts already made by teachers (i.e. take an asset-based approach).	**4**	**4**	**0**
10	The Faculty of EMS should consider a curriculum review or mapping process that can assist in determining effective practices in terms of GA development.	**4**	**4**	**0**
11	The Faculty of EMS should consider a curriculum review or mapping process that can assist in determining possible gaps in terms of GA development.	**4**	**4**	**0**
12	The conceptual clarification of GAs, and the importance and value thereof, should take place before curriculum review/mapping processes are undertaken.	**7**	**1**	**0**
13	The conceptual clarification of GAs will influence future practices to a great extent.	**6**	**1**	**1**
14	The mapping process should result in horizontal alignment between the outcomes and practices within and among the modules in an academic programme.	**8**	**0**	**0**
15	The mapping process should result in vertical alignment between the outcomes and practices within and among the modules in an academic programme.	**8**	**0**	**0**
16	Relevant HEQF and NQF level requirements should be considered.	**8**	**0**	**0**
17	Consider using curriculum mapping software to simplify the mapping process.	**2**	**5**	**1**
18	Leave a trail of data for future review processes.	**4**	**4**	**0**

Verbatim comments from participants:

VP P2: "The faculty should not only consider, it is necessary that it must be done. Employers should be actively involved from the start to ensure a meaningful integration and identification of what is relevant for the world of work."

VP P6: "No mention is made about the development of GAs in co-curricular activities - how will this be identified and mapped?"

The review/mapping process:				
19	*Start* with *a needs analysis* of the following:	**6**	**2**	**0**
19.1	• Explore the needs of teachers.	**5**	**2**	**1**
19.2	• Explore the needs of industry.	**6**	**2**	**0**
19.3	• Explore the needs of governing bodies.	**5**	**3**	**0**
19.4	• Explore the needs of professional bodies.	**5**	**3**	**0**
19.5	• Explore the unique GA needs within disciplines.	**7**	**1**	**0**
19.6	• Explore the needs of students (e.g. feedback, profile, performance data, etc.)	**7**	**1**	**0**
19.7	• Obtain feedback from previous graduates.	**7**	**1**	**0**
20.	*Secondly*, individual teachers should *determine the existing GA outcomes and teaching-learning and assessment practices* within their own modules.	**6**	**2**	**0**
21.	*Thirdly the process is repeated during departmental workshops.*	**4**	**4**	**0**
22.	*Fourthly*, *collective workshops involving different departments* are conducted and which include the following activities:	**5**	**3**	**0**
22.1	• Take a whole of programme approach.	**6**	**2**	**0**
22.2	• Determine alignment, gaps, overlap or overload within programmes (consider notional leaning hours and credits).	**7**	**1**	**0**
22.3	• Consider the feasibility of foundational skills development modules where proficient students can test-out and accelerate to other relevant modules.	**4**	**4**	**0**
22.4	• Consider the use and feasibility of capstone experiences or even capstone modules in the programme.	**3**	**4**	**1**
22.5	• Consider the use and feasibility of capstone assessment tasks in particular modules or at the end of the programme.	**3**	**4**	**1**
23.	*Fifthly, make the necessary adaptations by identifying appropriate:*	**6**	**2**	**0**
23.1	• Modules for GA development.	**7**	**0**	**1**
23.2	• Outcomes for GA development.	**7**	**0**	**1**
23.3	• Teaching-learning activities for GA development.	**7**	**1**	**0**
23.4	• Assessment tasks for GA development.	**6**	**2**	**0**
24.	*Lastly*, *implement changes and continually revise* the curriculum.	**7**	**1**	**0**
25	Encourage reflective practice to encourage a living and non-static curriculum that is enacted and not only espoused.	**7**	**1**	**0**
26.	Make time for curriculum review and mapping since it is extremely time-intensive and require careful planning.	**7**	**1**	**0**

Verbatim comments from participants:

VP P2: “What teachers do should be done in collaboration with relevant industry representatives.”

VP P3: “When a collaborative learning approach is taken, the participation of proficient students is essential, for example in the mastery of the discourse of the discipline. I would therefore not recommend that they exit.”

VP P4: “I would change teachers to lecturers.”

VP P6: “What about co-curricular activities?”

With regard to curriculum design and review processes, all the features pertaining to the section in Table 7.9 were either rated ‘essential’ or ‘useful’ by at least 75% (6) of the participants.

Features 14, 15 and 16 in Table 7.9 were rated ‘essential’ by all the participants (100% [8]). These features refer to the mapping process ideally resulting in horizontal and vertical alignment between the outcomes and practices within and across modules in different programmes, as well as the consideration of the relevant HEQF and NQF level requirements.

Seven (87.5 %), of the participants rated each of features 19.5-19.7, 22.2, 23.1-23.3, and 24-26 as ‘essential’. Feature 19.5 relates to the exploration of unique graduate attribute needs within disciplines, the needs and views of students and previous graduates. Feature 22.2 points to the importance of determining alignment, gaps, overlap or overload within programmes as part of the mapping process and corresponds with the support of horizontal and vertical alignment in programmes as referred to above. The identification of appropriate modules, outcomes, and teaching-learning and assessment activities for the integration of graduate attributions received strong support (features 23.1-23.3; 87.5% [7]). The continuous revision of the curriculum, reflective practice, as well as making time for mapping and review processes also received strong support (feature 24-26; 87.5% [7]).

The comment made by participant VP P2 emphasises the importance of industry involvement in curriculum review and mapping processes. The researcher consequently articulated collaboration with industry representatives more clearly in feature 10 of the final proposed framework (see feature 10 in Table 8.4). Participant VP P3 was not in favour of the suggestion that proficient students should be able to test-out and accelerate to other relevant modules (feature 22.3; also see the discussion of feature 53 under 7.4.4.2), because of the value of the participation of proficient students in collaborative activities. Those involved in curriculum review and

mapping exercises therefore will have to investigate the relevant advantages and disadvantages of such practices.

With reference to the comment made by made by VP P2 regarding the terminology used to describe academic staff members or lecturers, the researcher decided, for the sake of uniformity, to make use of the term ‘teacher’ to refer to university teacher throughout the study (see 3.2.10).

Participant VP P6 brought to the light the importance of considering graduate attribute development through co-curricular activities and raised an important question about the identification and mapping of such extra-/co-curricular activities and related graduate attribute development.

The researcher argues that extra-/co-curricular activities can aid the holistic development of students (see 3.2.1; 3.4.3.1; 4.4.1.5). The identification of existing co-curricular activities that can contribute to the development of the graduate attributes which are viewed as important for students graduating from the Faculty of Economic Sciences at the University of the Free State to possess in the world of work, is thus important.

Thorough deliberation will have to take place with regard to how the development of such graduate attribute development can be acknowledged and documented, and this will need to form part of a wider institutional approach. The link between meaningful co-curricular activities and graduate attribute development can be made during the mapping process and students may consequently be informed, encouraged, and empowered to engage in such activities and also generate evidence of their graduate attribute development (see 3.4).

An additional feature was added to the curriculum review and mapping process (see 22.6 and 22.7 in Table 8.4) contained in the final proposed framework in an attempt to address the aforementioned. All the features of the category pertaining to curriculum review and mapping processes in the initial framework were retained in the final proposed framework.

7.4.4 Teaching-learning practices

In this section the basis/motivation for the inclusion of the features related to teaching-learning practices in the proposed framework is discussed followed by the evaluation, and discussion of the findings, as well as the appropriate adaptations pertaining to the respective features.

7.4.4.1 Basis for the inclusion of the component

The section below pertains to considerations in terms of the teaching-learning practices for graduate attribute development.

a) Buy-in, support and rewards

There are various challenges related to the teaching of graduate attributes. These challenges have a bearing on challenges at national and institutional levels. Teaching-learning practices are influenced by overarching curriculum challenges such as progression, mode of delivery, internationalisation and disciplinary boundaries. The challenges related to the teaching of graduate attributes include, amongst others, the following: the priority given to discipline-specific knowledge; understandings related to the purpose and value of graduate attributes; practical difficulties such as large student numbers; the diverse student population and academic preparedness; resistance on the part of students and teachers, as well as the lack of staff development and support for those responsible to enact the outcomes espoused in curricula. These challenges and understandings will impact significantly on the living, enacted curriculum and therefore the attainment of buy-in and support from teachers will have a significant impact on the effective development and mastery of graduate attributes (see 3.3.6; 4.4.1; 6.4.4; 6.4.5).

In addition, the successful implementation of a curriculum design relies heavily on all role-players which include teachers. Rewards and promotional opportunities should be made available for outstanding efforts made in terms of curriculum review, design, and teaching-learning and assessment practices, and should not be based solely on research outputs (see 3.5.4; 4.4.1).

b) Constructive alignment, learning outcomes and assessment criteria

Making graduate attributes explicit in learning outcomes and assessment criteria allows for the reinforcement and encouragement of graduate attribute development expectations and outcomes throughout different modules and programmes. There thus should be constructive alignment between short- and long-term outcomes, teaching-learning activities, and assessment tasks. Taxonomies such as Bloom's taxonomy of educational objectives and the SOLO taxonomy of cognitive tasks will aid the construction of learning outcomes and assessment criteria at the appropriate cognitive level (see 3.2.1; 3.3.4; 3.3.4.4; 3.4; 4.3 and 6.4.4).

c) Teaching-learning practice

The section below relates to the paradigm shift about the role of the teacher, principles for the enhancement of teaching-learning practice, technology as an aid to achieve graduate attribute outcomes, the potential value of effective tutorial systems, WIL approaches, and the importance of training and support related to graduate attribute development.

- The role of the teacher

The role of the teacher needs careful re-evaluation (including the paradigm shift in teaching; see 4.4.2.1; Table 4.1) in order to encourage teaching-learning practices that are student-centred as opposed to teacher-centred and that will ultimately lead to meaningful, deep learning which enables students to master and apply, and transfer knowledge and skills to new and different contexts (see Table 3.2; 4.4.3; 4.7; 6.4.5; 6.4.7).

- Teaching-learning principles and good practice

General principles for the enhancement of teaching-learning practice, which correlate with influential curriculum perspectives (e.g. the work of Dewey, Tyler, Taba and Stenhouse), as well as process-orientated curriculum views can promote the mastery and transfer of graduate attributes (e.g. critical thinking, problem solving, communication and working with diverse others). These principles include, amongst others: the active participation and ownership of students in the learning process; opportunities to establish civil engagement and collaboration with diverse others; the integration of existing knowledge with new information; opportunities to relate,

practise/apply what was learnt in different real-life, world-of-work related tasks (within the context of discipline-specific knowledge); allow for multiple means of representation, expression and engagement, and offer opportunities for reflection, feedback, support, and improvement (see 3.3.2; 4.2.1; 4.4.2.2; 4.4.3; 4.5.3.3; 4.7 6.4.5; 6.4.7).

- Technology as an aid

Technology-enabled tools can aid the attainment of graduate attribute outcomes (and teaching-learning practices in general), by enabling the following: information acquisition, exchange and management; workplace simulation; problem solving, as well as communication and collaboration between students and teachers (see 2.4.3; 3.3.5; 3.3.6.4; 4.4.3.1; 4.4.3.2 and 6.4.5).

- Well-managed tutorial systems as an aid

Because of relevant resource and time constraints as part of the realities experienced by teachers, well-managed tutorial systems can aid in creating additional opportunities for graduate attribute development. Such tutorial systems should allow for small-group and peer-assisted learning during which students can actively engage with each other, as well as with what needs to be learnt. Tutors have to be adequately trained and should have the ability to effectively guide/facilitate tutorial tasks and activities where students are granted the opportunity to apply, relate, practise and reflect on what was learnt (see 4.4.3 – contribution to the study; 6.3.6.1; 6.4.5).

- Work-integrated learning (WIL) activities

In terms of specific practices or activities that can promote the development of graduate attributes, WIL approaches offer an opportunity and platform for the integration of discipline-specific knowledge and workplace concerns. The main WIL approaches include the following: work-directed theoretical learning (e.g. industry-led workshops, case studies, exchange programmes); problem-based learning (e.g. students work on problems in small, self-directed groups); project-based learning (e.g. management plans, business reports, market research, management activities, industry competitions, service learning), and workplace learning (e.g. job shadowing and internships). It is, however, important to determine which activities and approaches to WIL will be best suited for individual commerce programmes in the

particular faculty. WIL creates opportunities for authentic assessment (see 4.4.4; 4.5.3.1 4.6; 6.4.5 and Appendix A).

- Training and support

All staff members (teachers, tutors and support staff) need to be sufficiently trained and/or supported in terms of aspects such as the process of constructing learning outcomes that assist in graduate attribute development, general teaching practices that enhance the development of graduate attributes, as well as decisions and possibilities pertaining to teaching-learning activities that enhance graduate attribute development. Policy and guideline documents also should serve as a helpful source of support for the implementation of the before-mentioned practices (see 3.4.3; 3.5.4; 4.4.3 and 6.4.10.1).

7.4.4.2 Evaluation, discussion of findings and appropriate adaptations

The findings of this large section about teaching-learning practices that can promote and facilitate graduate attribute development, will be discussed on the basis of participant ratings and comments concerning the respective features in this category. The table was divided/split into three parts in order to make comments where applicable, but the three tables should be regarded as one table/section in its totality (see Tables 7.10, 7.11 and 7.12).

Table 7.10: Teaching-learning practices that promote GA development (part 1) (n=8)

	Teaching-learning practices that promote GA development are characterised as follows:	E	U	N
27.	Obtain the buy-in of teachers and build relationships with them to encourage the use of effective educational practices required for preparing students for the local and global labour markets.	**8**	**0**	**0**
28.	The traditional role of the teacher should be re-evaluated to encourage student-centred practices as opposed to teacher-centred practices.	**8**	**0**	**0**
29.	Properly reward good teaching-learning and assessment practices in order to motivate teachers to actively embed GA development in their modules.	**7**	**1**	**0**
30.	Research output and good teaching-learning and assessment practices should be regarded as equally important.	**7**	**1**	**0**
31.	Ensure *constructive alignment* between:	**7**	**1**	**0**
31.1	• Short- and long-term learning outcomes.	**7**	**1**	**0**
31.2	• Learning outcomes and teaching-learning activities.	**8**	**0**	**0**
31.3	• Learning outcomes and assessment criteria and tasks.	**8**	**0**	**0**
32.	Utilise the positive backwash effect of assessment of student learning in order to ensure that students attend to all the intended learning outcomes and apply a deep approach to learning.	**4**	**4**	**0**
33.	Construct learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.	**7**	**1**	**0**
34.	Use Bloom's taxonomy of cognitive objectives/learning outcomes to formulate learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.	**7**	**1**	**0**
35.	Use the SOLO taxonomy of cognitive tasks to construct learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.	**1**	**6**	**1**

Verbatim comments from participants:

VP P2: "A student centred approach is essential as the intention should be for students to develop self-regulated learning. The use of Bloom's taxonomy might be more acceptable due to the more general acceptance thereof than the SOLO taxonomy."

VP P3: "Good teaching, learning and assessment practices should not necessarily be rewarded, but should be required for promotion purposes."

VP P4: "Positive backwash effect should be described in more detail. Do you need to do Bloom and SOLO? In light of the sophistication in Bloom and literature I would rather focus on it instead of SOLO."

Features 27 to 35 were either rated ‘essential’ or ‘useful’ by at least 75% (6) of the participants. Features 27, 28, 31.2 and 31.3 actually were rated as ‘essential’ by all the participants [100% (8)], and all the other features, with the exception of features 32 and 35, were strongly supported and rated as ‘essential’ by 87.5 % (7) of the participants in each case.

Feature 32, pertaining to the positive backwash effect of assessment, was rated ‘essential’ and ‘useful’ by half (4) of the participants respectively. The comment made by VP P4 indicated that this concept needed to be described in more detail and the researcher consequently refined the description in the final proposed framework (see feature 34 in Table 8.5).

Interestingly, the use of the SOLO taxonomy of cognitive tasks to construct learning outcomes and assessment criteria at appropriate cognitive levels of expected performance (feature 35) was rated ‘essential’ by only one (1) participant. Considering the comments and suggestions made by VP P2 and VP P4, the ratings may be attributed to the familiarity with, and the general acceptance of the use of Blooms’ taxonomy. However, because this feature was rated as ‘useful’ by 75% (6) of the participants, the feature was retained in the final proposed framework in order to stimulate thought regarding the contextual suitability of the SOLO taxonomy.

The comment made by VP P3 suggested that good teaching-learning and assessment practices related to graduate attribute development should not necessarily be rewarded, but should be required for promotion purposes (see feature 29 above). The researcher argues that promotion forms part of a broader reward system in organisations and the faculty will need to determine, in collaboration with relevant stakeholders (including teachers), how and in which form such rewards would be allocated. The aforementioned is also influenced by a larger institutional reward system. The feature was revised to include examples of types of rewards to indicate its non-prescriptive nature in the final proposed framework (see feature 31 in Table 8.5).

All the features in the above section were retained in the final proposed framework.

Table 7.11: Teaching-learning practices that promote GA development (part 2) (n=8)

Teaching- learning practices that promote GA development are characterised as follows:				
		E	**U**	**N**
36.	Reinforce and encourage GA development expectations and outcomes throughout different modules and programmes.	**5**	**3**	**0**
37	Use *student-centred, meaningful learning experiences* that require that:	**6**	**2**	**0**
37.1	• Students actively participate in the learning process;	**7**	**1**	**0**
37.2	• Students are empowered to take responsibility for their own learning; and	**7**	**1**	**0**
37.3	• Students get an opportunity to learn how to civilly engage with diverse others.	**5**	**3**	**0**
38.	New information should be meaningfully integrated with existing knowledge.	**7**	**1**	**0**
39	Integrate GAs with discipline-specific knowledge and do not view or teach them in isolation.	**7**	**1**	**0**
40.	Make conditions of applicability explicit by coupling abstract principles with appropriate examples.	**6**	**2**	**0**
41.	Let the students compare different examples and cases to identify the significant, deep features of problems.	**5**	**3**	**0**
42.	Provide opportunities for the sound application of skills, knowledge, attitudes and values in diverse contexts (e.g. application in different modules).	**7**	**1**	**0**
43.	Provide prompts to relevant knowledge to indicate to students how what they already know, is applicable to the particular content, case or problem.	**7**	**1**	**0**
44.	Ask students to identify larger principles (underlying structures) and not only focus on the details of a particular problem or case.	**6**	**2**	**0**
45.	Cultivate holistic perspectives in students.	**6**	**2**	**0**
46.	Expect students to identify relevant knowledge, skills, attitudes and values needed for specific contexts.	**4**	**4**	**0**
47.	Expect students to identify relevant contexts where specific knowledge and skills are needed.	**2**	**6**	**0**
48.	Create opportunities for students to learn with their peers.	**6**	**1**	**1**
49.	Encourage feedback and discussion among students.	**7**	**0**	**1**
50.	Prepare students for interaction in communities of practice in the world of work (i.e. the social construction of knowledge).	**7**	**1**	**0**
51	Use tasks and activities that allow for multiple means of representation, expression and engagement.	**5**	**3**	**0**
52.	Provide students with additional scaffolding where applicable.	**4**	**4**	**0**
53.	Offer opportunities to students for acceleration (i.e. to move forward to other modules or learning experiences when they prove to be proficient in a particular skill or content).	**2**	**4**	**2**
54.	Allow for reflection on experiences in teaching-learning activities and assessment tasks.	**5**	**3**	**0**
55.	Allow students to make changes based on reflective experiences.	**5**	**3**	**0**

Verbatim comments from participants:

VP P3: “The previous statement about acceleration also applies here”

VP P6: “Most of what is listed above has to do with good teaching and learning practices in general. Is it envisaged that specific practices are needed for GAs?”

Features 36 to 55 portrayed in Table 7.11, were either rated ‘essential’ or ‘useful’ by at least 75% (6) of the participants. Features 37.1, 37.2, 38, 39, 42, 43, 49 and 50 were all strongly supported and rated as ‘essential’ by 87.5 % (7) of the participants. Given the respective ratings, all these features therefore were retained in the final proposed framework.

Creating opportunities for students to learn with their peers (feature 48) and encouraging feedback and discussion among students (feature 49) were rated as ‘not necessary’ by only one (1) participant in each case. Feature 53, that refers to offering opportunities to students for acceleration (i.e. to move forward to other modules or learning experiences when they prove to be proficient in a particular skill or content), was rated ‘not necessary’ by only two (2) participants (25%). Only two (2) participants viewed the feature as essential; thus it was not receiving such strong support if compared to the other features in this category. Half (50% [4]) of the participants rated this feature ‘useful’. The statement made by VP P3 also relates to previous statements in this regard and has been discussed in 7.4.3.2.

The comment by VP P6 raises an important question with regard to the link between good teaching-learning practices and graduate attribute development. From the findings reported in the literature review, it came to light that the principles that can enhance teaching-learning in general, if applied effectively, may serve as a catalyst for graduate attribute development. Furthermore, it is important for students to learn how to apply what they have learnt in different contexts within and beyond discipline-specific boundaries, as articulated by the features above (see 7.4.4.1). The interaction between teaching-learning practices, tasks and activities related to real-world and discipline specific knowledge may enhance the development of graduate attributes (see 7.4.4.1; features 58.1 to 58.4).

An example would be to require students to complete a project in small groups and pay attention to teamwork during the exploration of a project/the content, as well as including aspects related to teamwork in the assessment of the project/content. It thus is imperative that the student be made aware of the graduate attribute development promoted through the related activities (can also be made explicit in learning outcomes and assessment criteria). Students can also reflect on their experiences in working with diverse others through making entries in an electronic journal that may be accessed and commented on by the teacher/tutor.

Table 7.12: Teaching-learning practices that promote GA development (part 3) (n=8)

Teaching-learning practices that promote GA development are characterised as follows:				
		E	**U**	**N**
56.	Consider the use of *technology-enabled tools in teaching-learning activities* that involve the following:	**5**	**3**	**0**
56.1	• Information acquisition and management	**6**	**2**	**0**
56.2	• Workplace simulations	**4**	**4**	**0**
56.3	• Problem solving	**5**	**3**	**0**
56.4	• Communication	**6**	**2**	**0**
56.5	• Collaboration	**4**	**4**	**0**
57.	Use *well-managed tutorial systems* that can aid/supplement educationally informed teaching-learning activities through the following:	**5**	**3**	**0**
57.1	• Small-group activities	**4**	**4**	**0**
57.2	• Peer-assisted learning	**5**	**2**	**1**
57.3	• Active learning/engagement	**6**	**2**	**0**
58.	Consider *Work Integrated Learning (i.e. WIL) approaches* that are suitable for use in commerce programmes, such as:	**7**	**1**	**0**
58.1	• Work-directed theoretical learning (e.g. industry-led workshops, case studies, exchange programmes).	**6**	**2**	**0**
58.2	• Problem-based learning (e.g. students work on problems in small, self-directed groups).	**7**	**1**	**0**
58.3	• Project-based learning (e.g. management plans, business reports, market research, management activities, industry competitions, service learning).	**7**	**1**	**0**
58.4	• Workplace learning (e.g. job shadowing, internships).	**6**	**1**	**1**

Verbatim comments from participants:

VP P2: “A workplace simulation is only effective in preparing students for Work Integrated Learning (WIL) and in cases where exposure to the real work environment or reality is not possible. Service Learning should not be regarded as project-based learning in my view - it has enormous potential to achieve GAs in collaboration with WIL and should be regarded as an approach to be followed like WIL.”

Features 56 to 58.4 portrayed in Table 7.12, were all either rated as ‘essential’ or ‘useful’ by at least 75% (6) of the participants. Consequently, all these features were retained in the final proposed framework.

Peer-assisted learning (feature 57.2) as part of a well-managed tutorial system that can aid/supplement educationally informed teaching-learning activities, was rated as ‘not necessary’ by one (1) participant. One (1) participant also rated workplace learning as a WIL approach (feature 58.4) as ‘not necessary’.

The comment made by VP P2 places emphasis on the value of service learning in the achievement/development of graduate attributes. The Faculty of Economic and Management Sciences has used project-based service learning in certain modules for a number of years. As stated in feature 58, suitable approaches (in terms of suitability, purpose and practicability) to WIL across programmes need to be determined (4.2.5; 4.6; Appendix A). The features pertaining to WIL were retained as is in the final proposed framework. Feature 59 was added in response to the comment made by VP P3 in Table 7.13 below (see the related discussion under 7.4.5).

7.4.5 Assessment practices

In this section the basis/motivation for the inclusion of the features regarding assessment practices in the proposed framework is discussed followed by the evaluation, discussion of the findings, as well as the appropriate adaptations pertaining to the respective features.

7.4.5.1 Basis for the inclusion of the component

The section below pertains to considerations in terms of assessment practices related to graduate attribute development.

a) The position, value and importance of assessment in curricula

Assessment forms part of the core interdependent components of curriculum design and development. As mentioned earlier, the constructive alignment between outcomes, teaching-learning and assessment practices and tasks are vital to promote deep and transformational learning. Assessment results are also used to make selection and promotion decisions about students and graduates, and therefore, sound assessment practices are of great importance in educational practice. It is important to note that assessment practices are influenced by all the aspects and processes discussed in 7.4.1 to 7.4.4, and *vice versa* (see 2.3.1; 2.5.2; 3.2.1; 3.2.3; 3.2.6; 3.3.1.2; 3.3.2; 3.3.4; 3.4.2; 3.5.3.1; 4.2.4 and 4.3).

b) Making the assessment of graduate attributes explicit in assessment criteria

Making graduate attributes and achievement levels explicit in assessment criteria communicates the importance of graduate attribute development and aids the consistent development of these attributes at appropriate cognitive levels throughout programmes (see 7.4.4.1 [b]). Student learning often is assessment driven and students often tend to think about assessment first. A positive backwash effect can be promoted through the constructive alignment of learning outcomes, teaching-learning activities and assessment tasks, which will ensure that students will be learning all the intended learning outcomes. Students thus are discouraged to focus on the surface features of learning alone (see 4.2.4; 4.3; 4.4.3.3; 6.4.4; 6.4.6).

c) Opportunities for application, feedback, reflection and growth

Students should be offered opportunities to become self-assessors of their own learning since this promotes reflection and meta-cognitive thinking. Self- and peer assessment will decrease the assessment load of teachers, empower students to take responsibility of their own learning and encourage lifelong learning practices that are considered to be important with reference to the future careers of the graduates (see 4.5.2; 4.5.3.5; 6.4.6; 6.4.7).

For the assessment of graduate attributes to be effective, students should be aware of the purpose of assessment tasks and activities. The latter relates closely to providing students with constructive and timely feedback with regard to previous and upcoming formative and summative assessment tasks (see 4.4.3.1; 4.4.3.2; 4.5.3.2).

d) Capstone assessment

Capstone or integrated assessment opportunities should be considered to assess the ability of students to apply what they have learnt (across different modules) in authentic assessment tasks [see 3.3.2.2 (e); 3.5.3; 4.5.3.6 (g); 6.4.6; 6.4.7].

e) Technology as an aid

The effective use of technology-enabled tools can aid the assessment of certain graduate attributes, allow for the use of a wider variety of assessment tasks, and include, amongst others, objective assessment tools and databanks; self- and peer assessment tools; reflective journals, synchronous and asynchronous collaboration and discussion tools; online and inline marking, as well as plagiarism detection tools (see 3.3.5; 4.5.4 and 6.4.6).

f) Policy implications

Explicit standards and guidelines for the assessment of graduate attributes should be established to offer support to those tasked with the teaching-learning and assessment of graduate attributes. Such guiding documentation should offer, amongst others, the purpose and value of the effective assessment of graduate attributes; principles for good assessment practice, and suggestions for assessment

activities/tasks that can be applied contextually in different disciplines (see Table 2.3; 3.5.4; 4.5.2.1; 4.5.2.3; 4.5.3; 6.4.6; 6.4.10.2; Appendix A).

The principles for good assessment practice are closely connected to the principles for enhancing teaching-learning practices (see 4.4.3 and 4.5.3).

g) Training and support

Various challenges are experienced in terms of the assessment of graduate attributes, which comprise, amongst others, the lack of generally accepted standards for the assessment of knowledge and skills; conflicting perspectives with regard to the assessment of graduate attributes; superficial and inconsistent approaches, as well as the passive assessment roles of students. All staff members (i.e. teachers, tutors, markers and support staff) involved in the assessment of graduate attributes should be adequately trained and supported at departmental, faculty, and institutional level to construct and use appropriate assessment practices (see 3.4.3; 3.5.4; 4.5; 6.4.10.1).

7.4.5.2 Evaluation, discussion of findings and appropriate adaptations

The findings pertaining to assessment practices that may promote and facilitate graduate attribute development will be discussed in the light of participant ratings and comments concerning the respective features in this category. These findings are summarised in Table 7.13.

Table 7.13: Assessment practices that enable GA development (n=8)

Assessment practices that enable GA development should be characterised as follows:				
		E	**U**	**N**
59.	Offer students opportunities to 'become self-assessors' of their own lifelong learning process.	**4**	**4**	**0**
60	Offer students opportunities that will aid the development of meta-cognitive skills.	**5**	**3**	**0**
61.	Communicate the purpose of assessment tasks clearly.	**7**	**1**	**0**
62.	Make use of both formative and summative assessment.	**8**	**0**	**0**
63.	Use well-designed rubrics that aid the clear communication of expectations.	**6**	**2**	**0**
64.	Consider capstone (i.e. integrated) assessment tasks that measure the development of a range of GAs and discipline-specific knowledge concurrently.	**5**	**2**	**1**
65.	Capstone assessment should be implemented especially during the final year of an undergraduate degree programme.	**4**	**3**	**1**
66.	Consider using technology-enabled tools for formative, summative, objective and subjective assessment.	**4**	**4**	**0**
67.	Establish explicit standards and guidelines for the assessment of GAs in institutional policies and procedures.	**6**	**2**	**0**
68.	Establish explicit standards and guidelines for the assessment of GAs in faculty policies and procedures.	**6**	**2**	**0**
69.	These standards and guidelines for the assessment of GAs should help to ensure that espoused outcomes are effectively taught and assessed.	**6**	**2**	**0**
70	All staff members (*teachers and support staff*) *need to be sufficiently trained and/or supported in the processes of*:	**8**	**0**	**0**
70.1	• Constructing learning outcomes that assist in GA development	**8**	**0**	**0**
70.2	• Making decisions pertaining to teaching-learning activities that enhance GA development.	**7**	**1**	**0**
70.3	• Constructing appropriate assessment tasks, criteria and standards that also cover the development of GAs.	**8**	**0**	**0**
70.4	• Using technology-enabled tools for assessing GA development.	**4**	**4**	**0**
71.	Assessment tasks should ideally generate evidence of GA development.	**8**	**0**	**0**

Verbatim comments from participants:

VP P3: "Rubrics could be limiting in assessing human behaviour. It may be useful to explore other more creative options for students to present evidence of their learning. Assessment via technology could be limited by the person's technological ability. It is also difficult to assess interpersonal skills via technology."

With regard to assessment practices that enable GA development, all the features pertaining to the section (features 59-71) were either rated “essential or “useful by at least 75% (6) of the participants.

Feature 62, that is, making use of formative and summative assessment, was rated as ‘essential’ by all the participants [100% (8)]. In addition, features 70 to 70.3, which are related to sufficient training and support for staff members, received strong support from the participants - features 70, 70.1 and 70.3 rated by 100% (8) as ‘essential’, and 70.2 was rated ‘essential’ by 87.5% (7).

All the participants (100% [8]) rated the notion that assessment tasks should ideally generate evidence of graduate attribute development (feature 71) as ‘essential’.

Features 64 and 65 that are related to capstone assessment were each rated as ‘not necessary’ by one (1) participant.

The comment made by VP P3 above highlights the importance of selecting appropriate assessment tools for graduate attribute application and development. Rubrics can offer structure to university students and teachers. They communicate the expectations of the teacher, but should not restrict other innovative practices in the assessment (see 4.3.2; 4.4.3.1 [f]; 4.5.3.5). Technology can aid assessment practices, provided that students are adequately trained and supported in the use of technology-enabled tools and platforms (e.g. making electronic journal entries on a learning management system such as Blackboard) (see 4.5.4).

With the above mentioned in mind, the researcher decided to revise feature 63 to emphasise the use of rubrics *where appropriate*. The feature can be viewed as feature 66 in final proposed framework (see Table 8.6). The researcher also added two additional features under the categories of teaching-learning and assessment practices that place, emphasis on preparing, training and supporting students to effectively use technology enabled tools for the completion of teaching-learning and assessment tasks and activities in the final proposed framework (see features 59 and 70 in Table 8.5 and Table 8.6).

7.4.6 Evidence of graduate attribute development

In this section the basis/motivation for the inclusion of the features related to evidence of graduate attribute development in the proposed framework is discussed followed by the evaluation, and discussion of the findings, as well as the appropriate adaptations pertaining to the respective features.

7.4.6.1 Basis for the inclusion of the component

Teaching-learning and assessment tasks should ideally generate evidence of graduate attribute development to be viewed by interested parties. Evidence of graduate attribute development can provide important information of the degree of the mastery of the graduate attributes and the degree of transfer of these to different contexts. This evidence will be useful in making judgements with regard to the preparedness and suitability of the graduate for the world of work, and more specifically, for a particular job or position (see 4.5.5; 4.7; 6.4.7; 6.4.9).

With the aforementioned in mind, students should be taught and empowered to take ownership of their learning and the management of evidence of their graduate attribute development. Graduate attributes may also be developed through engagement in co-/extra-curricular activities and students should be empowered to identify such development and the applicable/appropriate evidence of graduate attribute development generated (see 3.4.3.1; 4.4.1.5; 4.5.2.6; 4.5.5; 6.4.9).

Students also should be made aware of other internal support structures such as career service departments or similar functions that can offer additional support in the form of life and academic skills workshops, as well as with regard to the management and presentation of evidence of graduate attribute development to the world of work. Students further should be made cognisant of the expectations and practices of employers in terms of recruitment and selection procedures. In addition to curricula vitae and certificates, employers prefer to be presented with additional evidence of the achievements and abilities of graduates, such as reports generated from WIL experiences (see 3.4.3.1; 4.4.1.5; 4.5.7; 6.4.9).

Systems and tools for the management of evidence of graduate attribute development should be explored and critically appraised by institutions and faculties. Students should be trained and supported to use these systems and tools during and

after their undergraduate years of study (e.g. personal development planning and e-portfolio systems). These tools and systems (i.e. the process in itself) aid the development of a range of skills, for example, critical reflection (see 4.5.5; 6.4.9).

Suitable generic assessment tools for the measurement of graduateness and employability may provide additional evidence of individual strengths and areas for improvement related to graduate attributes. It is, however, important to carefully consider the contextual suitability and resource implications presented by these tools (see 4.5.6; 6.4.9).

Evidence of graduate attribute development can provide an indication to interested parties of the graduates' ability to transfer what was learnt to relevant contexts and tasks (see 2.2.1; Table 2.1; 4.2.7; 4.7).

7.4.6.2 Evaluation, discussion of findings, and appropriate adaptations

The findings of this section pertaining to the evidence of graduate attribute development will be discussed with reference to the participant ratings and comments concerning the respective features in this category (see Table 7.14).

Table 7.14: Evidence of graduate attribute development

THEME: EVIDENCE OF GRADUATE ATTRIBUTE DEVELOPMENT				
		E	**U**	**N**
72.	Teach and motivate students to take ownership of the collection and management of GA development.	**6**	**2**	**0**
73.	Train students in the collection of appropriate evidence of GA development.	**5**	**3**	**0**
74.	Train students to manage the evidence of their GA development.	**5**	**3**	**0**
75.	Promote the collection of evidence of GA development in both curricular and extra-curricular activities.	**6**	**1**	**1**
76.	Inform students of other available resources and support such as career service departments.	**7**	**1**	**0**
77.	Explore e-portfolio management systems as part of a wider institutional and curriculum review approach.	**3**	**4**	**1**
78.	Explore and design generic GA assessment tools and tests that will provide sufficient evidence of GA development.	**4**	**4**	**0**
79.	Critically appraise all GA assessment tools and tests before implementation.	**7**	**1**	**0**

Related verbatim comments from participants:

VP P2: “Sufficient credits should be attached to GAs to ensure that the collection and management of GAs are done effectively.”

VP P6: “If GAs are embedded in learning outcomes is the assessment always separate/in addition to outcome assessment?”

VP P7: “There is a general assumption that students are aware of resources available to them which is mostly incorrect. Students may only become aware of these resources at the end of their educational experience and only then realize the value of these resources in their career planning and development. [W]hen exposed to resources such as careers service they realize the value and is more likely to make use of them in the future. Thus by partnering with careers services academic staff can become and communicate the value of careers services to students.”

All the features (72-79) in the category pertaining to evidence of graduate attribute development (see Table 7.14), were either rated as ‘essential’ or ‘useful’ by at least 75% (6) of the participants.

The comment made by participant VP P2 stating that sufficient credits should be attached to graduate attributes to ensure that the collection and management of graduate attributes are done effectively, concurs with the expectations held of the wider curriculum review process as elaborated on in 7.4.3 (feature 22.2; Table 7.9).

Feature 76, which was rated as ‘essential’ by 87.5% (7) of the participants, relates to informing students of other available resources and support, such as career service departments. The comment made by participant VP P7 illustrates the potential value of making students aware of such services throughout the course of their studies. Such departments, for example, may inform students about the organisation and the presentation of evidence of their graduate attributes, as preferred by employers. The critical appraisal of all generic graduate attribute assessment tools and tests (feature 79) also was rated as ‘essential’ by 87.5% (7) of the participants.

The comment made by VP P6 indicates the vital link that is required between learning outcomes and assessment. Because the application of graduate attributes to discipline-specific outcomes is encouraged, the assessment of graduate attributes

does not have to be done independently and separately from the assessment of discipline-specific outcomes, but should be assessed in reality (i.e., the student should be able to indicate the level of performance and areas of improvement related to the graduate attribute). Evidence of graduate attribute development thus also may be generated from discipline-specific assessment tasks and activities (also see feature 64 in Table 7.13).

Feature 75 which has a bearing on the collection of evidence in both curricular and extra-curricular activities, was rated as 'not necessary' by one participant. Nevertheless, 75% of the participants rated this feature as 'essential'. It therefore was retained as feature 79 in the final proposed framework (see Table 8.7).

More participants rated the exploration of e-portfolio management systems as part of a wider institutional and curriculum review approach (feature 77) as 'useful' (50% [4)]), rather than 'essential' (37.5% [3]). Only one participant (i.e. 12.5%) rated the feature as 'not necessary'. The varied ratings may be attributed to the fact that the use of e-portfolios and e-portfolios *per se* have not been widely adopted in the faculty and institution, and may be fairly unfamiliar to participants.

Based on the participant ratings, all the features in this section were retained in the final proposed framework.

7.6 CONCLUSION

This chapter was devoted to a report on the composition of a proposed framework that may assist in accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State. The findings of the participant views in the first round of data collection and of the literature review done for the study were utilised together to compile the framework. This proposed framework was evaluated by a validation panel.

The compilation of the framework and the rationale for the inclusion of the features were explained on the basis of references made to the participant views and findings of the literature review.

Views and suggestions shared by validation participants (i.e., during the second round of data collection) yielded valuable information in terms of the possible value of the features included in the proposed framework and also made the researcher deductively and inductively aware of the important considerations and aspects that have either been omitted or could be articulated more clearly in the final proposed framework.

The final framework with the necessary adaptions made is presented in Chapter 8 together with the conclusions, and further implications and limitations of the research. Figure 7.5 on the next page provides an illustration of the interrelated themes discussed in this chapter and how they relate to one another.

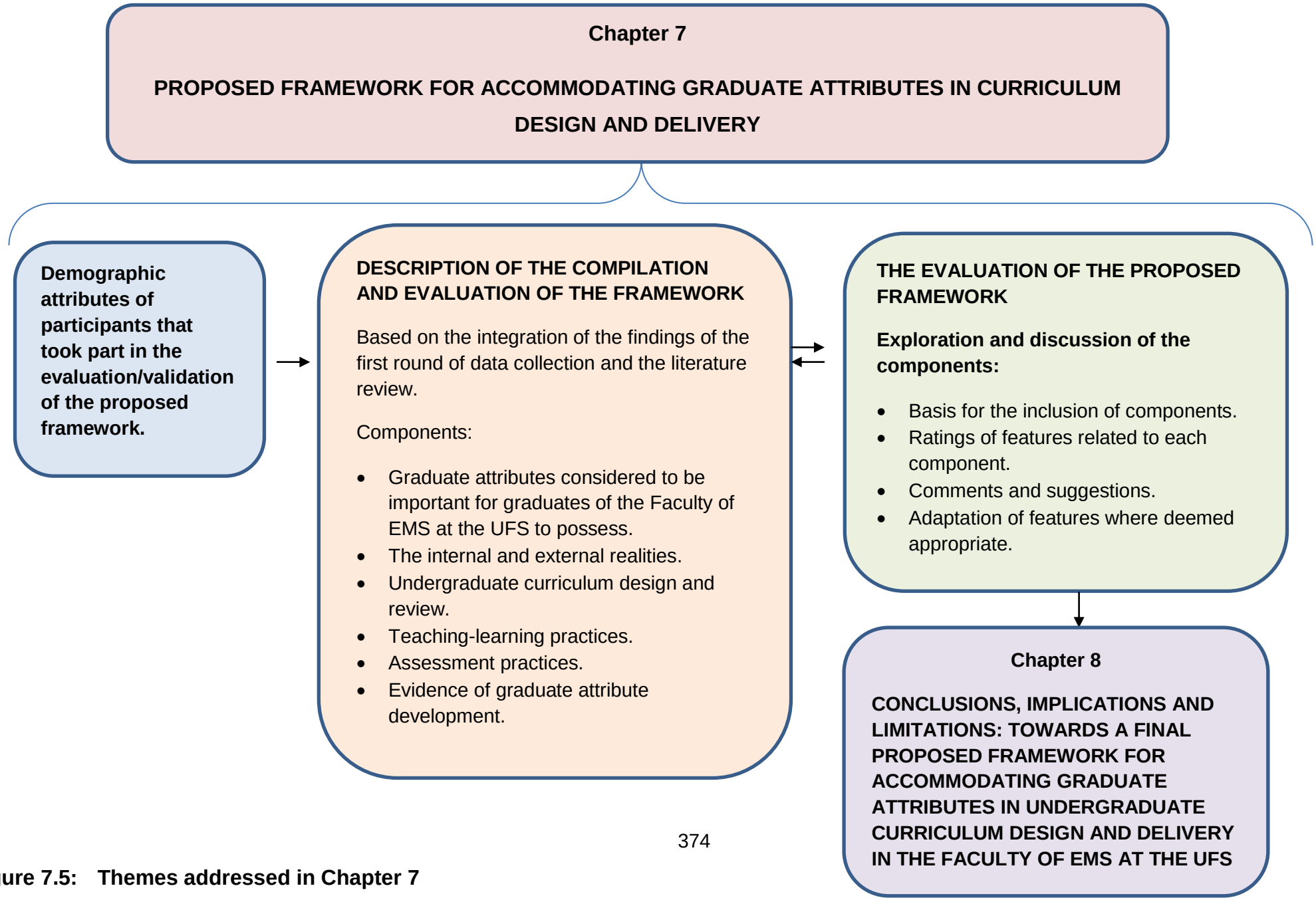


Figure 7.5: Themes addressed in Chapter 7

CHAPTER 8

TOWARDS A FRAMEWORK FOR ACCOMMODATING GRADUATE ATTRIBUTES IN UNDERGRADUATE CURRICULUM DESIGN AND DELIVERY: CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

8.1 INTRODUCTION

The aim of this study was to identify graduate attributes that would appropriately prepare Economic and Management Sciences students for the world of work, and, subsequently, to design a framework that would ultimately assist in accommodating the identified attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State.

This chapter commences with an overview of the study by providing a synopsis of the main findings related to the research questions. The overview of the study is followed by the final proposed framework. The chapter is concluded by indicating the significance of the study, as well as some of the limitations, and suggestions for further research.

The aspects addressed for the conclusion of this study are illustrated in Figure 8.1.

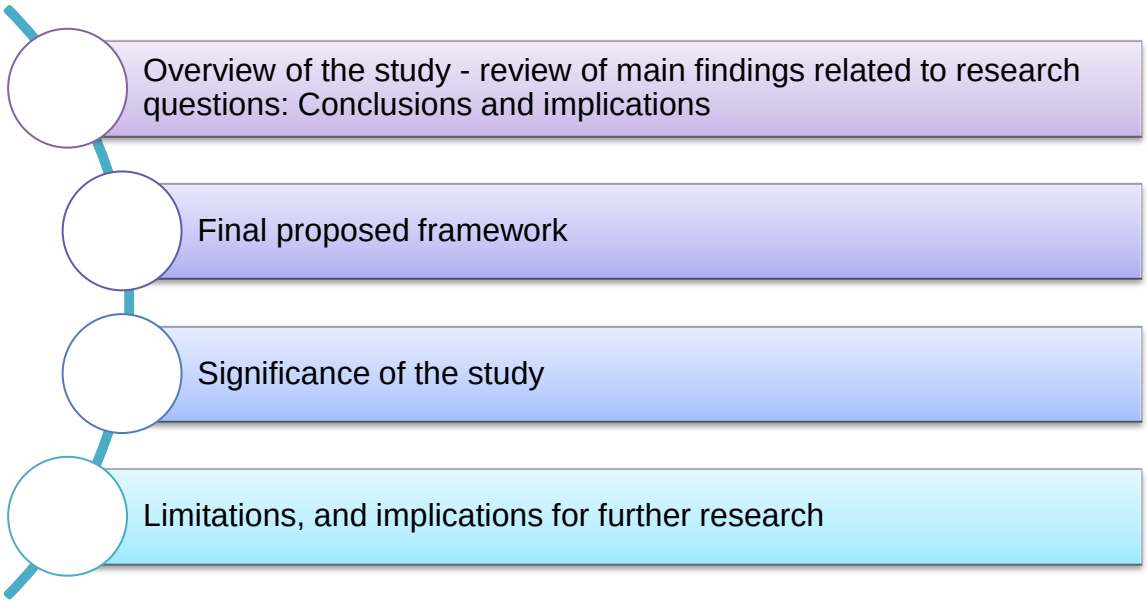


Figure 8.1: Aspects addressed in Chapter 8

8.2. CONCLUSIONS

Chapter 1 provided an outline of the study as well as the various research questions that guided the study (see 1.3). The primary and secondary research questions guided the study and provided important information that shaped the final outcome of the study. In section 8.2, the research questions are reviewed along with the main findings (i.e. conclusions) related to each question in order to make final conclusions. In section 8.3 the implications of the research findings are explicated.

8.2.1 *What are the contemporary perspectives pertaining to graduate attributes required for preparing Economic and Management Sciences students for the world of work?*

The aim of the first secondary research question was twofold:

- Firstly, to obtain conceptual clarity with regard to the wide array of terminology and concepts related to the topic of graduate attributes and to arrive at a definition of graduate attributes that could guide the study.
- Secondly, to contextualise the study by means of exploring national and international perspectives with regard to the position and value of graduate attribute development in preparing students for the world of work.

Chapter 2 (Contemporary perspectives pertaining to graduate attributes required for the world of work) provided a concept analysis of the definitions and descriptions used to describe the attributes required for graduates to possess in the world of work. From the analysis, the researcher arrived at a definition and understanding of graduate attributes suitable for the purpose of the research (see 2.2.1). It was found that interpretation, understanding and perceived value attached to graduate attributes might bring about considerable implications for curriculum design and subsequent teaching-learning and assessment practices (see 2.2.2). An exploration of foci and research trends related to graduate attributes informed important research considerations for the study (see 2.3).

Global and national labour market trends and challenges such as economic pressure, the knowledge economy, unemployment rates and the changes in labour market requirements were explored and found to have a significant impact on the expectations of higher education (see 2.4.1 and 2.4.2). Changes in the international

and national higher education arena also impact on higher education, such as rapid expansion and access of a diverse student population (see 2.4.3). It became clear that there are concerns about the gap between the skills and capabilities of graduates, and the requirements and demands of the world of work (see 2.4.5).

Stakeholders such as employers, professional societies, government, higher education funding bodies, graduates and undergraduate students have growing expectations that universities should address, including the development of graduate attributes that will enhance the employability, social responsibility and lifelong learning of students (see 2.2.2; 2.3.1; 2.4.1; 2.4.2; 2.4.5). There is indeed an international and national movement toward acknowledging the importance of equipping graduates with more than discipline-specific knowledge and skills. The aforementioned was also confirmed by exploring regulatory documents from government, professional associations (related to programmes offered by the Faculty of EMS at the UFS) and the institution (see 2.5).

In summary, given the perspectives explored in Chapter 2, the researcher concluded that the holistic development of the student is paramount and further investigation was needed pertaining to how graduate attributes could be accommodated in undergraduate curriculum design and delivery.

8.2.2 *How can curriculum design/mapping models assist in addressing and embedding the graduate attributes that have been identified into EMS curricula?*

Chapter 3 aimed to provide an answer to secondary research question 2. The extensive chapter commenced by providing clarification surrounding the terminology associated with curriculum and curriculum design (3.2). Because the researcher wanted to determine how graduate attributes could be accommodated in undergraduate curricula at the Faculty of Economic and Management Sciences at the University of the Free State from a curriculum design and delivery perspective, it was essential to understand both the theoretical foundations as well as influential perspectives from curriculum theorists regarding curriculum (see 3.3). A distinction was made between traditionalist and ‘progressivist,’ as well as product and process orientations (see 3.3.1.1). Five main theoretical perspectives were discussed, namely the traditional, experientialist, structure of disciplines, behaviourist and

constructivist (see 3.3.2.). The views of curriculum theorists that were instrumental to curriculum design models discussed in Chapter 3 included the views of Bobbit, Tyler, Taba, Dewey, Stenhouse and Freire. It was found that the perspectives that were explored all showed educational strengths and value, as well as weaknesses. These views also manifested in the curriculum design models that were subsequently explored (see 3.3.4). What also became evident, was that perspectives regarding the curriculum might have a substantial impact on the position and value ascribed to graduate attribute development in undergraduate curricula.

An overview of curriculum design models that explains the processes involved in curriculum design practices, included the work of Diamond, Stefani, Carl, and Biggs' model of constructive alignment (see 3.3.4). The important role of technology in curriculum design was also explored. From the curriculum design processes, the researcher identified interrelated, systematic and cyclical themes that were presented in Figure 3.8. These themes included the following: The consideration of the internal and external environment and stakeholders; a needs analysis at institutional programme and module level; decisions that have to be taken with regard to graduate attribute development; graduate attribute statements and outcomes at institutional, programme and module levels; the content, teaching-learning and assessment tasks and experiences required of graduates to achieve the relevant outcomes; the importance of constructive alignment among all the components of a curriculum, and the continuous monitoring, evaluation and adaptation (where appropriate) of curriculum, teaching-learning, assessment and review practices (see Figure 3.8).

Because the researcher came to realise that curriculum design is heavily influenced by contextual factors, curriculum challenges experienced in South Africa, as well as challenges related to the embedding of graduate attributes in curricula were elaborated on. The epistemological, intrinsic, pedagogical, cultural and structural challenges will have a significant impact on the effective embedding of graduate attributes in curricula and consequently influence curriculum delivery. These challenges specifically need to be understood contextually so that constructive curriculum review and mapping for embedding graduate attributes can take place (see 3.3.6 and 3.4.1).

The researcher then provided an overview of curriculum review and mapping processes that may help to ensure that graduate attributes receive appropriate focus in curricula and that the graduate attributes be aligned with the discipline and the subject-specific content. The researcher learnt that there are essential elements that form part of mapping processes, namely a holistic approach that promotes graduate attribute development at national, professional body, institutional, programme and module levels; a thorough stakeholder needs analysis; whole programme mapping; identification of gaps and areas in need of improvement in terms of outcomes, teaching-learning and assessment practices; the importance of vertical and horizontal alignment within programmes; appropriate adaptation of the curriculum and enactment as intended, while providing those involved in such processes with adequate resources and support (see 3.4.2). The process of mapping graduate attributes and embedding graduate attributes was summarised in Figure 3.9 as concepts and considerations for curriculum mapping and embedding of graduate attributes.

Finally, the researcher arrived at some directives for embedding graduate attributes in undergraduate Bachelor of Commerce curricula, namely the need to be responsive to the international and national environment; student profile and needs analyses; curriculum design, and the position of graduate attributes; staff member considerations, as well as monitoring and evaluation (see 3.4.2.4; 3.5).

8.2.3 *How can graduate attributes be taught and the evidence of the development and attainment of graduate attributes be collected and assessed?*

By addressing secondary research question two (see 8.2.2), the researcher gained insight into how designing/mapping models can assist in addressing and embedding graduate attributes in undergraduate curricula. It was further important for the researcher to gain insight into the enacted curriculum, in other words, the ‘how to’ related to the teaching-learning and assessment of graduate attributes. Chapter 4 therefore was devoted to providing a detailed view with regard to teaching-learning and assessment practices that may facilitate the development of graduate attributes and consequently aid in generating evidence of graduate attribute development that can be presented to potential employers and other interested parties.

Chapter 4 commenced with the clarification of important terminology such as the meaning of teaching-learning as a process and as practice, declarative and functioning knowledge, assessment, work-integrated learning, mastery and transfer (see 4.2). The alignment of graduate learning outcomes, teaching-learning, and assessment was then elaborated on and particular attention was paid to the interdependent relationship between learning outcomes, teaching-learning tasks and activities, as well as assessment tasks, criteria and standards. Attention was also paid to the use of Bloom's taxonomy of educational objectives and the SOLO taxonomy to construct learning outcomes and assessment criteria at the appropriate levels of understanding, and the importance of using suitable action verbs (see 3.3.4.4; 4.3).

The researcher came to the realisation that, to ensure that the intended graduate attribute outcomes in programmes are achieved, the challenges that influence the teaching and assessment of graduate attributes need to be identified and managed (see 4.4.1).

In response to the challenges pertaining to the teaching of graduate attributes, the researcher elaborated on the importance of a paradigm shift towards student-centred teaching-learning practices (see 4.4.2), and the perspectives on the enhancement of teaching-learning practice associated with good practice in higher education. The perspectives included those of Chickering and Gamson (see 4.4.3.1), Chickering and Ermann (see 4.4.3.1), Diamond (see 4.4.3.1), Universal Design for Learning (see 4.4.3.2), and the shift from teaching for surface learning to teaching for deep learning (see 4.4.3.3). Throughout the discussion of the principles for enhancing teaching-learning practices, reference was made to the significant role of technology-enabled tools as an aid to teaching-learning practices. The researcher consequently came to the understanding that the challenges and practices will have a direct impact on the teaching and development of graduate attributes and consequently arrived at preliminary suggestions for the teaching of graduate attributes (see 4.3 – contribution to the study).

Because of the intricate relationship between teaching-learning and assessment practices, as well as the impact of assessment on the future selection of graduates for other academic programmes and employment prospects, the next sections in

Chapter 4 focused on the value of good assessment practice (see 4.5.1), the challenges pertaining to the assessment of graduate attributes (see 4.5.2), a holistic model of assessment for learning and important qualities for assessment, such as fairness and inclusivity, validity and reliability (see 4.5.3). Reference was made to the significant role of technology-enabled tools as an aid to assessment practices (see 4.5.4). The challenges pertaining to the assessment of graduate attributes indicated, amongst others, a lack of generally accepted standards for the assessment of knowledge *and* skills, conflicting perspectives, persistence of assessment traditions and policy, and superficial approaches (see 4.5.2). The holistic model of assessment for learning revealed the importance of, amongst others, the following: authentic assessment; a balance between summative and formative assessment; opportunities for practice; formal and informal feedback, and self- and peer assessment. Other important qualities for assessment pertained to fairness, validity, and reliability, practicability, transparency and integrated assessment opportunities (see 4.5.3).

Because teaching-learning and assessment practice plays a fundamental role in the generation of evidence of graduate attribute development, the researcher deemed it necessary to consider the individual management and assessment of graduate attribute development. The discussion focused on methods such as personal development planning, as well as the emergence and the potential value and considerations related to the use e-portfolios and e-portfolio management systems (see 4.5.5.1; 4.5.5.2). Furthermore, generic assessment tools received attention and the discussion highlighted particular strengths and criticisms related to these tools (see 4.5.6). The discussion surrounding the evidence of graduate attribute development was concluded by a short discussion of how world of work 'assessment' and selection practices might inform higher education institutions in terms of the ways in which graduates should prepare and showcase their attributes and achievements (see 4.5.7).

The researcher subsequently came to the understanding that assessment challenges and practices will have a significant impact on the development of graduate attributes, as well as the generation of evidence pertaining to such development. She consequently arrived at preliminary suggestions for the assessment of graduate attributes (see 4.5 – contribution to the study).

For the purpose of gaining insight into the enacted curriculum, in other words, the 'how to' related to the teaching-learning and assessment of graduate attributes, the researcher went further in identifying examples of teaching-learning and assessment practices/activities related to graduate attribute development. These examples (discussed at the hand of WIL approaches) were also linked to the SAQA critical cross-field and developmental outcomes, as well as the graduate attributes recently proposed in the draft Teaching and Learning Strategy of the University of the Free State to illustrate their potential purpose and value. The examples are included in Appendix A (see 4.4.4; 4.6; Appendix A).

8.2.4 What are the educational considerations pertaining to the transferability of graduate attributes in HE?

In responding to secondary research question four, Chapter 4 concluded with a discussion regarding the mastery and transfer of graduate attributes. It was established that graduates need to be able to apply their discipline-specific knowledge and skills, as well as graduate attributes in different contexts when they exit the higher education institution, but that they often lack the ability to transfer what they have learnt to different work and life contexts (see 2.4.5).

The discussion commenced by elaborating on the complexity of transfer and that automatic transfer of what was learnt, should not merely be assumed, but procedures that promote transfer should form an integral part of the learning experience (see 4.7.1). The elements of mastery and transfer were explained (see 4.7.2), followed by suggested practices that may enhance transfer (4.7.3). These practices build on and correlate with some of the teaching-learning and assessment practices for the teaching and assessment of graduate attributes that were identified and discussed through responding to secondary research question three (see 8.2.5), and thus were not viewed in isolation.

8.2.5 *What are different stakeholders' perceptions pertaining to graduate attributes required to prepare undergraduate EMS students of the UFS for the world of work?*

In responding to all the research questions, Chapter 5 described the design and methodology employed in the empirical investigation. The discussion commenced by identifying the function and category of the research which includes course design, the student experience and teaching and learning (see 5.2). The research design was consequently discussed and the strategy for inquiry considered most suitable for this particular study was found to be a multi-method qualitative design with some quantitative enhancement (5.3.1). The discussion was followed by different types of qualitative research. The type of qualitative research underpinning this study was identified as case study research (see 5.3.1.2). Next the researcher paid attention to the various interpretative frameworks. The researcher indicated that she had approached the study from a constructivist stance where reality is not considered to be absolute, but socially constructed in such a way that the existence of multiple realities and perspectives, which are context and time dependent, is acknowledged (see 5.3.2).

The participants in the first and second rounds (validation) of data collection had been purposefully selected on the basis that they could inform the study based on their experience and understanding of the research problem. The researcher was also referred to other information-rich participants by those participants partaking in the study, which resulted in some cases of snowball sampling [see 5.3.3.1 (c)].

The researcher first made use of a questionnaire survey by using an electronic questionnaire as data collection instrument. The questionnaire mainly contained open-ended questions, which resembled semi structured interviews. The method allowed for the participants, who were either geographically dispersed or unavailable for face-to-face contact to take part in the study, to respond in their own time and space [see 5.3.3.1 (d)]. The structuring of the questionnaires was based on the literature review that was discussed in Chapters 2 to 4 (see Appendix C). The questionnaires aimed to obtain perspectives of graduates and teachers of the Faculty of EMS at the UFS, as well as HR practitioners, in order to gain multiple perspectives from different stakeholders. The data were analysed by means of

organising the data and masking the identity of participants, reading, memoing and coding, categorisation, and the identification of themes and patterns (see 5.3.3.2; Chapter 6).

In responding to secondary research question five (see 8.2.5), the outcomes of the data analysis of the first round of data collection were reported on in Chapter 6 and some of the findings are succinctly highlighted below.

In terms of graduate attribute descriptions and statements, it was found that the graduate attributes regarded as important should be agreed upon by all stakeholders and documented to serve the Faculty of EMS at the UFS contextually (6.4.1). Furthermore, although discipline-specific knowledge is adequately addressed in undergraduate curricula, a discrepancy exists between the perceptions of labour market requirements in terms of graduate attributes and the extent to which graduate attributes are regarded as adequately addressed in undergraduate curricula (6.4.2).

Although concerted efforts are made by some teachers to address graduate attribute development, inconsistency exists in the efforts made throughout the faculty (see 6.4.2). The findings revealed that clear definition and understanding of the purpose and processes pertaining to curriculum review and mapping of graduate attributes in curricula are required. The revision of current institutional and faculty policies is required to take a clear stance on graduate attribute development, as well as the related teaching-learning and assessment practices. There is a need for coherence, continuity and alignment of graduate attribute development in curricula (see 6.4.3; 6.4.9; 6.4.10.2). The inclusion of graduate attributes in learning outcomes and assessment criteria was confirmed, but it also came to the fore that more attention should be paid to the implicit nature of the development of some graduate attributes (see 6.4.4). It further will be important to consider the resource implications related to the embedding of, and teaching-learning and assessment of graduate attributes (6.4.10).

Majority agreement reigned among all the participant groups that stakeholders from industry should be involved in the identification, teaching and assessment of graduate attributes (6.4.8). Suggestions pertaining to teaching-learning and assessment practices that may optimise the mastery and transfer of graduate attributes mainly included teaching activities and assessment tasks (e.g. group

assignments); however, the principles that form the foundation of activities and tasks that enhance the teaching-leaning, assessment and transfer of knowledge and graduate attributes, also need attention. A need exists for students to practise and apply what they learn to different contexts. Little mention was made by the participants of the use of technology-enabled tools as an aid for the teaching-learning and assessment of graduate attributes; thus, this may require further exploration (see 6.4.5; 6.4.6; 6.4.7).

As a result of the general uncertainty regarding the type of evidence related to graduate attribute development and the lack of evidence indeed collected, students and teachers should be informed, trained and supported with regard to processes and practices for the generation and management of evidence of graduate attribute development in order to provide industry with the evidence required (see 6.4.9).

The findings of the first round of data collection together with the findings of the report on the literature review ultimately laid the foundation on which the proposed framework that was to be evaluated in the second round of data collection was built.

8.3 IMPLICATIONS

The sixth secondary research question, as well as the primary (i.e. overarching) research question may be answered by highlighting the implications of the research findings of the study.

8.3.1 What are the implications of the identified information for undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?

The researcher used the findings and interpretation of the first round of data collection as well as the literature review to construct and propose a preliminary framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Frees State (see Chapter 6; 8.2.5).

In the second round of data collection, a validation panel of information-rich participants was purposefully selected based on their areas of specialisation and contextual knowledge with regard to the interrelated aspects and co-dependent

themes that were identified and included in the proposed framework. The validation panel was asked to evaluate the feasibility of the proposed framework by means of completing an electronic questionnaire in which each feature of the framework had to be rated as either ‘essential’, ‘useful’ or ‘not necessary’. The questionnaire also made provision for the validation participants’ comments and suggestions (see 5.3.3.1 [c and d]; 7.2; 7.3; 7.4). The data from the validation panel then were interpreted and adaptions were made to the framework where appropriate (see 7.4).

The next section refers to the researcher’s response to the overarching research question in this study.

8.3.2 *Which graduate attributes are required to appropriately prepare EMS students for the world of work and how can these attributes be accommodated in undergraduate curriculum design and delivery in the Faculty of EMS at the UFS?*

Based on the findings of the literature review and empirical investigation done during the study and in response to the overarching research question posed, a final proposed framework is offered in section 8.4 of this chapter.

The final proposed framework identifies the graduate attributes required to appropriately prepare Economic and Management Sciences students for the world of work, and how these attributes may be accommodated in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State.

8.4 A FRAMEWORK FOR ACCOMMODATING GRADUATE ATTRIBUTES IN UNDERGRADUATE CURRICULUM DESIGN AND DELIVERY IN THE FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES AT THE UNIVERSITY OF THE FREE STATE

The components of the final proposed framework are presented below (8.4.1-8.4.7) along with the rationale for the inclusion of each component. Take note that the final proposed framework contains the revised/adapted features of the preliminary proposed framework in Chapter 7, thus the features will not be identical to those presented in Chapter 7.

8.4.1 Graduate attributes to be developed during undergraduate years of study

The graduate attributes identified as important for students graduating from the Faculty of Economic and Management Sciences of the University of the Free State to possess in the world of work (and that were evaluated as valid by the panel of experts), are depicted in Table 8.1 below (also see 6.3.1; 6.4.1; 7.4.1; 7.3.1; 8.2.5). The graduate attributes were constructed from the graduate attributes put forward by the Draft Teaching and Learning Strategy of the UFS (UFS CTL 2013) and the views shared by participants in both rounds of data collection (see 3.4.1; 4.6; 6.3.1; 6.4.1; 7.4.1; 8.2.1).

Table 8.1: Graduate attributes to be developed during undergraduate years of study

A: *Academic and professional competence* which includes the following abilities	
A1	A sound discipline-specific knowledge base and the ability to apply it in and transfer it to different contexts.
A2	Oral communication (e.g. making presentations).
A3	Written communication (e.g. report and essay writing).
A4	An understanding of and sensitivity toward non-verbal communication (e.g. interpreting body language).
A5	Conflict management.
A6	Problem solving (This also relates to effective knowledge workers and information literacy).
A7	Decision making.
A8	Professional conduct which includes :
A8.1	An understanding of ethics.
A8.2	The application of ethical principles.
A8.3	Acting with integrity.
A8.4	Ability to work effectively with diverse others.
A9	Creativity and innovation

B: *Effective knowledge workers* which include the following abilities :	
B1	To know when there is a need for information to address a particular problem.
B2	To collect appropriate information pertaining to the problem.
B3	To use information to address a particular problem.
B4	To organise information to address a particular problem
B5	To apply knowledge gained from different sources and experiences
B6	Information technology skills that contribute to effective knowledge work/information literacy. Information technology skills relate to the ability to use computers, software application, databases and other technology to perform academic, personal and work-related tasks.
C: *Being inquiry focused and critically inclined*, which include the ability *to create new knowledge and understanding* through:	
C1	Inquiry before accepting or formulating opinions or conclusions.
C2	Analysis before accepting or formulating opinions or conclusions.
C3	Critical thinking before accepting or formulating opinions or conclusions.
C4	Systems thinking before accepting or formulating opinions or conclusions.
C5	An *interest in* global and local issues impacting on organisations and society as a whole.
C6	An *understanding of* global and local issues impacting on organisations and society as a whole.
D: Self-management that leads to career self-management in the workplace	
***Self-management abilities* include aspects such as:**	
D1	The management of oneself or by oneself.
D2	Taking responsibility for one's own behaviour and well-being.
D3	Taking a favourable stance to lifelong learning.
D4	Working independently.
D5	Taking ownership and responsibility for tasks and career development.
D6	Working under pressure.
D7	Adapting to changing circumstances.
D8	Persisting in the face of adversity/ambiguity (resilience).

D9	Managing time effectively.
D10	Performance- and goal- directed behaviour (also related to lifelong learning).
D11	Having confidence in one's abilities to complete tasks and achieve success (i.e. self-efficacy beliefs).
D12	**Emotional literacy/intelligence (related to, amongst others, working effectively with diverse others, leadership ability, adaptability and reflective thinking) that includes the following:**
D12.1	The ability to understand one's own emotions (including identifying, understanding the origin of, and expressing one's own emotions appropriately).
D12.2	The ability to understand the emotions of others (including identifying the emotions of others).
D12.3	The ability to manage one's own emotions (including selectively engaging in or detaching from emotions where appropriate).
D12.4	The ability to manage the emotions of others (including selectively engaging with or detaching from the emotions of others where appropriate).
E: Leadership which includes the ability to:	
E1	Lead through *integrity* (i.e. with an awareness and understanding of *ethics*).
E2	Lead through an *awareness and understanding of community needs* (including service to others, promoting a sense of community, building community).
E3	Delegate tasks effectively (including showing trust in the ability of others).
E4	Working effectively with diverse others (including teamwork and respect for others, effective communication and conflict management, also related to emotional intelligence).

8.4.2 The enabling outcomes of higher education resulting from graduate attribute development

The complex interaction of graduate attribute development should ideally lead to the enabling outcomes of higher education which are described as *scholarship, active glocal citizenship* and *lifelong learning* respectively in Table 8.2. These enabling outcomes were constructed from the graduate attributes put forward by the Draft Teaching and Learning Strategy of the UFS (UFS CTL 2013), and the views shared by participants in both rounds of data collection. They were also validated by the validation panel (see 3.4.1; 4.6; 7.4.1; 8.2.1).

Table 8.2: The enabling outcomes of higher education resulting from graduate attribute development

F	***SCHOLARSHIP*: A CRITICAL ATTITUDE TOWARDS KNOWLEDGE AND UNDERSTANDING, WHICH INCLUDES:**
F1	A scholarly attitude towards knowledge and understanding.
F2	Generating knowledge through inquiry, critique and synthesis.
F3	Applying the generated knowledge to solve relevant problems.
F4	Communicating understanding in a professional, effective and confident manner.
G	***ACTIVE GLOCAL CITIZENSHIP*: A FAVOURABLE ATTITUDE OR STANCE TOWARDS COMPLEX GLOCAL (i.e. LOCAL AND GLOBAL) SYSTEMS WHICH INCLUDES:**
G1	Developing an understanding of complex, interdependent global systems.
G2	An aspiration to contribute to society in meaningful ways.
G3	*Contributing to society in meaningful ways,* which includes, inter alia, the following traits:
G3.1	• Accepting social responsibilities.
G3.2	• Advocating the sustainability of the environment.
G3.3	• Having a broad understanding and high regard for human rights, equity and ethics in local, national and global communities.

H	***LIFELONG LEARNING*: A FAVOURABLE ATTITUDE OR STANCE TOWARD ONESELF WHICH INCLUDES:**
H1	Being committed to and capable of continuous collaborative learning.
H2	Being committed to and capable of continuous individual learning.
H3	Critical reflection for the purpose of furthering one's own personal knowledge, skills, attitudes, values and competence.
H4	An understanding of the world and one's place in it.

Figure 8.2 below illustrates the complex interaction and interrelatedness of graduate attribute development. The perforated lines indicate the interrelatedness and the intended transfer of graduate attribute development to different contexts and ultimately the world of work.

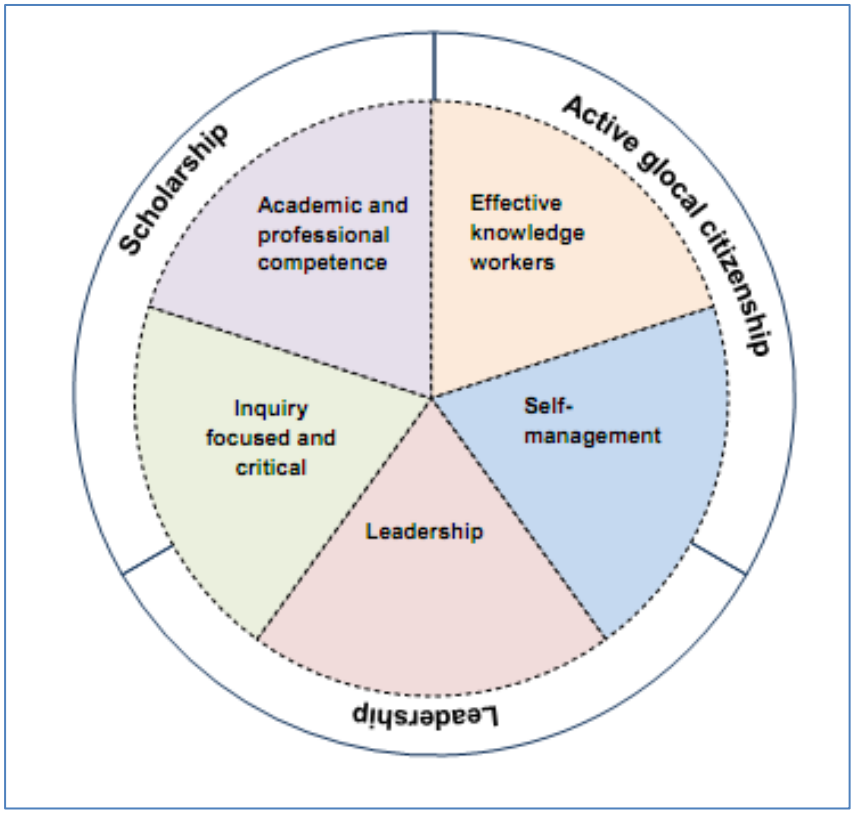


Figure 8.2: The complex interrelatedness of graduate attribute development

8.4.3 The internal and external contexts to be taken into account

The internal and external realities to be taken into account when undertaking the embedding and integration of graduate attributes in undergraduate curricula are shown in Table 8.3 and were validated by the validation panel. These realities were compiled based on the literature as reviewed for the purposes of the study, and the participant views as gathered during both rounds of data collection. The realities were included in the framework because they will have a significant impact on the extent to which graduate attribute development will be adopted and effectively implemented in undergraduate curricula (see 3.2.8; 3.4; 4.4.1; 4.5.2.4; 6.4.2; 6.4.10; 6.4.2; 7.4.2; 8.2.2).

Table 8.3: The internal and external realities to be taken into account

8.	GA statements (in policy documents, syllabus/faculty calendars) for the institution and the faculty should communicate the importance and commitment to development of the student as a whole.
9.	This explicit commitment of the institution and the faculty to GA development implies that teachers should be motivated/convinced to become involved in curriculum review, mapping and embedding processes.
10.	The explicit commitment of the institution and the faculty to GA development, should lead to increased empowerment and participation of those responsible for the successful implementation of GAs.
11.	The cultivation of many of the attributes required in the world of work should already be initiated during undergraduate years of study.
12.	Given the resource implications of the meaningful development of GAs in undergraduate curricula, human resource on a national and institutional level needs careful consideration.
13.	Given the resource implications of the meaningful development of GAs in undergraduate curricula, financial forecasting on a national and institutional level needs careful consideration.
14.	The encouragement of the holistic development of students by making realistic and novel efforts within the boundaries of current environments and available resources.
15.	Realistic expectations in terms of timeframes for such gradual implementation are essential.

8.4.4 Undergraduate curriculum design and review processes

The important elements and considerations pertaining to curriculum review and mapping processes are depicted in Table 8.4. This information was validated by the validation panel. These findings were included in the framework as a tool to ensure that students are made aware explicitly of their graduate attribute development expectations and outcomes. Furthermore, curriculum design processes, review and mapping may aid asset-based approaches to determining in which way and to what extent graduate attributes already (i.e. currently) are addressed effectively. The features included have been derived from the findings of literature review and participant views as collected during both rounds of data collection (see Table 2.3; 2.5.2; 3.2.6; 3.3.4.; 3.4; 3.5; Figure 3.8 and Figure 3.9; 6.3.3; 6.4.3; 7.4.3; 8.2.2).

Table 8.4: The undergraduate curriculum design and review process

9	Undergraduate curricula need to explicitly identify and address the GAs required by the world of work.
10	It is important to collaborate with and involve industry representatives in the identification, integration, teaching-learning, and assessment of GAs.
11	It is necessary to learn from and build on meaningful efforts already made by teachers (i.e. to take an asset-based approach).
12	The Faculty of EMS should consider a curriculum review or mapping process that will support efforts to determine effective practice in terms of GA development.
13	The Faculty of EMS should consider a curriculum review or mapping process that can aid the process of determining possible gaps in terms of GA development.
14	The conceptual clarification of GAs, and the importance and value thereof, should take place before curriculum review/mapping processes are undertaken.
15	The conceptual clarification of GAs will influence future practices to a great extent.
16	The mapping process should result in horizontal alignment between the outcomes and practices within and among the modules in an academic programme.
17	The mapping process should result in vertical alignment between the outcomes and practices within and among the modules in an academic programme.
18	Relevant HEQF and NQF level requirements should be considered.
19	Using curriculum mapping software should be considered to simplify the mapping process.
20	A trail of data should be available for future review processes.

The mapping process:	
21	Start with *a needs analysis* of the following:
21.1	• Explore the needs of teachers.
21.2	• Explore the needs of industry.
21.3	• Explore the needs of governing bodies.
21.4	• Explore the needs of professional bodies.
21.5	• Explore the unique GA needs within disciplines.
21.6	• Explore the needs of students (e.g. feedback, profile, performance data, etc.)
21.7	• Obtain feedback from previous graduates.
22	*Second*, individual teachers should *determine the existing GA outcomes and teaching-learning and assessment practices* within their own modules.
23	*Third*, the *process is repeated* during departmental workshops.
24	*Fourth*, *collective workshops involving different departments* are conducted and include the following activities:
22.1	• Take a whole-programme approach.
22.2	• Determine alignment, gaps, overlap or overload within programmes (consider notional leaning hours and credits).
22.3	• Consider the feasibility of foundational skills development modules through which proficient students can test-out and accelerate to other relevant modules.
22.4	• Consider the use and feasibility of capstone experiences or even capstone modules in the programme.
22.5	• Consider the use and feasibility of capstone assessment tasks in particular modules or at the end of the programme.
22.6	• Identify suitable extra-/co-curricular activities that may contribute to and enhance the graduate attribute development of students within the respective programmes offered in the faculty.
22.7	• Consider how students can be informed, encouraged and empowered to participate in the identified extra-/co-curricular activities.
25	*Fifth*, *make the necessary adaptations* by identifying appropriate:
23.1	• Modules for GA development.
23.2	• Outcomes for GA development.
23.3	• Teaching-learning activities for GA development.
23.4	• Assessment tasks for GA development.
26	*Finally*, *implement changes and continually revise* the curriculum.
27	Encourage reflective practice to encourage a living and non-static curriculum that is enacted and not only espoused.
28	Make time for curriculum review and mapping since these are extremely time-intensive activities and require careful planning.

8.4.5 Teaching-learning practices that promote GA development

The teaching-learning practices that may promote and support graduate attribute development, mastery and transfer are shown in Table 8.5 and were validated by the validation panel. The rationale behind the inclusion of these teaching-learning practices stems from the reasoning that there should be alignment between the espoused and enacted curriculum. It is thus important and useful to consider 'how to' practices that will aid the achievement of graduate attribute outcomes in programmes and modules. The identified features were derived from both the literature review and participant views from both rounds of data collection (see 3.2.8; 3.3.4.4; 3.4.2.4 [c]; 3.5.3.1; 4.2; 4.3; 4.4; 4.6; 4.7; 6.4.4; 6.4.5; 7.4.4; 8.2.3; 8.2.4; Appendix A).

Table 8.5: Teaching-learning practices to promote graduate attribute development

29.	Obtain the buy-in of teachers and build relationships with them to encourage the use of effective educational practices required for preparing students for the local and global labour market.
30.	The traditional role of the teacher should be re-evaluated to encourage student-centred practices as opposed to teacher-centred practices.
31.	Properly reward (e.g. promotion, recognition, performance/merit bonuses) good teaching-learning and assessment practice in order to motivate teachers to actively embed GA development in their modules.
32.	Research output and good teaching-learning and assessment practices should be regarded as equally important.
33.	Ensure *constructive alignment* between:
33.1	• Short-term and long-term learning outcomes.
33.2	• Learning outcomes and teaching-learning activities.
33.3	• Learning outcomes and assessment criteria and tasks.
34.	Utilise the positive backwash effect of assessment by aligning learning outcomes, teaching-learning activities and assessment tasks, which means that students will be learning all the intended learning outcomes. The aim is for students to attend to all the intended learning outcomes and apply a deep approach to learning.
35.	Construct learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.
36.	Use Bloom's taxonomy of cognitive objectives/learning outcomes to formulate learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.
37.	Use the SOLO taxonomy of cognitive tasks to construct learning outcomes and assessment criteria at appropriate cognitive levels of expected

	performance.
38.	Reinforce and encourage GA development expectations and outcomes throughout different modules and programmes.
39	Use *student-centred, meaningful learning experiences* that require that:
39.1	• Students actively participate in the learning process;
39.2	• Students are empowered to take responsibility for their own learning; and
39.3	• Students get an opportunity to learn how to civilly engage with diverse others.
40.	Integrate new information meaningfully with existing knowledge.
41.	Integrate GAs with discipline-specific knowledge and do not view or teach such knowledge in isolation.
42.	Make conditions of applicability explicit by coupling abstract principles with appropriate examples.
43.	Let the students compare different examples and cases to identify the significant, deep features of problems.
44.	Provide opportunities for the sound application of skills, knowledge, attitudes and values in diverse contexts (e.g. application in different modules).
45.	Provide prompts to relevant knowledge to indicate to students how that which they already know, is applicable to the particular content, case or problem.
46.	Ask students to identify larger principles (underlying structures) and not only focus on the details of a particular problem or case.
47.	Cultivate holistic perspectives in students.
48.	Expect of students to identify relevant knowledge, skills, attitudes and values needed in specific contexts.
49.	Expect of students to identify relevant contexts where specific knowledge and skills are needed.
50.	Create opportunities for students to learn with their peers.
51.	Encourage feedback and discussion among students.
52.	Prepare students for interaction in communities of practice in the world of work (i.e. the social construction of knowledge).
53.	Use tasks and activities that allow for multiple means of representation, expression and engagement.
54.	Provide students with additional scaffolding where applicable.
55.	Offer opportunities to students for acceleration (i.e. to move forward to other modules or learning experiences when they prove to be proficient in a particular skill or content).
56.	Allow for reflection on experiences in teaching-learning activities and assessment tasks.
57.	Allow students to make changes based on reflective experiences.
58.	Consider the use of *technology-enabled tools in teaching-learning activities* that involve the following:
58.1	• Information acquisition and management
58.2	• Workplace simulations
58.3	• Problem solving

58.4	• Communication
58.5	• Collaboration
59.	If technology-enabled tools are employed in teaching-learning practices, students should be prepared, trained and supported to effectively use the relevant technology-enabled tools for the completion of teaching-learning tasks and activities.
60.	Use *well-managed tutorial systems* that can aid/supplement educationally informed teaching-learning activities through the following:
60.1	• Small-group activities
60.2	• Peer-assisted learning
60.3	• Active learning/engagement
61.	Consider *Work Integrated Learning (i.e. WIL) approaches* that are suitable for use in commerce programmes, such as:
61.1	• Work-directed theoretical learning (e.g. industry-led workshops, case studies, exchange programmes).
61.2	• Problem-based learning (e.g. students work on problems in small self-directed groups).
61.3	• Project-based learning (e.g. management plans, business reports, market research, management activities, industry competitions, service learning).
61.4	• Workplace learning (e.g. job shadowing, internships).

8.4.6 Assessment practices that enable GA development

The assessment practices that may promote and support graduate attribute development, mastery and transfer, as validated by the validation panel are shown in Table 8.6. The rationale for the inclusion of the features related to assessment practices stems from the interrelatedness and co-dependency of teaching-learning and assessment practices (taking cognisance of assessment being an essential component of the curriculum). Furthermore, both teaching-learning activities and assessment tasks can generate evidence of graduate attribute development that can be managed by students and presented to the world of work and other interested parties. Assessment practices and/or tasks thus may produce valuable information in terms of the extent to which graduate attribute outcomes and expectations have been attained. Students' learning often is assessment driven, which emphasises the need to consider effective assessment practices related to graduate attribute development (see 2.3.1; 2.5.2; 3.2.1; 3.2.3; 3.3.1.2; 3.3.2; 3.3.4; 3.4.2; 3.5.3.1; 4.2.4; 4.3; 4.5.2; 4.5.3; 6.4.4; 6.4.6; 7.4.5; 8.2.3; 8.2.4; Appendix A).

Table 8.6: Assessment practices that enhance graduate attribute development

62.	Offer students opportunities to 'become self-assessors' of their own lifelong learning process.
63.	Offer students opportunities that will aid the development of meta-cognitive skills.
64.	Communicate the purpose of assessment tasks clearly.
65.	Make use of both formative and summative assessments.
66.	Use well-designed rubrics when appropriate to aid the clear communication of expectations.
67.	Consider capstone (i.e. integrated) assessment tasks that measure the development of a range of GAs and discipline-specific knowledge concurrently.
68.	Capstone assessment should be implemented, especially during the final year of an undergraduate programme.
69.	Consider using technology-enabled tools for formative, summative, objective and subjective assessments.
70.	If technology-enabled tools are employed in assessment practices, students should be prepared, trained and supported to effectively use the relevant technology-enabled tools for the completion of assessment tasks and activities.
71.	Establish explicit standards and guidelines for the assessment of GAs in institutional policies and procedures.
72.	Establish explicit standards and guidelines for the assessment of GAs in faculty policies and procedures.
73.	These standards and guidelines for the assessment of GAs should help to ensure that espoused outcomes are effectively taught and assessed.
74.	All staff members (*teachers and support staff*) *need to be sufficiently trained and/or supported in the processes of*:
74.1	• Constructing learning outcomes that assist in GA development.
74.2	• Making decisions pertaining to teaching-learning activities that enhance GA development.
74.3	• Constructing appropriate assessment tasks, criteria and standards that also cover the development of GAs.
74.4	• Using technology-enabled tools for assessing GA development.
75.	Assessment tasks should ideally generate evidence of GA development.

8.4.7 Evidence of graduate attribute development

The practices that may promote the generation and collection of evidence related to the support of graduate attribute development are indicated in Table 8.7 as validated by the validation panel. The features pertaining to the evidence of graduate attribute development were included in the proposed framework for the reason that evidence of graduate attribute development may provide important information regarding graduates' employability and may aid judgements made in selection processes. Evidence of graduate attribute development also serves as an indication of a graduate's ability to apply what has been learnt in different contexts. In addition, the generation and management of evidence of graduate attribute development may facilitate the development of other attributes such as taking ownership for personal development and lifelong learning, as well as encourage reflection upon learning experiences (see 2.2.1; Table 2.1; sections 3.4.3.1; 4.4.1.5; 4.2.6; 4.2.7; 4.5.5; 4.5.6; 4.5.7; 4.7; 6.4.9; 7.4.6; 8.2.3).

Table 8.7: Evidence of graduate attribute development

76.	Teach and motivate students to take ownership of the collection and management of evidence of GA development.
77.	Train students in the collection of appropriate evidence of GA development.
78.	Train students to manage the evidence of their GA development.
79.	Promote the collection of evidence of GA development in both curricular and extra-curricular activities.
80.	Inform students of other available resources and support such as career service departments.
81.	Explore e-portfolio management systems as part of a wider institutional and curriculum review approach.
82.	Explore and design generic GA assessment tools and tests that will provide sufficient evidence of GA development.
83.	Critically appraise all GA assessment tools and tests before implementation.

Figure 8.3 offers a visual representation, compiled by the researcher to illustrate the key propositions and envisioned outcomes driven by the proposed framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State.

In short, the curriculum referred to in Figure 8.3 is viewed as a bridge between the student, the graduate, and the world of work. The curriculum as a bridge should be supported by strong pillars, namely

- Institutional commitment and policy that support the development of graduate attributes that are important for graduates to possess in the world of work and in the society in which they will be living.
- All stakeholder needs are viewed as important and sound needs analyses and reflection take place on a regular basis.
- Graduate attributes are mapped and embedded in curricula, taking into account requirements and intricacies unique to each discipline.
- Teaching-learning and assessment practices that promote and facilitate the mastery and transfer of graduate attributes. These practices allow for incremental (with appropriate scaffolding), student-centred and deep-learning
- The generation and management of evidence of graduate attribute development.

The figure shows that the bridge is strengthened by the alignment between the pillars as well as the continuous availability of support, be it training or other resources. The bridge allows for graduates to cross over to the world of work, equipped with the essential disciplinary and non-discipline specific characteristics which promote employability, and cultivate social responsibility and lifelong learning (see 2.2.1).

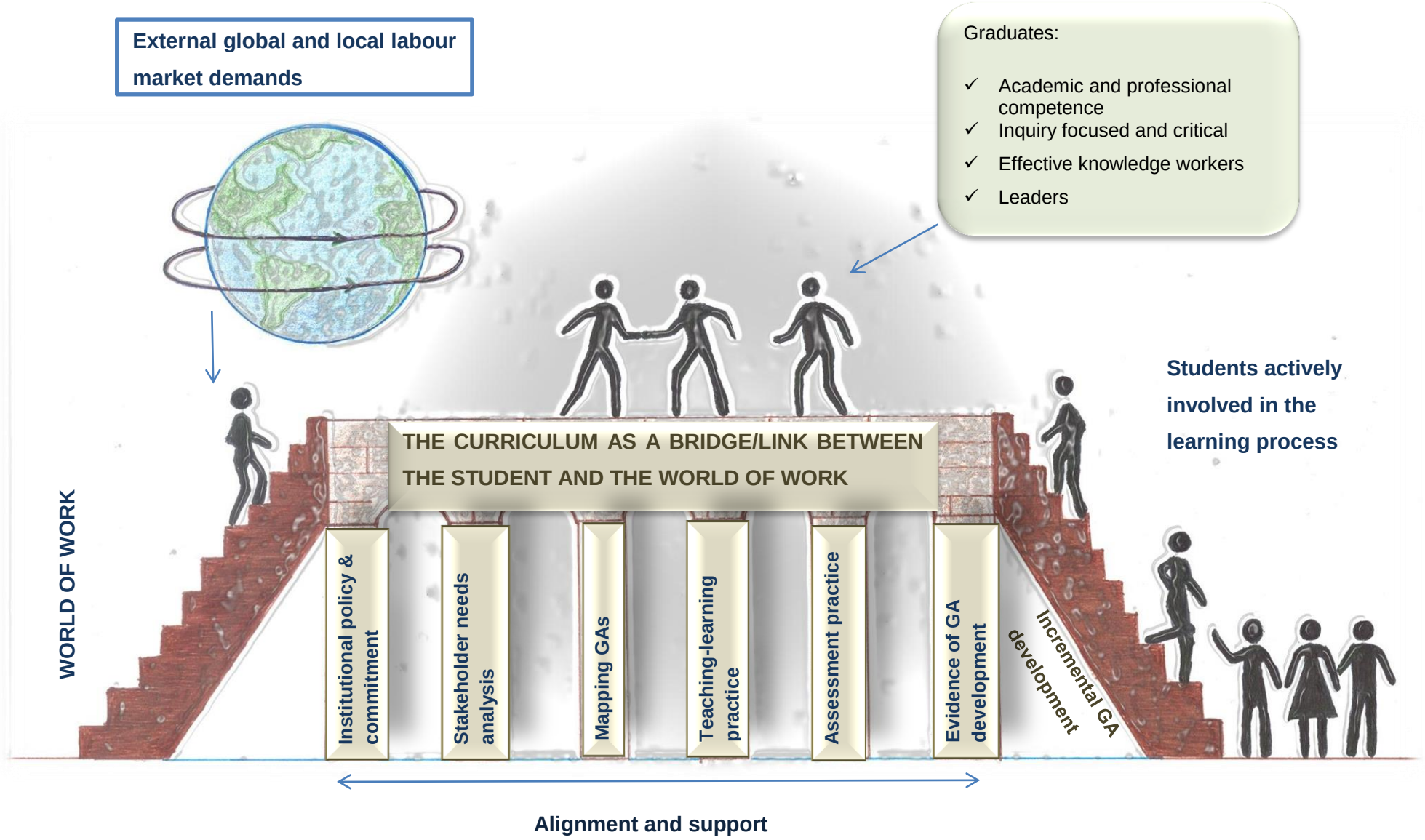


Figure 8.3: Illustration of key propositions and envisioned outcomes of the proposed framework

8.5 SIGNIFICANCE OF THE STUDY

The significance of this study is founded in the development of a framework for accommodating graduate attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State.

The researcher paid attention to national directives from governing bodies and professional associations in an attempt to align the framework with what is required at national level (see Chapter 2). The framework was not only compiled by using directives for curriculum design, review and mapping processes (see Chapter 3), and teaching-learning and assessment practices that are applicable to the higher education environment (see Chapter 4), but was also informed by participants that had contextual and real-world experience in both the higher education environment and the world of work (see Chapter 6). The implications of the framework were also evaluated by specialists in the higher education environment, as well as specialists within the Faculty of Economic and Management Sciences at the University of the Free State (see Chapter 7).

Not only are the propositions made by sound theoretical underpinnings, but the researcher also provided practical suggestions that may be employed by teachers and managing staff members of the particular faculty (Chapter 4; Appendix A). Due to the generic nature of the features of the framework, the study could serve as a vantage point for other faculties and academic programmes wishing to explore the accommodation of graduate attributes in undergraduate curriculum design and delivery. It is hoped that the framework that resulted from the study and the identified graduate attributes will stimulate further institutional discussion about issues such as the relative value, applicability, and resource and policy implications related to accommodating and enhancing graduate attribute development in undergraduate curricula.

The motivation for the framework is grounded in an asset-based approach in which the exploration of existing effective practices is encouraged, and teachers, support and managing staff members can learn from one another by continually identifying strengths and areas for improvement in curricula (see 3.2.1; 3.2.3; 3.2.6; 3.3.2.2 [e];

3.3.2 - contribution to the study; 3.3.4.3 [e]; 3.4.2.4 [c]; 3.5.5; 4.4; 4.5 – contribution to the study).

Finally, the researcher wishes to refer to the comments made by Johnston (2010) about the shape of research in the field of higher education and graduate employment in the United Kingdom. She remarked that research often favours large-scale quantitative methods, and suggested the need for research that is connected to complex human processes and human perception. Furthermore, Johnston identified two areas, in particular the need of "further and more sensitive investigation", being studies of the experiences of graduates in their early years of employment, and the key skills agenda "which is heavily under theorised, especially aspects of transfer of skills from one context to another" (see 2.3.1). Although far from complete and generalizable, it is hoped that some of the findings of this study could contribute to and provide some contextual understanding in this regard in the Faculty of Economic and Management Sciences at the University of the Free State.

8.6 LIMITATIONS

Although the intent of the study was not to generalise the findings and make inferences in terms of demographic attributes of participants, more equal distribution in terms of gender and ethnicity of the participants in the study could have enhanced the richness and trustworthiness of the data (see 6.2 and 7.2).

Even though participants were purposefully selected, personal contact was made and participants agreed to complete the online questionnaires, some individuals eventually did not complete the questionnaires, despite numerous follow-up requests. Because of the particular data collection method employed, it therefore was difficult to manage the sample size and response rate (see 5.3.3.1 (c); 6.2.2).

The researcher came to the realisation that the conceptual clarification and classification of the graduate attributes proved to be a very complex task as the graduate attributes are understood and interpreted differently by different individuals that are influenced by contextual experience and discipline-specific nuances (2.2.1; 3.4.1.1; 3.4.1.2; 6.3.1; 6.4.1; 7.4.1).

8.7 IMPLICATIONS FOR FURTHER RESEARCH

Conducting similar studies on a larger quantitative and qualitative scale may yield results that may be more generalizable. Further quantitative research may also aid the validation of the findings of this research.

Some of the results could be further explored, such as the conceptual clarification and refinement of the proposed graduate attributes considered to be important for graduates from the Faculty of Economic and Management Sciences at the University of the Free State to possess in the world of work.

Posing questions similar to those used in the first round of data collection to graduates, human resource practitioners and/or employers, teachers and current students (see Appendix C), may serve as a form of quality assurance in terms of the effectiveness of practices employed to prepare students in faculty optimally for the world of work.

If the framework is indeed utilised, it will provide opportunities for further research into the effectiveness of the application of the features included in the framework and ultimately will lead to further refinement of approaches taken to accommodate graduate attributes in undergraduate curriculum design and delivery.

If the proposed framework is used, evaluated and monitored in programmes in other faculties, the results may yield important information about the generalizability of the features of the proposed framework.

8.8 CONCLUDING REMARKS

The study was both a thought-provoking and educational experience for the researcher, leading to personal growth and a better understanding of the complexities related to the holistic development of students. The hope is expressed that this research will serve as a starting point for further research, stimulate institutional discussion and will hold value for teachers that aim to provide their students with meaningful learning experiences.

The researcher further hopes that the propositions of the proposed framework will not be viewed as coercive procedures to be rigidly applied, but rather as a tool that allows for creative and innovative curriculum design and delivery, and adaptations, ultimately resulting in the delivery of graduates from the Faculty of Economic and Management Sciences at the University of the Free State that have a competitive advantage in the world of work because:

They are equipped with the essential disciplinary knowledge and the non-discipline-specific characteristics which promote employability, and cultivate social responsibility and lifelong learning.

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APPENDIX A: EXAMPLES OF APPROACHES TAKEN TO TEACHING-LEARNING ACTIVITIES AND ASSESSMENT TASKS RELATED TO GRADUATE ATTRIBUTE DEVELOPMENT

A1. Introduction and rationale

It was also important to the researcher to provide practical examples of teaching-learning and assessment practices that may promote the development of graduate attributes in undergraduate curricula. Examples of the potential links between these practices, the critical-cross field and developmental outcomes stipulated by SAQA, as well as the graduate attributes proposed in the draft Teaching and Learning Strategy of the University of the Free State (UFS CTL 2013) are provided in this supplemental document.

It is important to note that the examples and links are by no means comprehensive and complete but serves a practical purpose to illustrate how graduate attributes can be integrated in teaching-learning and assessment practices as well as the potential links with graduate attribute development and the critical-cross field and developmental outcomes mentioned above. The examples also point toward evidence of graduate attribute development that may be generated through the teaching-learning and assessment practices presented in Tables A2-A5.

An orientation to the exploration of examples of the teaching-learning activities and assessment tasks (Table A2-A5) related to graduate attributes is presented in A1.1-A1.4 below.

A1.1 The use of Work Integrated Learning approaches as starting point and the inclusion of other relevant sources of information

The four work integrated learning (WIL) approaches identified and encouraged by the CHE (2011) namely work-directed theoretical learning, problem-based learning, project-based learning and workplace learning was used as a starting point in the presentation of the examples in Table A2-A5.

Other useful sources of information were also included in the tables of examples. For instance, the types of professional learning identified by Lawson, Fallshaw, Papadopoulos, Taylor and Zanko (2011:64-65) are included. Lawson *et al.* (2011:61)

explains that the term professional learning is often used to encapsulate the aspects of educational programmes that emphasise current industry issues explicitly linked to industry and professional bodies. The rationale for the aforementioned integration stems from the context of the particular study (attributes for Economic and Management Sciences graduates) for the reason that Lawson *et al.* (2011:64-65) offers a typology of approaches to professional learning derived from a national study of good practices in business faculties at Australian universities.

Furthermore, Lawson *et al.* remarks that professional learning promotes deep learning in terms of (or for) the student's future occupation, and includes industry engagement, work-integrated learning and authentic learning environments.

Chapman (2004) has compiled a useful resource guide for the integration of graduate attributes into undergraduate curricula and provides examples of practices used in various degrees programmes.

Some of the high-impact practices identified by George Kuh from the Association of American Colleges and Universities (2008) correspond with both WIL and professional learning practices above. These practices have been widely tested and shown to be beneficial for university students from many backgrounds, increase rates of student retention and student engagement. The rationale behind including examples of these high impact activities is that they do not only have the potential to promote graduate attribute development but also the aforementioned benefits.

It is important to note that reference is made to other resources, but the resources mentioned above were referred to most often.

A1.2 Assessment practices and critical cross-field outcomes

In South Africa, assessment in outcomes based education and training is not only focused on what learners can do, but intends to develop learners holistically. In other words, learners are also required to demonstrate certain life skills, which will not only enhance their learning, but will also ensure that these skills are transferable to their private lives. These skills are referred to as 'generic abilities' and are expressed as 'critical cross-field outcomes' in the qualifications (SAQA 2000:18-19; 2001:24).

The researcher therefore aimed to offer examples to indicate a link between the critical cross-field outcomes with the teaching-learning and assessment practices and should again not be viewed as comprehensive because of the integration and general overlap.

Critical cross-field outcomes and developmental outcomes (CCFOs) are generic outcomes that inform all teaching and learning (SAQA 2000:18; 2001:24).

The critical outcomes adopted by SAQA (2000:18; 2001:24) as follows:

- Identify and solve problems in which responses demonstrate that responsible decisions using critical and creative thinking have been made.
- Work effectively with others as a member of a team, group, organisation, community.
- Organise and manage oneself and one's activities responsibly and effectively.
- Collect, analyse, organise and critically evaluate information.
- Communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation.
- Use science and technology effectively and critically, showing responsibility towards the environment and health of others.
- Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

SAQA (2000:18-19) also identifies five important developmental outcomes that the students should be made aware of in any programme of learning and include the following:

1. Reflecting on and exploring a variety of strategies to learn more effectively.
2. Participating as responsible citizens in the life of local, national and global communities.
3. Being culturally and aesthetically sensitive across a range of social contexts.
4. Exploring education and career opportunities.
5. Developing entrepreneurial opportunities**.**

Programmes of learning must assist learners to become aware of the significance of these developmental outcomes in their own lives.

A1.3 The graduate attributes identified by the University of the Free State

In 2013 the Teaching and Learning Strategy for University of the Free State proposed institutional graduate attributes from the exploration of national and international practices (UFS CTL 2013:11). These attributes were shared in the draft strategy document to stimulate institutional conversation regarding graduate attributes and emphasised that sustained institutional work is needed to identify and finalise a set of graduate attributes for the UFS.

The framework has two tiers. Tier 1 includes “complex interwoven aspects of human ability which are difficult to explicitly teach or assess in traditional university experiences” whereas Tier 2 consists of more explicit clusters of personal skills and abilities that can be developed differently in different disciplines (adapted from Barrie, 2005). Tier 2 attributes help facilitate the development of Tier 1 attributes. As Tier 2 attributes are more explicit in nature it is easier to map or design them in existing curricula and measure them through assessment. The Tier 1 attributes of Scholarship, Active glocal citizens, and Lifelong learning are viewed as resulting from the complex interactions between Tier 2 attributes throughout an undergraduate programme. Therefore Tier 1 attributes are more difficult to assess directly as they are broader, interwoven aspects of graduate attributes (UFS CTL 2013:11).

The researcher aimed to offer examples to indicate a link between these graduate attributes with the teaching, learning and assessment practices and should not be viewed as comprehensive because of the integration and general overlap. The attributes are presented In Table A1.

Table A1: Proposed graduate attributes (GAs) for the University of the Free State (2013)

TIER 1: PERSONAL SKILLS AND ABILITIES
Scholarship: A critical attitude towards knowledge and understanding Have a scholarly attitude to knowledge and understanding. They should be able to generate knowledge through inquiry, critique and synthesis. They should also be able to apply this knowledge to relevant problems and communicate their understanding in a professional, effective and confident manner.
Active glocal citizens: An attitude or stance towards to complex local and global systems Develop an understanding of complex, interdependent global systems and aspire to contribute to society in meaningful ways. This contribution includes, among other traits, accepting social responsibilities, advocating for improving the sustainability of the environment, and having a broad understanding and high regard for human rights, equity and ethics in local, national and global communities.
Lifelong learning : An attitude or stance towards themselves Be lifelong learners, committed to and capable of continuous collaborative and individual learning and critical reflection for the purpose of furthering their personal knowledge skills and competence and understanding of the world and their place in it.
TIER 2: ENABLING OUTCOMES OF HIGHER EDUCATION
Inquiry focused and critical Develop a focus on creating new knowledge and understanding through the process of inquiry, analysis and critical thinking. Inquiry refers to a systematic process of exploring issues, objects or works through the collection and analysis of evidence that results in informed conclusions or judgments. Analysis refers to the process of breaking complex topics or issues into parts to gain a better understanding of them. Inquiry and analysis will be developed within the context of a critical disposition defined as a habit of mind characterised by the comprehensive exploration of issues, ideas, artefacts, and events before accepting or formulating opinions or conclusions.
Academic and professional competence Develop academic and professional competence that includes high level communication skills (written and oral) that will enable them to negotiate and create new understanding through interaction with diverse others to further their own learning. They will also be expected to develop creative thinking, problem solving and teamwork abilities as part of the learning experience.
Effective knowledge workers Develop the skills necessary to function effectively in the 21st century knowledge economy where people have to “think for a living” (Cooper, 2006). This will entail the ability to know when there is a need for information to be able to use the information effectively and responsibly to address a problem.
Leaders in communities Initiate and implement constructive change in all communities. Their leadership should be characterised by integrity and an awareness community needs and ethics involved. UFS graduates should also lead in a way that mentors the next generation of learners in a way that values different cultures and viewpoints.

Source: Graduate attributes for the University of the Free State: An integration of the work of Barrie (2004;2005), Farrel, Delvin and James (2007), Griesel and Parker (2009), University of the Western Cape (2011) and the Association of American Colleges and Universities (AACU) (2010).

A1.4 Other considerations

All of the examples practices included in Table A2- A5, need careful consideration, have strengths and weaknesses and the resources required for these practices to be implemented successfully. The teacher needs to, for example, ensure that students have access to a variety of resources for information gathering and must have the ability to guide and advise students. Facilitators or tutors may be appointed to assist with WIL approaches and do not have to necessarily be experts in the discipline, but will need to have well- developed facilitation skills (CHE 2011:74).

Students will also need to be adequately prepared for learning in a work environment. The use of work-integrated theoretical learning, problem based learning, project based learning and related educational practices prior to work placement. Guidance documentation and regular feedback are helpful in preparing students for successful workplace learning (CBI 2009:29; CHE 2011:37-38; Lawson *et al.* 2011:64; McLennan and Keating 2008:8).

Each table on the next pages defines the WIL approach and provides examples of teaching-learning activities, assessment tasks and the potential links with the proposed UFS graduate attributes and critical-cross field outcomes.

* In the tables the critical cross-field outcomes are abbreviated as CCFO's and the graduate attributes as GAs.

Table A2: Work-directed theoretical learning: Examples of teaching-learning and assessment activities and their alignment with proposed GAs and CCFOs.

Description of WIL approach: Work-directed theoretical learning	Examples of teaching-learning activities	Examples of assessment tasks and approaches	Value of the approach	Examples of the link to UFS Graduate attributes
Theoretical forms of knowledge are introduced and sequenced in ways that meet academic criteria and are applicable and relevant to the career-specific components.	• Individuals from the industry come to campus to lead workshops and provide case studies. Students may also visit workplaces for a day or more. • Case studies/real-life business scenarios. • Industry simulation: Students engage in real-time analysis and decision making related to the real-world within the educational environment. • Study abroad opportunities • Undergraduate research • Essay writing by making real-word connections using a grid/rubric provided by teacher.	Assessment tasks identified include: • Problem-based calculations. • Written or oral discussion of topical issues, debates and short oral and written reports. • Taking part in graded online discussion forum contributions. It is suggested that a moderator from industry acts a moderator of the overall assessment plan and assists with rubrics and individual marking.	• Alignment between theoretical learning and workplace demands is encouraged. • Simulations offer reality-based, experiential, learning-centred approaches. • The application of analytical and problem-solving skills is possible by critically evaluating decisions made by business executives.	**Tier 1** • Scholarship (a critical attitude towards knowledge and understanding. • Active glocal citizens **Tier 2** • Inquiry focused and critical. • Academic and professional competence **Examples of the link to critical-cross field outcomes** • Identify and solve problems • Work effectively with others • Communicate effectively • Collect, analyse, organise and/or critically evaluate information.

Source: Compiled by the researcher from: AACU (2008); CBI (2009:12); Chapman (2004:27,30,35,94); CHE (2011:33,46); Lawson *et al.* (2011:64); SAQA (2000:18-19; 2001:24); UFS CTL (2013).

Table A3: Problem-based learning: Examples of teaching-learning and assessment activities and their alignment with proposed GAs and CCFOs

Description of WIL approach: Problem-based learning	Examples of teaching-learning activities	Examples of assessment approaches	Value of the approach	Examples of the link to UFS Graduate attributes
A range of educational approaches that encourage students to learn through the structured exploration of a research or practice-based problem**.** Carefully structured and sequenced 'problems' that will direct the students' learning towards the determined outcomes and objectives of the curriculum, are compiled by an inter-disciplinary team.	• Students work in small self-directed groups to define, carry out and reflect upon a task, which is usually based on a 'real-life' problem.	• Self and peer assessment that should occur at the end of every problem (CHE 2011:46). • Integrated or capstone assessment.	• Students that are exposed to effective problem-based learning acquire a variety of self-directed and lifelong learning skills such as information literacy. • Reflection aids the process of converting the functioning knowledge gained through problem solving into knowledge that can be used and applied to different contexts (i.e. transfer) in future.	**Tier 1** • Scholarship • Lifelong learning **Tier 2** • Inquiry focused and critical • Academic and professional competence • Effective knowledge workers • Leadership **Examples of the link to critical-cross field outcomes** • Identify and solve problems • Collect analyse and critically evaluate information. • Work effectively with others • Communicate effectively • Understanding of the world as a set of related systems

Source: Compiled by the researcher from AACU (2008); Blumberg (2000 cited in Blumberg 2014:75); CHE (2011:34-35,46,74); SAQA (2000:18-19; 2001:24); UFS CTL (2013).

Table A4: Project-based learning: Examples of teaching-learning, assessment activities and alignment with proposed GAs and CCFOs

Description of WIL approach: Project-based learning	Examples of teaching-learning activities	Examples of assessment tasks and approaches	Value of the approach	Examples of the l link to UFS Graduate attributes
Combines problem-based learning and workplace learning in that it brings together intellectual inquiry, real-world problems, and student engagement in relevant and meaningful work. Project work is generally understood to facilitate students' understanding of essential concepts and practical skills.	Projects undertaken are similar to work undertaken in the workplace and include the production of : • Management plans • Business reports • Market research • Management activities • Industry competitions where students compete in teams to achieve a business-orientated objective in a short timeframe. • Service learning where students engage with the community.	• Businesses judge the projects presented by students in industry competitions and get rewarded accordingly. • Exhibitions and assessments of students' work in light of personal, academic and workplace standards of performance. • Self and peer assessment of team processes.	• Students develop skills such as planning, managing and communicating. • The application of theory to work-related issues promotes the development of project management skills, team skills, communication skills and problem-solving skills. • Service learning projects encourages deep learning, personal growth, critical thinking and a better understanding of contemporary social issues; the organisation in turn benefits from the students' time and knowledge.	**Tier 1** • Scholarship • Lifelong learning • Active local and global citizens **Tier 2** • Inquiry focused and critical • Academic and professional competence • Effective knowledge Workers • Leaders in communities **Examples of the link to critical-cross field outcomes** • Identify and solve problems • Work effectively with others • Self-management • Communicate effectively • Understanding of the world as a set of related systems • Being culturally sensitive • Reflecting on experience and areas for improvement

Source: Compiled by the researcher from AACU (2008); Blumberg (2014:77); Chapman (2004:126); CHE (2011:37,46,75); Dee Fink (2013:24), Lawson *et al.* (2011:64-65); SAQA (2000:18-19; 2001:24); UFS CTL (2013).

Table A5: Workplace learning: Examples of teaching-learning, assessment activities and alignment with proposed GAs and CCFOs

Description of WIL approach: Workplace learning	Examples of teaching-learning activities	Examples of assessment tasks and approaches	Value of the approach	Examples of the l link to UFS Graduate attributes
With workplace learning (industry placement) students are placed in a workplace related to their discipline or career goals.	Work place learning can include: • Job-shadowing or professional practice to support a professional qualification. • Employer- or employment-based schemes, such as learnerships and internships. • Industry study tours that include field trips, site visits and more lengthy tours.	Innovative forms of assessment such as: • Learning diaries • Online journal entries • Portfolios and e-Portfolios • Student progress reports from teachers and industry supervisors	• Allows for concrete experience, reflection on learning experiences as well as the identification of areas for improvement.	**Tier 1** • Scholarship • Lifelong learning • Active local and global citizens **Tier 2** • Inquiry focused and critical • Academic and professional competence • Effective knowledge workers • Leaders in communities **Examples of the link to critical-cross field outcomes** • Identify and solve problems • Work effectively with others • Self-management • Communicate effectively • Collect, analyse, organize and critically evaluate information • Understanding of the world as a set of related systems. • Reflecting on experience and areas for improvement. • Exploring education and career opportunities.

Source: Compiled by the researcher from AACU (2008); CHE (2011:19,46), Lawson *et al.* (2011:64); SAQA (2000:18-19; 2001:24); UFS CTL (2013); Wessels (2005 cited in CHE 2011:78).

APPENDIX B:

LETTERS OF APPROVAL

APPENDIX B1:

ETHICAL CLEARANCE

Faculty of Education
Ethics Office

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Winkie Direko Building
Faculty of Education
University of the Free State
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Bloemfontein 9300
South Africa

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15 May 2014

ETHICAL CLEARANCE APPLICATION:

AN UNDERGRADUATE KEY SKILLS FRAMEWORK FOR ENHANCING THE EMPLOYABILITY OF ECONOMIC AND MANAGEMENT SCIENCES GRADUATES

Dear Ms S Snoer

With reference to your application for ethical clearance with the Faculty of Education, I am pleased to inform you on behalf of the Ethics Board of the faculty that you have been granted an extension to your ethical clearance for your research.

Your ethical clearance number, to be used in all correspondence, is:

UFS-EDU-2012-0046

This ethical clearance number is valid for research conducted until 2015. Should you require more time to complete this research, please apply for an extension in writing.

We request that any changes that may take place during the course of your research project be submitted in writing to the ethics office to ensure we are kept up to date with your progress and any ethical implications that may arise.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours sincerely,

Andrew Barclay
Faculty Ethics Officer

APPENDIX B2:

UNIVERSITY OF THE FREE STATE

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

UFS
UV

Office of the Vice-Rector: Academic
Kantoor van die Viserektor: Akademies

13 January 2012

Dr E du Preez
Faculty Manager: Economic and Management Sciences
FGG 171
UFS

Dear Dr du Preez

PERMISSION TO CONDUCT RESEARCH IN THE FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES: ME SANET SNOER

Following your written request dated 6 January 2012 I hereby grant permission for Me Sanet Snoer to do the research on the topic *A key skills framework for undergraduate Economic and Management Sciences Programmes to enhance the employability of graduate students* according to the guiding principles described in the Proposal dated November 2011.

I wish Me Snoer well with the research and the finalisation of the study.

Yours sincerely

Prof. HR Hay
Vice-Rector: Academic

205 Nelson Mandela Drive/Rylaan
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APPENDIX B3:

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

UFS·UV
ECONOMIC AND MANAGEMENT SCIENCES
EKONOMIESE EN BESTUURSWETENSKAPPE

[redacted]

8 Oktober 2012

Me Sanet Snoer
Bloemfontein

Beste Sanet

Ek stel jou graag in kennis dat die Fakulteitsbestuur op 25 September 2012 goedkeuring verleen het dat jy voortgaan met jou huidige navorsingsprojek in die Fakulteit om jou studies te voltooi.

Vriendelike groete

E S du Preez
Faculteitsbestuurder

Universiteit van die Vrystaat
University of the Free State
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E.S. DU PREEZ
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APPENDIX C:

EXAMPLES OF QUESTIONNAIRES

APPENDIX C1.1:

E-MAIL INVITATION TO PARTICIPATE IN THE STUDY: TEACHER PARTICIPANTS

Dear participant

I am presently busy with research for my PhD degree in Higher Education Studies at the University of the Free State (UFS). My study focuses on the identification of graduate attributes that will appropriately prepare Economic and Management Sciences students at the University of the Free State for the world of work, and the design of a framework that will ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences.

I would like to invite you to take part in the research by completing an electronic questionnaire and/or taking part in validation interviews to obtain further clarification if necessary. Your participation is considered valuable for the purpose of the research.

The electronic questionnaires will focus on the following themes:

- The identification and the importance of graduate attributes to be addressed in higher education to aid the preparation of students in the Faculty of Economic and Management Sciences at the University of the Free State for the world of work.
- How graduate attributes may be embedded in the undergraduate curricula at the Faculty of EMS at the UFS. The latter includes views regarding teaching-learning and assessment practices.
- Evidence of graduate attribute development.
- Views regarding the optimisation of mastery and transfer of graduate attributes to different contexts.

If you choose to participate, please take note of the following:

- All answers will be kept anonymous and answers will not be linked to any specific individual.
- You may choose to withdraw from the research at any stage.
- Your decision to participate or to not participate will not prejudice your future relations with the University of the Free State.

The questionnaire is divided into sections that will require demographic information and your views and opinions on the themes provided above. The link to the questionnaire will remain open until 31 October 2014. The questionnaire will take approximately 30 minutes to complete.

Should you have **any other suggestions**, comments or ideas, please feel free to e-mail me. Your input will be much appreciated in assisting me to interpret your answers more effectively.

Please be so kind to assist me in developing an effective framework that can make a valuable contribution to undergraduate curricula at the Faculty of Economic and Management Sciences at the University of the Free State.

Should you prefer a hard copy of the questionnaire, you can request it and I shall e-mail/post a copy to the address provided.

If you have any questions, please do not hesitate to contact me or my supervisor.

My contact information:

E-mail address: snoers@ufs.ac.za

Phone number: 051 401 9228

Contact information of supervisor:

Dr SP van Tonder

School of Higher Education Studies

University of the Free State

E-mail address: vTonderSP@ufs.ac.za

Phone number: 051 401 9174

Kind regards

Sanet Kruger

PLEASE FOLLOW THE LINK BELOW TO COMPLETE THE QUESTIONNAIRE

[LINK]

APPENDIX C1.2:
EXAMPLE OF QUESTIONNAIRE: UNIVERSITY TEACHERS FROM THE FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

INTRODUCTION AND PURPOSE

The overarching aim of the study is to identify graduate attributes that will appropriately prepare Economic and Management Sciences (EMS) students for the world of work and subsequently design a framework that will ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of EMS at the UFS.

The aim of the questionnaire is:

- Identify the graduate attributes that academic staff members view as important for the preparation of undergraduate students for the world of work.
- Identify and explore the specific needs and viewpoints of teachers (i.e. university teachers or academic staff members) with regard to the embedding (integration) of graduate attributes in the undergraduate curriculum, as well as teaching-learning and assessment practices related to graduate attribute development.

Please complete the questionnaire as thoroughly and as honestly as possible.

Your answers will be kept confidential and no information will be linked to a specific individual during the interpretation of the data and the reporting thereof.

INFORMED CONSENT

1. I HAVE READ AND UNDERSTOOD THE INFORMATION PROVIDED IN THE E-MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE AND THEREFORE GIVE MY CONSENT THAT MY ANSWERS MAY BE USED FOR DATA COLLECTION, ANALYSIS AND REPORTING PURPOSES UNDER THE CONDITIONS SET OUT IN THE E-MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE.

   TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

	Yes
	No

If 'NO' was selected, the participant was taken to the end of the questionnaire

DEMOGRAPHIC INFORMATION

TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

2. Gender

	Male
	Female

3. Home language

	Afrikaans		Sotho		Tsonga
	English		Xhosa		Tswana
	Ndebele		Swati		Pedi
	Venda		Zulu		
	Other please specify:	Space to type answer.			

4. Age

	Younger than 20		45-49	
	20-24		50-54	
	25-29		55-59	
	30-34		60-64	
	35-39		65 and older	
	40-44			

5. Which of the following fields of the economy best describe your current area of expertise?

	Agriculture and Nature Conservation		Human and Social Sciences
	Culture and Arts		Law, Military and Security
	Business and Commerce		Health Sciences and Social Sciences
	Communication and Language		Physical, Mathematical, Computer and Life Sciences
	Education, Training and Development		Services
	Manufacturing, Engineering and Technology		Physical planning and Construction
	Other, please specify:	Space to type answer.	

GRADUATE ATTRIBUTES

The following section relates to graduate attributes and your opinions and views with regard to the importance and value thereof for the world of work.

Graduate attributes

The researcher defines graduate attributes as the **non-discipline specific characteristics** that university graduates should develop throughout their university education which in turn promote employability and cultivate social responsibility and lifelong learning.

Employability

"Employability can be defined as a set of achievements – skills, understanding and personal attributes - that make graduates **more likely to gain employment and be successful in their chosen occupations**, which benefits themselves, the workforce, the community and the economy" (Yorke 2006:8).

6. Would you like to view and example of graduate attributes?

	Yes
	No

If 'YES' was selected, the participant was taken to the example of graduate attributes (see C4).

If 'NO' was selected, the participant was taken to question 8.

7. To continue to the next question select 'continue'.

	Continue

Type your answers in the space provided below each question.
Please make use of specific examples that support your view or opinions.

8. Identify four (4) graduate attributes (that include knowledge, skills and/or values) that you view as most important for graduates from the Faculty of EMS to possess in the workplace?
   Explain these attributes according to your own understanding and opinions.

9. In your opinion, to what extent have the graduate attributes that you identified in question 8) above been adequately addressed in the undergraduate curricula in the Faculty of EMS at the UFS over the past four (4) years?

THE UNDERGRADUATE CURRICULUM, TEACHING-LEARNING AND ASSESSMENT PRACTICES

For the purpose of this questionnaire, the undergraduate curriculum encompasses components such as:

- The programme and the relevant modules (as building blocks of the programme) to be completed by the student
- Content and textbooks
- Learning outcomes at programme, module and unit level
- Teaching-learning activities and practices (including approaches and views)
- Assessment practices
- The experiences of students

Curriculum mapping

Curriculum mapping is described as the process of recording the content and skills (including graduate attributes) that are actually taught and the match between what is taught and assessed (Udelhofen 2005).

10. Is there currently a process of mapping graduate attribute development across different programmes?

	Yes
	No
	I don't know

Type your answers in the space provided below each question.

Please make use of specific examples that support your view or opinions.

11. In your opinion, how might such a mapping (documenting) process take place?

12. Which stakeholder inputs should be considered during such a process?

Learning outcomes

For the purpose of this section, learning outcomes statements at module and unit level are described as what students should be able to do at the completion of a particular module or unit.

13. Should graduate attributes be made explicit as learning outcomes in each module and unit?

	Yes
	No

14. Please motivate the answer you provided for question 13 above.

15. Should graduate attributes be made explicit in assessment criteria in each module and unit?

	Yes
	No

16. Please motivate the answer you provided for question 15 above.

TEACHING-LEARNING AND ASSESSMENT PRACTICES FOR MASTERY AND TRANSFER

Mastery

For the purpose of the questionnaire **mastery is defined as the attainment of a high degree of competence within a particular area** (Ambrose, Bridges, Dipietro, Lovett and Norman 2010).

Transfer

For the purpose of this questionnaire **transfer can be described as the ability to apply the knowledge, skills and values developed in one context** (for e.g. undergraduate studies) **to another context** (e.g. the workplace) (Ambrose 2010 *et al.*; Garraway, Volbrecht, Wicht and Ximba 2011).

Type your answers in the space provided below each question.
Please make use of specific examples that support your view or opinions.

17. What teaching-learning practices will optimise the mastery of graduate attributes required for the world of work?

18. What assessment practices will optimise the mastery of graduate attributes?

19. How can the transfer of graduate attributes be optimised in undergraduate curricula at the Faculty of EMS at the UFS?

20. What evidence of graduate attribute development can be generated through teaching-learning and assessment practices?

IMPLICATIONS

Please provide your personal opinion with regard to questions below.
Please make use of specific examples to support your view or opinion.

21. What implications (i.e. financial, physical, human resource) resource does the embedding, teaching-learning and assessment of graduate attributes hold for the Faculty of EMS at the UFS?

22. What are the possible implications of the embedding of graduate attributes in undergraduate curricula for institutional and faculty policies?

COMMENTS AND SUGGESTIONS

23. Do you have any additional comments or suggestions?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE. YOUR INPUTS ARE HIGHLY APPRECIATED.

REFERENCES

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Udelhofen, S. 2005. *Keys to curriculum mapping: Strategies and tools to make it work.* Thousand Oaks: Sage.

APPENDIX C2.1:
E-MAIL INVITATION TO PARTICIPATE IN THE STUDY: GRADUATES FROM THE FACULTY OF EMS AT THE UFS

Dear participant

I am presently busy with research for my PhD degree in Higher Education Studies at the University of the Free State (UFS). My study focuses on the identification of graduate attributes that will appropriately prepare Economic and Management Sciences students at the University of the Free State for the world of work, and the design of a framework that will ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences.

I would like to invite you to take part in the research by completing an electronic questionnaire and/or taking part in validation interviews to obtain further clarification if necessary. Your participation is considered valuable for the purpose of the research.

The electronic questionnaires will focus on the following themes:

- The identification and the importance of graduate attributes to be addressed in higher education to aid the preparation of students in the Faculty of Economic and Management Sciences at the University of the Free State for the world of work.
- How graduate attributes may be taught and assessed in the undergraduate curricula for the Faculty of Economic and Management Sciences at the University of the Free State.
- Evidence of graduate attribute development.
- Views regarding the transfer of graduate attributes to different contexts.

If you choose to participate, please note the following:

- Your identity will be kept confidential and no answers will be linked to a specific individual or organisation during the interpretation of the data and the reporting thereof.
- You should not identify the name of your employer and your answers will not be linked to an organisation (or organisational variables), but rather your perspectives and experience with regard to the value and development of graduate attributes. You will thus complete the questionnaire in your own personal capacity and time.
- You may choose to withdraw from the research at any stage.
- Your decision to participate or to not participate will not prejudice your future relations with the University of the Free State.

The questionnaire is divided into sections that will require demographic information and your views and opinions on the themes provided above. The link to the questionnaire will remain open until 31 October 2014. The questionnaire will take approximately 30 minutes to complete. Should you have **any other suggestions**, comments or ideas, please feel free to e-mail me. Your inputs will be much appreciated in assisting me to interpret your answers more effectively.

Please be so kind to assist me in developing an effective framework that can make a valuable contribution to undergraduate curricula at the Faculty of Economic and Management Sciences at the University of the Free State.

Should you prefer a hard copy of the questionnaire, you can request it and I shall e-mail/post a copy to the address provided.

If you have any questions, please do not hesitate to contact me or my supervisor.

My contact information:

E-mail address: snoers@ufs.ac.za

Phone number: 051 401 9228

Contact information of supervisor:

Dr SP van Tonder

School of Higher Education Studies

University of the Free State

E-mail address: vTonderSP@ufs.ac.za

Phone number: 051 401 9174

Kind regards

Sanet Kruger

PLEASE FOLLOW THE LINK BELOW TO COMPLETE THE QUESTIONNAIRE

[LINK]

APPENDIX C2.2:
EXAMPLE OF QUESTIONNAIRE: GRADUATES OF THE FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

INTRODUCTION AND PURPOSE

The overarching aim of the study is to identify graduate attributes that will appropriately prepare Economic and Management Sciences (EMS) students for the world of work and subsequently design a framework that will ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of EMS at the University of the Free State.

The aim of the questionnaire is to:

- Identify the graduate attributes that graduates view as important for the preparation of undergraduate students for the world of work.
- Identify and explore the specific needs and viewpoints of graduates with regard to the integration of graduate attributes in the undergraduate curriculum, as well as the teaching-learning and assessment practices related to graduate attributes.

Please complete the questionnaire as thoroughly and as honestly as possible.

Your answers will be kept confidential and no information will be linked to a specific individual or organisation during the interpretation of the data and the reporting thereof.

INFORMED CONSENT

You should not identify the name of the organisation that you are employed at and your answers will not be linked to an organisation, but rather to the value and development of graduate attributes. The research focuses on your own personal experience and viewpoints, not that of your organisation (or organisational variables).

1. I HAVE READ AND UNDERSTOOD THE INFORMATION PROVIDED IN THE E-MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE AND THEREFORE GIVE MY CONSENT THAT MY ANSWERS MAY BE USED FOR DATA COLLECTION, ANALYSIS AND REPORTING PURPOSES UNDER THE CONDITIONS SET OUT IN THE E-MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE. TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

	Yes
	No

If 'NO' was selected, the participant was taken to the end of the questionnaire.

DEMOGRAPHIC INFORMATION

TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

2. Gender

	Male
	Female

3. Home language

	Afrikaans		Sotho		Tsonga
	English		Xhosa		Tswana
	Ndebele		Swati		Pedi
	Venda		Zulu		
	Other please specify:	Space to type answer.			

4. Age

	Younger than 20		45-49	
	20-24		50-54	
	25-29		55-59	
	30-34		60-64	
	35-39		65 and older	
	40-44			

5. I completed my undergraduate degree at the Faculty of Economic and Management Sciences at the University of the Free State.

	Yes
	No

If 'NO' was selected, the participant was taken to the end of the questionnaire.

6. Indicate the year in which you completed your undergraduate degree?

	Before 2008
	2008
	2009
	2010
	2011
	2012
	2013

If 'Before 2008' was selected, the participant was taken to the end of the questionnaire.

7. Are you working full-time?

	YES		NO

If 'NO' was selected, the participant was taken to the end of the questionnaire.

8. Which of the following fields of the economy best describe the nature of your current employment?

	Agriculture and Nature Conservation		Human and Social Sciences
	Culture and Arts		Law, Military and Security
	Business and Commerce		Health Sciences and Social Sciences
	Communication and Language		Physical, Mathematical, Computer and Life Sciences
	Education, Training and Development		Services
	Manufacturing, Engineering and Technology		Physical planning and Construction
	Other, please specify	Space to type answer.	

CURRENT POSITION/EMPLOYMENT

9. Please very briefly describe the responsibilities and duties required by your current position/occupation. Note that you should not state the organisation/company name.

GRADUATE ATTRIBUTES

The following section relates to graduate attributes and your opinions and views with regard to the importance and value thereof for the world of work.

Graduate attributes

The researcher defines graduate attributes as the **non-discipline specific characteristics** that university graduates should develop throughout their university education which in turn promote employability and cultivate social responsibility and lifelong learning.

Employability

"Employability can be defined as a set of achievements – skills, understanding and personal attributes - that make graduates more likely to **gain employment and be successful in their chosen occupations**, which benefits themselves, the workforce, the community and the economy" (Yorke 2006:8).

10. Would you like to view and example of graduate attributes?

	Yes
	No

If ‘YES’ was selected, the participant was taken to the example of graduate attributes (see C4).

If ‘NO’ was selected, the participant was taken to question 12.

11. To continue to the next question select ‘continue’.

	Continue

Type your answers in the space provided below each question.

Please make use of specific examples that support your view or opinions.

12. Identify four (4) graduate attributes (that include knowledge, skills and/or values) that you view as most important for graduates from the Faculty of EMS to possess in the workplace?

    Explain these attributes according to your own understanding and opinions.

13. Which graduate attributes do you need to apply in your current position/occupation?

14. To what extent were the graduate attributes that you have identified in question 12 above been addressed during the course of your undergraduate studies at the UFS?

15. Which graduate attributes do you feel you still need to develop yourself in order to improve your current **employability**?

THE UNDERGRADUATE CURRICULUM, TEACHING-LEARNING AND ASSESSMENT PRACTICES

For the purpose of this questionnaire, the undergraduate curriculum encompasses components such as:

- The programme and the relevant modules (as building blocks of the programme) to be completed by the student
- Content and textbooks
- Learning outcomes at programme, module and unit level
- Teaching-learning activities and practices (including approaches and views)
- Assessment practices
- The experiences of students

Type your answers in the space provided below each question.
Please make use of specific examples that support your view or opinions.

16. How were the graduate attributes that you have identified in the previous section, taught during your undergraduate years of study (e.g. through problem solving, group assignments, etc.)?

    In other words, how did you learn the knowledge, skills and/or values you referred to in the previous section?

17. How was the development of the graduate attributes that you identified as important, assessed during your undergraduate years of study?

    In other words, what tasks and activities were used to determine if the attributes were sufficiently mastered (e.g. assignments, tests, portfolios or other related methods)?

18. Did you yourself collect evidence of your graduate attribute development during your undergraduate years of study (e.g. in a portfolio of evidence)?

	Yes
	No

If 'YES' was selected, the participant was taken to question 19.

If 'NO' was selected, the participant was taken to question 20.

19. Please provide examples of the evidence that you collected during your undergraduate years of study.

MASTERY AND TRANSFER

Mastery

For the purpose of the questionnaire **mastery is defined as the attainment of a high degree of competence within a particular area** (Ambrose, Bridges, Dipietro, Lovett and Norman 2010).

Transfer

For the purpose of this questionnaire **transfer can be described as the ability to apply the knowledge, skills and values developed in one context** (for e.g. undergraduate studies) **to another context** (e.g. the workplace) (Ambrose 2010 *et al.*; Garraway, Volbrecht, Wicht and Ximba 2011).

Type your answers in the space provided below each question.
Please make use of specific examples that support your view or opinions.

20. In your opinion, how can the mastery of graduate attributes be accomplished during undergraduate studies?

21. In your opinion, how can the transfer of graduate attributes be promoted during undergraduate studies?

COMMENTS AND SUGGESTIONS

22. Do you have any additional comments or suggestions?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE. YOUR INPUTS ARE HIGHLY APPRECIATED.

REFERENCES

Ambrose, S.A., Bridges, M.W., DiPietro, M., Lovett, M.C. and Norman, M.K. 2010. *How learning works: Seven research-based principles for smart teaching.* San Francisco: Jossey-Bass.

CTL (Centre for Teaching and Learning). 2013. Draft UFS Teaching and Learning Strategy. University of the Free State, Bloemfontein.

Garraway, J., Volbrecht, T., Wicht, M. and Ximba, B. 2011. Transfer of knowledge between university and work. *Teaching in Higher Education* 16(5), 529-540.

Yorke, M. 2006. *Employability in higher education: What it is - what it is not. Learning & Employability. Series One.* Heslington: The Higher Education Academy.

APPENDIX C3.1:

THE E-MAIL INVITATION TO PARTICIPATE IN THE STUDY WAS THE SAME FOR BOTH THE HR PRACTITIONERS AND GRADUATES FROM THE FACULTY OF EMS AT THE UFS

APPENDIX C3.2:
EXAMPLE OF QUESTIONNAIRE: HR PRACTITIONERS

INTRODUCTION AND PURPOSE

The overarching aim of the study is to identify graduate attributes that will appropriately prepare Economic and Management Sciences (EMS) students for the world of work and subsequently design a framework that will ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of EMS at the University of the Free State.

The aim of the questionnaire is to:

- Identify the graduate attributes that human resource practitioners view as important for the preparation of undergraduate students for the world of work.
- Identify and explore the viewpoints and experiences of human resource practitioners with regard the preparedness of graduates for the world of work.

Note: Economic and Management Sciences graduates refer to those persons who completed Bachelor of Commerce (i.e. Accounting, Investment banking, Economics, Marketing, Entrepreneurship, Human resource management, Law), Bachelor of Public Management and Administration and/or Bachelor of Accounting degrees.

Please complete the questionnaire as thoroughly and as honestly as possible.

Your answers will be kept confidential and no information will be linked to a specific individual during the interpretation of the data and the reporting thereof.

INFORMED CONSENT

You should not identify the name of the organisation that you are employed at and your answers will not be linked to an organisation, but rather to the value and development of graduate attributes. The research focuses on your own personal experience and viewpoints, not that of your organisation (or organisational variables).

1. I HAVE READ AND UNDERSTOOD THE INFORMATION PROVIDED IN THE E- MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE AND THEREFORE GIVE MY CONSENT THAT MY ANSWERS MAY BE USED FOR DATA COLLECTION, ANALYSIS AND REPORTING PURPOSES UNDER THE CONDITIONS SET OUT IN THE E-MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE.

   TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

	Yes
	No

If 'NO' was selected, the participant was taken to the end of the questionnaire

DEMOGRAPHIC INFORMATION

TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

2. Gender

	Male
	Female

3. Home language

	Afrikaans		Sotho		Tsonga
	English		Xhosa		Tswana
	Ndebele		Swati		Pedi
	Venda		Zulu		
	Other please specify:	Space to type answer.			

4. Age

	Younger than 20		45-49	
	20-24		50-54	
	25-29		55-59	
	30-34		60-64	
	35-39		65 and older	
	40-44			

5. In which of the following fields of the economy do you have HR practitioner experience? You may select more than one option.

	Agriculture and Nature Conservation		Human and Social Sciences
	Culture and Arts		Law, Military and Security
	Business and Commerce		Health Sciences and Social Sciences
	Communication and Language		Physical, Mathematical, Computer and Life Sciences
	Education, Training and Development		Services
	Manufacturing, Engineering and Technology		Physical planning and Construction
	Other, please specify:	Space to type answer.	

GRADUATE ATTRIBUTES

The following section relates to graduate attributes and your opinions and views with regard to the importance and value thereof for the world of work.

Graduate attributes

The researcher defines graduate attributes as the **non-discipline specific characteristics** that university graduates should develop throughout their university education which in turn promote employability and cultivate social responsibility and lifelong learning.

Employability

"Employability can be defined as a set of achievements – skills, understanding and personal attributes - that make graduates **more likely to gain employment and be successful in their chosen occupations**, which benefits themselves, the workforce, the community and the economy" (Yorke 2006:8).

6. Would you like to view and example of graduate attributes?

	Yes
	No

If ‘YES’ was selected, the participant was taken to the example of graduate attributes (see C4).

7. To continue to the next question select ‘continue’.

	Continue

Type your answers in the space provided below each question.
Please make use of specific examples that support your view or opinions.

8. Identify four (4) graduate attributes (that include knowledge, skills and/or values) that you view as most important for graduates in the workplace?

   Explain these attributes according to your own understanding and opinions.

9. To what extent do the young graduates that you come in contact with possess the graduate attributes that you have identified as important in question 8 above?

THE UNDERGRADUATE CURRICULUM, TEACHING-LEARNING AND ASSESSMENT PRACTICES

For the purpose of this questionnaire, the undergraduate curriculum encompasses components such as:

- The programme and the relevant modules (as building blocks of the programme) to be completed by the student
- Content and textbooks
- Learning outcomes at programme, module and unit level
- Teaching-learning activities and practices (including approaches and views)
- Assessment practices
- The experiences of students

Type your answers in the space provided below each question.
Please make use of specific examples that support your view or opinions.

10. To what extent are the graduate attributes you have identified in question 8 adequately addressed in undergraduate curricula?

11. What developmental training do young graduates have to undergo most frequently in your organisation?

12. Can the involvement of persons working in the industry/corporate sector in the identification of graduate attributes at universities, add value to undergraduate curricula?

	Yes
	No

13. Please motivate the answer that you provided in question 12 above.

14. Do you think that involving persons working in the industry/corporate sector in the teaching-learning and assessment of graduate attributes can add value to graduate attribute development?

	Yes
	No

15. Please motivate the answer that you provided in question 14 above.

TRANSFER AND EVIDENCE OF GRADUATE ATTRIBUTE DEVELOPMENT

Transfer

For the purpose of this questionnaire **transfer can be described as the ability to apply the knowledge, skills and values developed in one context** (for e.g. undergraduate studies) **to another context** (e.g. the workplace) (Ambrose 2010 *et al.*; Garraway, Volbrecht, Wicht and Ximba 2011).

Type your answers in the space provided below each question.
Please make use of specific examples that support your view or opinions.

16. To what extent are the young graduates that you come in contact with, able to apply the graduate attributes that you have identified as important?

17. What evidence of graduate attribute development is presented to you by young graduates (e.g. portfolios, certificates)?

18. What types of evidence of the development of graduate attributes may add value to the graduate recruitment and employment process?

COMMENTS AND SUGGESTIONS

19. Do you have any additional comments or suggestions?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE. YOUR INPUTS ARE HIGHLY APPRECIATED.

REFERENCES

Ambrose, S.A., Bridges, M.W., DiPietro, M., Lovett, M.C. and Norman, M.K. 2010. *How learning works: Seven research-based principles for smart teaching.* San Francisco: Jossey-Bass.

CTL (Centre for Teaching and Learning). 2013. Draft UFS Teaching and Learning Strategy. University of the Free State, Bloemfontein.

Garraway, J., Volbrecht, T., Wicht, M. and Ximba, B. 2011. Transfer of knowledge between university and work. *Teaching in Higher Education* 16(5), 529-540.

Yorke, M. 2006. *Employability in higher education: What it is - what it is not. Learning & Employability. Series One.* Heslington: The Higher Education Academy.

APPENDIX C4:

EXAMPLES OF GRADUATES ATTRIBUTES (MADE AVAILABLE IN ALL THREE QUESTIONNAIRES IN FIRST ROUND OF DATA COLLECTION)

The table below is a summary of graduate attributes proposed by the UFS. These are meant to stimulate discussion and thought surrounding graduate attribute development. Note that these graduate attributes only serve as a guideline to stimulate your thoughts. The list may not be complete.

A SUMMARY OF PROPOSED GRADUATE ATTRIBUTES FOR THE UNIVERSITY OF THE FREE STATE

A: CLUSTERS OF SKILLS AND ABILITIES	
Inquiry focused and critical	The ability to create new knowledge and understanding through the process of inquiry, analysis and critical thinking before accepting or formulating opinions or conclusions.
Academic and professional competence	• A high level of written and oral communication skills for negotiation and development of new understanding through the interaction with diverse others. • Creative thinking and enterprising skills • Problem solving skills • The ability to work in teams
Effective knowledge workers	The ability to know when there is a need for information and to gather, use and organise the information effectively and responsibly to address a particular problem.
Leaders in communities	Leading through integrity with an awareness and understanding of ethics as well as community needs.
B: ATTRIBUTES DEVELOPED AS A RESULT OF THE COMPLEX INTERACTION OF SKILLS AND ABILITIES	
Scholarship	A critical attitude towards knowledge and understanding that include the generation of knowledge through inquiry, critique, synthesis, and reflection. They ability to apply knowledge to relevant problems and communicate understanding in a professional, effective and confident manner.
Active glocal citizens	An understanding of complex, interdependent global and local systems as well as the aspiration to contribute to society in meaningful ways. Note: Glocal refers to global and local.
Lifelong learning	An attitude or stance towards oneself. The commitment and capability of continuous collaborative learning, individual learning and critical reflection to further (improve) personal knowledge, skills and understanding of the world and their place in it.

Source: Adapted from the graduate attributes proposed for the UFS in the draft Teaching and Learning Strategy for the UFS (2013) which stems from an integration of the work of Barrie (2004; 2005), Farrel , Delvin and James (2007), Griesel and Parker (2009), University of the Western Cape (2011) and the Association of American Colleges and Universities (AACU) (2010).

APPENDIX C5.1:

E-MAIL INVITATION TO PARTICIPATE IN THE STUDY: VALIDATION PANEL

Dear participant

Thank you for taking the time to evaluate the feasibility and possible value of the proposed framework which is based on the findings of my research.

The overarching aim of the research was to firstly identify graduate attributes that will appropriately prepare Economic and Management Sciences (EMS) students for the world of work and secondly to design a framework that may ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State (UFS).

The contributions made by the participants were analysed and interpreted and the findings were collated with findings from the literature review to construct a framework that may ultimately assist in accommodating the identified attributes in undergraduate curriculum design and delivery in the Faculty EMS at the UFS.

The purpose and objectives of this evaluation of the framework is to:

- Evaluate the key features of the framework.
- Obtain experts' opinions with regard to the proposed framework.
- Identify possible shortcomings.
- Obtain suggestions for improvement.
- Adapt and refine the current framework.
- Enhance the the credibility and transferability of the framework.

Please take note of the following:

- All answers will be kept anonymous and answers will not be linked to any specific individual.
- You may choose to withdraw from the research at any stage.
- Your decision to participate or to not participate will not prejudice your future relations with the University of the Free State.

❖ **Please read through all the information in this document and follow the link to the questionnaire in the e-mail invitation that has been sent to you. The questions to consider while reading the document have been included to stimulate your thoughts, but should please be answered in the electronic questionnaire. The link to the questionnaire will remain open until 10 December 2014.**

A document with terminology relevant to the study/framework is attached for your perusal.

If you have any questions, please do not hesitate to contact me or my supervisor.

My contact information:
E-mail address: snoers@ufs.ac.za
Phone number: 051 401 9228

Contact information of supervisor:
Dr SP van Tonder
School of Higher Education Studies
University of the Free State
E-mail address: vTonderSP@ufs.ac.za
Phone number: 051 401 9174

Kind regards
Sanet Kruger

APPENDIX C5.2:

EXAMPLE OF DOCUMENT OF TERMINOLOGY RELEVANT TO THE STUDY: VALIDATION PANEL

TERMINOLOGY USED IN THE DISCUSSION OF THE FRAMEWORK

1. Teacher

For the purpose of this research teacher refers to a university teacher, academic staff member or lecturer.

2. Graduate attributes

The researcher defines graduate attributes as the non-discipline specific characteristics that university graduates should develop throughout their university education, which in turn should promote employability and cultivate social responsibility and lifelong learning. In the proposed framework, the acronym “GA” is used for “graduate attribute”.

3. Employability

“Employability can be defined as a set of achievements – skills, understanding and personal attributes - that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy” (Yorke 2006:8).

4. Undergraduate curriculum

For the purpose of this questionnaire, the undergraduate curriculum encompasses components such as:

- The programme and the relevant modules (as building blocks of the programme) to be completed by the student in order to obtain an undergraduate qualification.
- Content and textbooks.
- Learning outcomes at programme, module and unit level.
- Teaching-learning activities and practices (including approaches and views).
- Assessment practices.
- The experiences of students

5. Curriculum mapping

Curriculum mapping is described as the process of recording the content and skills (including graduate attributes) that are actually taught and assessed. The match/alignment between what is taught and assessed is also determined during this process (Udelhofen 2005).

6. Learning outcomes

For the purpose of this section, learning outcomes at programme, module and unit level are described as statements about what students should be able to do on completion of a particular programme, module or unit.

7. Mastery

For the purpose of this questionnaire, mastery is defined as the attainment of a high degree of competence within a particular area (Ambrose, Bridges, Dipietro, Lovett and Norman 2010:95).

8. Transfer

For the purpose of this questionnaire, transfer can be described as a graduate's ability to apply the knowledge, skills and values that were developed in one context (for e.g. undergraduate studies), to another context (e.g. the workplace) (Ambrose *et al.* 2010:108).

9. Work Integrated Learning

The concept of Work Integrated Learning (WIL) is used as an umbrella term to describe curricular, pedagogic and assessment practices, across a range of academic disciplines, which integrate formal learning and workplace concerns. The concept implies career-focussed education that includes classroom-based and workplace-based forms of learning that are appropriate for a particular professional qualification and addresses concerns such as graduateness, employability and civic responsibility (CHE 2011:4).

10. Capstone learning experiences and assessment

Capstone experiences, modules and assessment tasks involve integrating graduate attributes and discipline specific knowledge usually in the final year of an undergraduate degree. Students complete projects with the intention of addressing learning outcomes that may or may not have been assessed in several individual modules. They are therefore required to integrate their experiences and demonstrate that they can authentically apply what they have learnt (Biggs 2011:253; Holdsworth, Watty and Davies 2009:1-2).

REFERENCES

Ambrose, S.A., Bridges, M.W., DiPietro, M., Lovett, M.C. and Norman, M.K. 2010. *How learning works: Seven research-based principles for smart teaching.* San Francisco: Jossey-Bass.

Biggs, J. and Tang, C. 2011. *Teaching for quality learning at university.* 4th ed. Berkshire: Open University Press.

CHE (Council on Higher Education). 2011. *Work-integrated learning: A good practice guide. Higher Education Monitor No. 12.* Pretoria: CHE.

Garraway, J., Volbrecht, T., Wicht, M. and Ximba, B. 2011. Transfer of knowledge between university and work. *Teaching in Higher Education* 16(5), 529-540.

Holdsworth, A., Watty, K. and Davies, M. 2009. Developing capstone experiences. Centre for the Study of Higher Education: The University of Melbourne.

Yorke, M. 2006. *Employability in higher education: What it is - what it is not. Learning & Employability. Series One.* Heslington: The Higher Education Academy.

Udelhofen, S. 2005. *Keys to curriculum mapping: Strategies and tools to make it work.* Thousand Oaks: Sage.

APPENDIX C5.3:

EXAMPLE OF BACKGROUND INFORMATION AND QUESTIONNAIRE:

VALIDATION PANEL

BACKGROUND INFORMATION

The overarching aim of this research is to identify graduate attributes that will appropriately prepare Economic and Management Sciences (EMS) students for the world of work and to subsequently design a framework that may ultimately assist in accommodating these attributes in undergraduate curriculum design and delivery in the Faculty of Economic and Management Sciences at the University of the Free State (UFS).

In the first round of data collection of this qualitative study, the researcher invited the following participants to complete a questionnaire with mainly open-ended items:

- Human resource practitioners situated in different organisations that are involved with the recruitment, selection and training of, or works along with young graduates.
- Teachers (i.e. university teachers/academic staff members/lecturers) from the Faculty of Economic and Management Sciences at the University of the Free State. The teachers are situated in different academic departments (i.e. Accounting, Business Management, Economics, Industrial Psychology and Public Management and Administration).
- Graduates from various programmes offered at the Faculty of Economic and Management Sciences at the Free State who completed their degrees after 2008 and were working fulltime at the time of the research.

In the case of each of these groups of participants, the questionnaire was informed by the literature study. The questions asked related to the following:

- Demographic information.
- The identification of graduate attributes viewed as important for graduates to possess in the world of work.
- The value and importance of graduate attributes.
- The undergraduate curriculum, and teaching-learning and assessment practices related to graduate attribute development.
- The mastery, transfer and evidence of graduate attribute development.
- Any further thoughts and suggestions were welcomed.

Although the main sections/themes in the questionnaires for the three participants groups were the same, the questions pertaining to the main sections/themes differed slightly in terms of the applicability to the specific group of participants.

INFORMED CONSENT

You should not identify the name of the organisation that you are employed at and your answers will not be linked to an organisation, but rather to the value and development of graduate attributes. The research focuses on your own personal experience and viewpoints, not that of your organisation (or organisational variables).

1. I HAVE READ AND UNDERSTOOD THE INFORMATION PROVIDED IN THE E-MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE AND THEREFORE GIVE MY CONSENT THAT MY ANSWERS MAY BE USED FOR DATA COLLECTION, ANALYSIS AND REPORTING PURPOSES UNDER THE CONDITIONS SET OUT IN THE E-MAIL MESSAGE WITH THE LINK TO THIS QUESTIONNAIRE.

   TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

	Yes
	No

If 'NO' was selected, the participant was taken to the end of the questionnaire

DEMOGRAPHIC INFORMATION

TO INDICATE YOUR CHOICE, CLICK ON THE RADIO BUTTON NEXT TO YOUR CHOICE.

2. Gender

	Male
	Female

3. Home language

	Afrikaans		Sotho		Tsonga
	English		Xhosa		Tswana
	Ndebele		Swati		Pedi
	Venda		Zulu		
	Other please specify:	Space to type answer.			

4. Age

	Younger than 20		45-49	
	20-24		50-54	
	25-29		55-59	
	30-34		60-64	
	35-39		65 and older	
	40-44			

5. How many years of experience do you have in the field of Teaching and Learning in Higher Education?

PROPOSED FRAMEWORK THAT MAY ASSIST IN ACCOMMODATING GRADUATE ATTRIBUTES IN UNDERGRADUATE CURRICULUM DESIGN AND DELIVERY IN THE FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES AT THE UNIVERSITY OF THE FREE STATE

GRADUATE ATTRIBUTES PERCEIVED AS MOST IMPORTANT FOR GRADUATES FROM THE FACULTY OF EMS AT THE UFS TO POSSESS IN THE WORKPLACE.

All participants in the initial questionnaire survey were asked to identify the four graduate attributes (that include knowledge, skills, attitudes and/or values) that they view as most important for graduates in the workplace.

The graduate attributes proposed in the Draft Teaching and Learning Strategy of the UFS (Centre for Teaching and Learning 2013) to stimulate institutional discussion, were used as an example of graduate attributes that participants could view if they opted to do so. Many of the identified attributes collated with these examples but the researcher also gained new insights into aspects such as self-management as well as a need for digital literacy that could be developed and cultivated in undergraduate curricula.

The proposed graduate attributes (that include knowledge, skills, attitudes and/or values) are presented below. The attributes are interrelated and overlap in some instances (and thus might be applicable to more than one description). The complex interaction of graduate attribute development should ideally lead to enabling outcomes of higher education which

promote scholarship, active *glocal* citizenship and lifelong learning that collectively contribute to the employability of graduates.

The identified graduate attributes are presented below in terms of six major categories, namely (a) academic and professional competence; (b) being effective knowledge workers; (c) being inquiry focused and critically inclined in order to create new knowledge and understanding; (d) self-management that leads to career self-management in the workplace; (e) leadership, and (f) enabling outcomes of learning in higher education respectively.

Rate each of the features included in the following tables according to its importance. The rating scale for importance consists of only three levels to choose from, namely "**essential**" **(E)**, "**useful**" **(U)** and "**not necessary**" **(N)**.

Each set of features in the proposed framework is followed by a request to provide your own comments and/or suggestions pertaining to that particular set of features.

GRADUATE ATTRIBUTES CONSIDERED TO BE MOST IMPORTANT				
A: *Academic and professional competence* which include the following abilities:				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
A1	A sound discipline-specific knowledge base.	**E**	**U**	**N**
A2	Oral communication (e.g. making presentations).	**E**	**U**	**N**
A3	Written communication (e.g. report and essay writing).	**E**	**U**	**N**
A4	Non-verbal communication (e.g. interpreting body language).	**E**	**U**	**N**
A5	Conflict management.	**E**	**U**	**N**
A6	Problem solving.	**E**	**U**	**N**
A7	Decision making.	**E**	**U**	**N**
A8	Professional conduct which includes :	**E**	**U**	**N**
A8.1	An understanding of ethics.	**E**	**U**	**N**
A8.2	Acting with integrity.	**E**	**U**	**N**
A8.3	Ability to work with diverse others in teams.	**E**	**U**	**N**
A8.4	Ability to work with diverse others in pairs.	**E**	**U**	**N**
A9	Creativity and innovation.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the identification and classification of the GA features listed above as features of *academic and professional competence,* and that are believed to be important in the world of work? (Space to type comments)				

B: *Effective knowledge workers* which include the following abilities :				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
B1	To know when there is a need for information to address a particular problem.	**E**	**U**	**N**
B2	To collect appropriate information pertaining to the problem.	**E**	**U**	**N**
B3	To use information to address a particular problem.	**E**	**U**	**N**
B4	To organise information to address a particular problem.	**E**	**U**	**N**
B5	To apply knowledge gained from different sources and experiences	**E**	**U**	**N**
B6	Digital literacy – i.e. capabilities that enable an individual for living, learning and working in a digital society (e.g. using digital tools to do academic research).	**E**	**U**	**N**
B7	Computer literacy (e.g. ability to use programs such as MsWord or MsExcel to perform tasks).	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the identification and classification of the GA features listed above as features of *effective knowledge workers* and that are believed to be important in the world of work? (Space to type comments)				

C: *Being inquiry focused and critically inclined*, which include the ability *to create new knowledge and understanding* through:				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
C1	Inquiry before accepting or formulating opinions or conclusions.	**E**	**U**	**N**
C2	Analysis before accepting or formulating opinions or conclusions.	**E**	**U**	**N**
C3	Critical thinking before accepting or formulating opinions or conclusions.	**E**	**U**	**N**
C4	Systems thinking before accepting or formulating opinions or conclusions.	**E**	**U**	**N**
C5	An *interest in* global and local issues impacting on organisations and society as a whole.	**E**	**U**	**N**
C6	An *understanding of* global and local issues impacting on organisations and society as a whole.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the identification and classification of the GA features listed above as requirements for *an inquiry focus and a critical inclination to create new knowledge and understanding*, and that are believed to be important in the world of work? (Space to type comments)				

D: *Self-management* that leads to *career self-management* in the workplace				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
***Self-management abilities* include aspects such as:**				
D1	The management of oneself or by oneself.	**E**	**U**	**N**
D2	Taking responsibility for one's own behaviour and well-being.	**E**	**U**	**N**
D3	Having a favourable stance toward lifelong learning.	**E**	**U**	**N**
D4	Working independently.	**E**	**U**	**N**
D5	Taking ownership and responsibility for tasks and career development.	**E**	**U**	**N**
D6	Working under pressure.	**E**	**U**	**N**
D7	Adapting to changing circumstances.	**E**	**U**	**N**
D8	Persisting in the face of adversity/ambiguity (resilience).			
D9	Managing time effectively.	**E**	**U**	**N**
D10	Performance and goal directed behaviour (also related to lifelong learning).	**E**	**U**	**N**
D11	Having confidence in one's abilities to complete tasks and achieve success (i.e. self-efficacy beliefs).	**E**	**U**	**N**
D12	***Emotional literacy/intelligence* that includes the following:**	**E**	**U**	**N**
D12.1	The ability to understand one's own emotions.	**E**	**U**	**N**
D12.2	The ability to understand the emotions of others.	**E**	**U**	**N**
D12.3	The ability to manage one's own emotions.	**E**	**U**	**N**
D12.4	The ability to manage the emotions of others.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the identification and classification of the GA features listed above as requirements for *self-management that will lead to career self-management in the workplace*, and that are believed to be important in the world of work? (Space to type comments)				

E: *Leadership* which includes the *ability to*:				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
E1	Lead through *integrity* (i.e. with an awareness and understanding of *ethics*).	**E**	**U**	**N**
E2	Lead through an *awareness and understanding of community needs*.	**E**	**U**	**N**
E3	Delegate tasks effectively.			
E4	Working soundly with diverse others.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the identification and classification of the GA features listed above as requirements for *leadership*, and that are believed to be important in the world of work? (Space to type comments)				

Source: Adapted from the graduate attributes proposed for the UFS in the draft Teaching and Learning Strategy for the UFS (2013) and that stems from an integration of the work of Barrie (2004;2005), Farrell, Delvin and James (2007), Griesel and Parker (2009), University of the Western Cape (2011) and the Association of American Colleges and Universities (AACU) (2010). Also adapted from Bezuidenhout (2011) and informed by participant views from first round of data collection.

*The complex interaction of graduate attribute development above should ideally lead to *enabling outcomes of learning in higher education* which are described below as scholarship, active glocal citizenship and lifelong learning respectively:

F: THE ENABLING OUTCOMES OF LEARNING IN HIGHER EDUCATION				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
FA	***SCHOLARSHIP*: A CRITICAL ATTITUDE TOWARDS KNOWLEDGE AND UNDERSTANDING WHICH INCLUDES:**	**E**	**U**	**N**
F1	A scholarly attitude towards knowledge and understanding.	**E**	**U**	**N**
F2	Generating knowledge through inquiry, critique and synthesis.	**E**	**U**	**N**
F3	Applying the generated knowledge to relevant problems.	**E**	**U**	**N**
F4	Communicating understanding in a professional, effective and confident manner.	**E**	**U**	**N**
FB	***ACTIVE GLOCAL CITIZENSHIP*: A FAVOURABLE ATTITUDE OR STANCE TOWARDS TO COMPLEX GLOCAL (i.e. LOCAL AND GLOBAL) SYSTEMS WHICH INCLUDES:**	**E**	**U**	**N**
F5	Developing an understanding of complex, interdependent global systems.	**E**	**U**	**N**
F6	An aspiration to contribute to society in meaningful ways.	**E**	**U**	**N**
F7	*Contributing to society in meaningful ways* which includes, inter alia, *the following traits*:	**E**	**U**	**N**
F7.1	• Accepting social responsibilities.	**E**	**U**	**N**
F7.2	• Advocating the sustainability of the environment.	**E**	**U**	**N**
F7.3	• Having a broad understanding and high regard for human rights, equity and ethics in local, national and global communities.	**E**	**U**	**N**
FC	***LIFELONG LEARNING*: A FAVOURABLE ATTITUDE OR STANCE TOWARD ONESELF WHICH INCLUDES:**	**E**	**U**	**N**
F8	Being committed to and capable of continuous collaborative learning.	**E**	**U**	**N**
F9	Being committed to and capable of continuous individual learning.	**E**	**U**	**N**
F10	Critical reflection for the purpose of furthering one's own personal knowledge, skills, attitudes, values and competence.	**E**	**U**	**N**
F11	An understanding of the world and one's place in it.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the identification and classification of the GA features listed above as requirements for *enabling outcomes of learning in higher education* and that are believed to be important in the world of work? (Space to type comments)				

Source: Adapted from the graduate attributes proposed for the UFS in the draft Teaching and Learning Strategy for the UFS (2013) and that stems from an integration of the work of Barrie (2004;2005), Farrel, Delvin and James (2007), Griesel and Parker (2009), University of the Western Cape (2011) and the Association of American Colleges and Universities (AACU) (2010). Also adapted from Bezuidenhout (2011) and informed by participant views from first round of data collection.

A PROPOSED FRAMEWORK FOR ACCOMMODATING GRADUATE ATTRIBUTES IN UNDERGRADUATE CURRICULUM DESIGN AND DELIVERY IN THE FACULTY OF EMS AT THE UFS

The framework that follows here, was devised from both participant perspectives and the literature review undertaken in the study. In the framework, the acronym '**GA'** is used for 'graduate attribute'**.**

THEME: *INTERNAL AND EXTERNAL REALITIES* (i.e. *CONTEXT*)				
PROPOSED IMPLICATIONS (SUGGESTIONS)				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
16.	GA statements (in policy documents, syllabus/faculty calendars) for the institution and the faculty should communicate the importance and commitment to development of the student as a whole.	**E**	**U**	**N**
17.	This explicit commitment of the institution and the faculty to GA development implies that teachers should be motivated/convinced to become involved in curriculum review, mapping and embedding processes.	**E**	**U**	**N**
18.	The explicit commitment of the institution and the faculty to GA development, should lead to increased empowerment and participation of those responsible for the successful implementation of GAs.	**E**	**U**	**N**
19.	The cultivation of many of the attributes required in the world of work should already be initiated during undergraduate years of study.	**E**	**U**	**N**
20.	Given the resource implications of the meaningful development of GAs, in undergraduate curricula, human resources on a national and institutional level needs careful consideration.	**E**	**U**	**N**
21.	Given the resource implications of the meaningful development of GAs in undergraduate curricula, financial forecasting on a national and institutional level needs careful consideration.	**E**	**U**	**N**
22.	Realistic expectations in terms of timeframes for such gradual implementation are essential.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the implications listed above in terms of the external and internal realities/context? (Space to type comments)				

UNDERGRADUATE CURRICULUM DESIGN/REVIEW				
PROPOSED IMPLICATIONS (SUGGESTIONS)				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
23.	Undergraduate curricula need to explicitly identify and address the GAs required by the world of work.	**E**	**U**	**N**
24.	It is necessary to learn from and build on meaningful efforts already made by teachers (i.e. take an asset-based approach).	**E**	**U**	**N**
25.	The Faculty of EMS should consider a curriculum review or mapping process that can assist in determining effective practice in terms of GA development.	**E**	**U**	**N**
26.	The Faculty of EMS should consider a curriculum review or mapping process that can assist in determining possible gaps in terms of GA development.	**E**	**U**	**N**
27.	The conceptual clarification of GAs, and the importance and value thereof, should take place before curriculum review/mapping processes are undertaken.	**E**	**U**	**N**
28.	The conceptual clarification of GAs will influence future practices to a great extent.	**E**	**U**	**N**
29.	The mapping process should result in horizontal alignment between the outcomes and practices within and among the modules in an academic programme.	**E**	**U**	**N**
30.	The mapping process should result in vertical alignment between the outcomes and practices within and among the modules in an academic programme.	**E**	**U**	**N**
31.	Relevant HEQF and NQF level requirements should be considered.	**E**	**U**	**N**
32.	Consider using curriculum mapping software to simplify the mapping process.	**E**	**U**	**N**
33.	Leave a trail of data for future review processes.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the implications for undergraduate curriculum design/review listed above (i.e. in statements 8 to 18)? (Space to type comments)				

UNDERGRADUATE CURRICULUM DESIGN: REVIEW AND MAPPING (CONT.)				
PROPOSED IMPLICATIONS (SUGGESTIONS)				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
34.	Start with *a needs analysis* of the following:	**E**	**U**	**N**
19.1	• Explore the needs of teachers.	**E**	**U**	**N**
19.2	• Explore the needs of industry.	**E**	**U**	**N**
19.3	• Explore the needs of governing bodies.	**E**	**U**	**N**
19.4	• Explore the needs of professional bodies.	**E**	**U**	**N**
19.5	• Explore the unique GA needs within disciplines.	**E**	**U**	**N**
19.6	• Explore the needs of students (feedback, profile, performance data etc.)	**E**	**U**	**N**
19.7	• Obtain feedback from previous graduates.	**E**	**U**	**N**
35.	*Secondly*, individual teachers should *determine the existing GA outcomes and teaching-learning and assessment practices* within their own modules.	**E**	**U**	**N**
36.	*Thirdly*, the *process is in feature repeated* during departmental workshops.	**E**	**U**	**N**
37.	*Fourthly*, *collective workshops involving different departments* are conducted and which include the following activities:	**E**	**U**	**N**
22.1	• Take a whole of programme approach.	**E**	**U**	**N**
22.2	• Determine alignment, gaps, overlap or overload within programmes (consider notional leaning hours and credits).	**E**	**U**	**N**
22.3	• Consider the feasibility of foundational skills development modules where proficient students can test-out and accelerate to other relevant modules.	**E**	**U**	**N**
22.4	• Consider the use and feasibility of capstone experiences or even capstone modules in the programme.	**E**	**U**	**N**
22.5	• Consider the use and feasibility of capstone assessment tasks in particular modules or at the end of the programme.	**E**	**U**	**N**
38.	*Fifthly*, *make the necessary adaptations* by identifying appropriate:	**E**	**U**	**N**
23.1	• Modules for GA development.	**E**	**U**	**N**
23.2	• Outcomes for GA development.			
23.3	• Teaching-learning activities for GA development.	**E**	**U**	**N**
23.4	• Assessment tasks for GA development.	**E**	**U**	**N**
39.	*Lastly*, *implement changes and continually revise* the curriculum.	**E**	**U**	**N**
40.	Encourage reflective practice to encourage a living and non-static curriculum that is enacted and not only espoused.	**E**	**U**	**N**
41.	Make time for curriculum review and mapping since it is extremely time-intensive and require careful planning.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the implications for undergraduate curriculum design/review listed above (i.e. in statements 19 to 26)? (Space to type comments)				

THEME: *TEACHING AND LEARNING PRACTICES* FOR CURRICULUM DELIVERY				
***Teaching-learning practices* that promote GA development are characterised as follows:**				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
42.	Obtain the buy-in of teachers and build relationships with them to encourage the use of effective educational practices required for preparing students for the local and global labour markets.	**E**	**U**	**N**
43.	The traditional role of the teacher should be re-evaluated to encourage student-centred practices as opposed to teacher-centred practices.	**E**	**U**	**N**
44.	Properly reward good teaching-learning and assessment practices in order to motivate teachers to actively embed GA development in their modules.	**E**	**U**	**N**
45.	Research output and good teaching-learning and assessment practices should be regarded as equally important.	**E**	**U**	**N**
46.	Ensure *constructive alignment* between:	**E**	**U**	**N**
31.1	• Short- and long term learning outcomes.	**E**	**U**	**N**
31.2	• Learning outcomes and teaching-learning activities.	**E**	**U**	**N**
31.3	• Learning outcomes and assessment criteria and tasks.	**E**	**U**	**N**
47.	Utilise the positive backwash effect of assessment of student learning in order to ensure that students attend to all the intended learning outcomes and apply a deep approach to learning.	**E**	**U**	**N**
48.	Construct learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.	**E**	**U**	**N**
49.	Use Bloom's taxonomy of cognitive objectives/learning outcomes to formulate learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.	**E**	**U**	**N**
50.	Use the SOLO taxonomy of cognitive tasks to construct learning outcomes and assessment criteria at appropriate cognitive levels of expected performance.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the implications in terms of the *teaching-learning practices* that should enable effective GA attribute development and are proposed above (i.e. statements 27 to 35)? (Space to type comments)				

***TEACHING AND LEARNING PRACTICES* FOR CURRICULUM DELIVERY (CONTINUED)**				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
***Teaching-learning practices* that promote GA development are characterised as follows:**				
51.	Reinforce and encourage GA development expectations and outcomes throughout different modules and programmes.	**E**	**U**	**N**
52.	Use *student-centred, meaningful learning experiences* that require that:	**E**	**U**	**N**
37.1	• Students actively participate in the learning process;	**E**	**U**	**N**
37.2	• Students are empowered to take responsibility for their own learning; and	**E**	**U**	**N**
37.3	• Students get an opportunity to learn how to civilly engage with diverse others.	**E**	**U**	**N**
53.	New information should be meaningfully integrated with existing knowledge.	**E**	**U**	**N**
54.	Integrate GAs with discipline-specific knowledge and do not view or teach them in isolation.	**E**	**U**	**N**
55.	Make conditions of applicability explicit by coupling abstract principles with appropriate examples.	**E**	**U**	**N**
56.	Let the students compare different examples and cases to identify the significant, deep features of problems.	**E**	**U**	**N**
57.	Provide opportunities for the sound application of skills, knowledge, attitudes and values in diverse contexts (e.g. application in different modules).	**E**	**U**	**N**
58.	Provide prompts to relevant knowledge to indicate to students how what they already know, is applicable to the particular content, case or problem.	**E**	**U**	**N**
59.	Ask students to identify larger principles (underlying structures) and not only focus on the details of a particular problem or case.	**E**	**U**	**N**
60.	Cultivate holistic perspectives in students.	**E**	**U**	**N**
61.	Expect students to identify relevant knowledge, skills, attitudes and values needed for specific contexts.	**E**	**U**	**N**
62.	Expect students to identify relevant contexts where specific knowledge and skills are needed.	**E**	**U**	**N**
63.	Create opportunities for students to learn with their peers.	**E**	**U**	**N**
64.	Encourage feedback and discussion among students.	**E**	**U**	**N**
65.	Prepare students for interaction in communities of practice in the world of work (i.e. the social construction of knowledge).	**E**	**U**	**N**
66.	Use tasks and activities that allow for multiple means of representation, expression and engagement.	**E**	**U**	**N**
67.	Provide students with additional scaffolding where applicable.	**E**	**U**	**N**
68.	Offer opportunities to students for acceleration (i.e. to move forward to other modules or learning experiences when they prove to be proficient in a particular (skill or content).	**E**	**U**	**N**
69.	Allow for reflection on experiences in teaching-learning activities and assessment tasks.	**E**	**U**	**N**
70.	Allow students to make changes based on reflective experiences.	**E**	**U**	**N**

Do you have any suggestions or comments with regard to the implications in terms of the *teaching-learning practices* that should enable effective GA attribute development and are proposed above (i.e. statements 36 to 55)?
(Space to type comments)

***TEACHING AND LEARNING PRACTICES* FOR CURRICULUM DELIVERY (CONTINUED)**				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
***Teaching-learning practices* that promote GA development are characterised as follows (continued):**				
71.	Consider the use of *technology-enabled tools in teaching-learning activities* that involve the following:	**E**	**U**	**N**
56.1	• Information acquisition and management	**E**	**U**	**N**
56.2	• Workplace simulations	**E**	**U**	**N**
56.3	• Problem solving	**E**	**U**	**N**
56.4	• Communication	**E**	**U**	**N**
56.5	• Collaboration	**E**	**U**	**N**
72.	Use *well-managed tutorial systems* that can aid/supplement educationally informed teaching-learning activities through the following:	**E**	**U**	**N**
57.1	• Small-group activities	**E**	**U**	**N**
57.2	• Peer-assisted learning	**E**	**U**	**N**
57.3	• Active learning/engagement	**E**	**U**	**N**
73.	Consider *Work Integrated Learning (i.e. WIL) approaches* that are suitable for use in commerce programmes, such as:	**E**	**U**	**N**
58.1	• Work-directed theoretical learning (e.g. industry-led workshops, case studies, exchange programmes).	**E**	**U**	**N**
58.2	• Problem-based learning (e.g. students work on problems in small, self-directed groups).	**E**	**U**	**N**
58.3	• Project-based learning (e.g. management plans, business reports, market research, management activities, industry competitions, service learning).	**E**	**U**	**N**
58.4	• Workplace learning (e.g. job shadowing, internships).	**E**	**U**	**N**

Do you have any suggestions or comments with regard to the *teaching-learning practices* that should enable effective GA attribute development and are proposed above (i.e. statements 56 to 58)?
(Space to type comments)

ASSESSMENT PRACTICES FOR CURRICULUM DELIVERY				
PROPOSED IMPLICATIONS (SUGGESTIONS)				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
Assessment practices **that enable GA development should be characterised as follows:**				
74.	Offer students opportunities to 'become self-assessors' of their own lifelong learning process.	**E**	**U**	**N**
75.	Offer students opportunities that will aid the development of meta-cognitive skills.	**E**	**U**	**N**
76.	Communicate the purpose of assessment tasks clearly.	**E**	**U**	**N**
77.	Make use of both formative and summative assessment.	**E**	**U**	**N**
78.	Use well-designed rubrics that aid the clear communication of expectations.	**E**	**U**	**N**
79.	Consider capstone (i.e. integrated) assessment tasks that measure the development of a range of GAs and discipline-specific knowledge concurrently.	**E**	**U**	**N**
80.	Capstone assessment should be implemented especially during the final year of an undergraduate degree programme.	**E**	**U**	**N**
81.	Consider using technology-enabled tools for formative, summative, objective and subjective assessment.	**E**	**U**	**N**
82.	Establish explicit standards and guidelines for the assessment of GAs in institutional policies and procedures.	**E**	**U**	**N**
83.	Establish explicit standards and guidelines for the assessment of GAs in faculty policies and procedures.	**E**	**U**	**N**
84.	These standards and guidelines for the assessment of GAs should help to ensure that espoused outcomes are effectively taught and assessed.	**E**	**U**	**N**
85.	All staff members (*teachers and support staff*) *need to be sufficiently trained and/or supported in the processes of*:	**E**	**U**	**N**
70.1	• Constructing learning outcomes that assist in GA development	**E**	**U**	**N**
70.2	• Making decisions pertaining to teaching-learning activities that enhance GA development.	**E**	**U**	**N**
70.3	• Constructing appropriate assessment tasks, criteria and standards that also cover the development of GAs.	**E**	**U**	**N**
70.4	• Using technology-enabled tools for assessing GA development.	**E**	**U**	**N**
86.	Assessment tasks should ideally generate evidence of GA development.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the assessment practices that enable effective GA development (as listed in statements 59 to 71 above)? (Space to type comments)				

EVIDENCE OF GRADUATE ATTRIBUTE DEVELOPMENT				
PROPOSED IMPLICATIONS (SUGGESTIONS)				
Rating scale: E=Essential feature U= Useful feature N=Not necessary				
Enable the collection and management of evidence of GA development as follows:				
87.	Teach and motivate students to take ownership of the collection and management of GA development.	**E**	**U**	**N**
88.	Train students in the collection of appropriate evidence of GA development.	**E**	**U**	**N**
89.	Train students to manage the evidence of their GA development.	**E**	**U**	**N**
90.	Promote the collection of evidence of GA development in both curricular and extra-curricular activities.	**E**	**U**	**N**
91.	Inform students of other available resources and support such as career service departments.	**E**	**U**	**N**
92.	Explore e-portfolio management systems as part of a wider institutional and curriculum review approach.	**E**	**U**	**N**
93.	Explore and design generic GA assessment tools and tests that will provide sufficient evidence of GA development.	**E**	**U**	**N**
94.	Critically appraise all GA assessment tools and tests before implementation.	**E**	**U**	**N**
Do you have any suggestions or comments with regard to the collection and management of evidence of GA development (as listed in statements 72 to 79 above)? (Space to type comments)				

Do you have any other comments or suggestions?

Thank you once again for your contribution made to my study.