DESIGNING A FRAMEWORK FOR THE ADVANCEMENT OF LECTURER CAPACITY IN DEVELOPING GRADUATE ATTRIBUTES AT A TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING COLLEGE

By

Kheza Jonas Pitso
(B.A; PGCE; BPsych; MEd.)

Submitted in the fulfilment of the requirements of the Degree

PHILOSOPHIAE DOCTOR
(Psychology of Education)

In the
DEPARTMENT PSYCHOLOGY OF EDUCATION
OF THE FACULTY OF HUMANITIES

at the

Central University of Technology, Free State

SUPERVISOR : Prof. Gregory Alexander
CO-SUPERVISOR : Prof. Sheila Matoti

16 June 2018

ACKNOWLEDGEMENTS

I would like to express my heartfelt appreciation and gratitude to the following people for their invaluable contribution towards the success of this study.

- The almighty God who has given me strength and an opportunity to complete this study.
- My supervisor, Professor G. Alexander and co- supervisor, Professor Matoti, for their exceptional support, persistent guidance and expert advice.
- My parents for their good support and constant encouragement. Thank you so much.
- My son, Bokang Bitterbos (Kheza), for the unconditional love. I love you.
- My entire family, for being available when I needed help and advice. I really appreciate you.
- Members of Executive Management of Goldfields TVET College.
- Ms. Mokoena and the team of Career Guidance Officers
- All my friends and colleagues for having stood by me and offering all sorts of help whenever it was needed.
- All lecturers and students who participated in this study, for their time in providing information that is relevant to this study.
- The student support team, for your endless encouragement and unwavering support. Thank you.

DEDICATION

I want to dedicate this dissertation to the following people.

- My late father, in recognition of his empowering efforts that improved my attitude towards studying and offering support in times of need.
- My mother, in recognition of her endless support throughout my studies.
- My son Bokang Bitterbos (Kheza).
- My brothers and sisters, for their outstanding emotional, moral support and encouragement.

DECLARATION

I declare that the dissertation hereby submitted by me for Ph.D. (Psychology of Education) at the Central University of Technology, Free State is my own independent work and has not previously been submitted by me at another university/faculty. I further more cede copyright of the dissertation in favour of the Central University of Technology, Free State.

………………………………………………….

Pitso Kheza

………………………………………..

DATE

ABSTRACT

The Technical and Vocational Education and Training (TVET) sector in South Africa fulfils a crucial role in skilling and preparing youth and school leavers for the world of work and the industry. Both TVET colleges and the industry are therefore critical in developing the competencies they both deem necessary for graduates. These competencies, also framed as Graduate Attributes, are perceived to be the most important indicator of the success of TVET colleges and the subsequent quality of education on offer at these institutions of higher learning. Graduate Attributes are the qualities, skills and understandings a university or college community agrees its students should develop during their time at the institution- these competencies should prepare students for unknown industrial challenges and enable them to cope with whatever demand of the labour market. With the latter said in mind, the aim of this study was directed at designing a framework for the advancement of lecturer capacity in developing the Graduate Attributes needed for the TVET sector of South Africa, more specifically for a TVET college in the Free State province. This mixed methods study was compounded in the theories of Constructivism, Human Capital and Employability theory. The population of the study was the lecturers, students and management, attached to the identified college. Quantitative data emanating from 2000 questionnaires, ascertained students' perceptions of Graduate Attributes. Qualitative data emerging from the ten focus group interviews held with students and lecturers, respectively and a semi- structured personal interview conducted with an executive staff member, attempted to determine the level of support rendered to lecturers in producing 'well-attributed' students and also investigated the manner in which Graduate Attributes are possibly embedded into the curriculum. The findings of this study revealed that there's an urgent need to improve lecturers' qualifications and competencies to deal with current and future challenges of the curriculum and the demands of the industry. Equally important to this study, is the need for staff training and capacity in the development of Graduates Attributes, as well as in curriculum matters. It also emerged that curriculum re-evaluation could potentially contribute in fostering improved employability and productivity of TVET college graduates. The study recommends that TVET colleges, such as Goldfields TVET college, needs to prioritise lecturer development, ranging from continuous professional training to qualification improvement. It is also

iv

recommended that the industry needs to be given space in the TVET sector as to assist with the conceptualisation and development of Graduates Attributes for the world of work.

Key words: Graduate Attributes; Lecturer Capacity; Technical, Vocational, Education & Training; World of Work and Framework.

Table of Contents

CHAPTER 3 GRADUATE ATTRIBUTES IN TVET COLLEGES AND THE ROLES OF STAKEHOLDERS

CHAPTER 5 PRESENTATION, ANALYSIS AND DISCUSSION OF DATA

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

Annexure A   Letter asking permission for conducting research

Annexure B   Letter of permission granted for conducting research

Annexure C   Students' Questionnaire

Annexure D   Schedules for Students' Focus Group Interviews

Annexure E   Schedules for Lecturers' Focus Group Interviews

Annexure F   Invitation to Lecturers' Workshop

Annexure G   Attendance Register for Lecturers' Workshop

Annexure H   Request to students to participate in a study questionnaire

Annexure I   Student's consent to participate in the study questionnaires

Annexure J   Request to students to participate in the focus group interview

Annexure K   Student's consent to participate in the study's focus group interview

Annexure L   Notice to lecturers to participate in a workshop

Annexure M   Lecturer's consent to participate in the workshop

Annexure N   Request to Executive Manager to participate in a semi-structured interview

Annexure O   Executive Manager's consent to participate in the study's focus group interview

Annexure P   Research Questions

Annexure Q   Request to lecturers to participate in the focus group interview

Annexure R   Lecturer's consent to participate in the study's focus group interview

CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1. INTRODUCTION

The purpose of the TVET colleges (formerly known as Further Education and Training [FET] colleges) in South Africa is to train school leavers at various levels, providing them with the skills, knowledge and attitudes necessary for employment in the labour market (HRDC, 2014). This role of the South African TVET colleges resembles the role of TVET Colleges internationally, which is to offer education that exposes their students to modern technologies and related sciences, and promotes the acquisition of practical skills, attitudes, understandings and knowledge relating to the various sectors of the economy (Yusuff & Soyemi, 2012). These institutions of higher learning primarily provide training for multiple skills in various occupations (e.g. Engineering and Business Studies), required to develop the economy (DHET: White Paper, 2013).

The most important indicator of the success of a college is the quality of the education offered and consequently, the success in producing students with the Graduate Attributes. The Graduate Attributes are the qualities, skills and understandings a university or college community agrees its students should develop, during their time with the institution. These attributes include but go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as agents for social good in an unknown future (Bowden, Hart, King, Trigwell & Watts, 2000). According to Barrie (2004) the Graduate Attributes are the skills, knowledge and abilities of university or college graduates, which go beyond disciplinary content knowledge, and are applicable to a range of contexts. Furthermore, Barrie (2004) and Bridgstock (2009) assert that well attributed graduates will be lifelong learners, leaders who exercise their civic responsibilities. Thus, they will be committed to and capable of continuous learning and reflection for furthering their understanding of the world and their place in it. However, there is a general and substantiated view that many students demonstrate a lack of preparedness for higher education (Rowe & Melvyn, 2012).

This is evidenced in the National Benchmark Tests, as well as the role that system differentiation might have to play in addressing under-preparedness.

The importance of the Graduate Attributes is increasingly recognised internationally in higher education and by industry, government, and accredited bodies. However, integrating the development of the Graduate Attributes, such as critical thinking and critical reflection, has proved challenging in business education (Treleavent & Voola, 2008). This has prompted a continuous debate regarding the nature and desirability of the Graduate Attributes driven partly by stakeholder expectations that institutions of higher learning will prepare employees for the knowledge economy and partly by higher education academics and learning specialists (Green, Hammer & Star, 2009).

In the context of African countries, including South Africa, the identification of the Graduate Attributes within the academic programmes, should be shown in the planning, implementation and evaluation of the curriculum (Moalusi, Oladiran & Uziak, 2012). This has compelled the TVET colleges to engage with the graduate employability debate by adjusting curricula to meet the requirements of an ever-changing employer market. This came as a result of the increasing concerns about graduate employability in South Africa and the pressure on higher education to clearly demonstrate the benefits that result from the public funds it consumes. The emphasis, therefore, is on the delivery of graduates who are perceived as competent and employable within their disciplinary field (Jonck, 2014).

1.2. BACKGROUND TO THE STUDY

The TVET colleges are expected to produce well-attributed graduates who are competent to meet the manpower demands in all sectors of the South African economy (Mahadea & Simson, 2010). These institutions offer a variety of programmes (occupational, technical and vocational) with different exit levels, with each programme level accord based on the principle of substantial equivalence (Gewer, 2010). This means that the programmes do not have identical content and outcome, yet are expected to produce graduates with approximately similar characteristics.

2

In the context of TVET sector, the Graduate Attributes are led by the Academic and Student Support Departments. The Academic Department frames these attributes within teaching, learning and curriculum management, which later produces the learning outcomes (Ahmad, 2009). In the Student Support Department of the TVET colleges in South Africa, the focus is on capacitating students with life skills and improving the quality of teaching and learning through assistive programmes. These qualities are embedded in all the aspects of curriculum alignment that flow from them, which means that all teaching, learning and assessment aim to develop different, appropriate attributes in students, thus providing them with opportunities to both acquire and develop the relevant knowledge, skills and dispositions related to their field of study and practice (Shields & Johnson, 2008). In the context of South Africa, the colleges also cover aspects, such as lifelong learning, leadership and civic responsibility, so that students may lead responsible lives upon the conferral of their qualifications by the colleges (Rowe & Melvyn, 2012). The anticipation is that these attributes will be visible in the students' areas of expertise, as well as going beyond to the everyday lives of the students (Noor, 2011).

The Graduate Attributes are broadly understood to speak to what employers and the world of work beyond the college expect of graduates in terms of knowledge, skills and attitudes or dispositions, as well as higher education's role and purpose in preparing college graduates for the workplace and its expectations (Bester, 2014). This requires teaching and learning to be congruent with the expectations of employers and their evaluation of the quality of graduates produced by Technical and Vocational education institutions (Mager & Spronken-Smith, 2014). The attributes gained by the students should be able to isolate them from the entire population of people who might otherwise not have had exposure to technical and vocational education and training (Jackson, 2012).

The aforementioned, which happens in other South African colleges, overlaps into the TVET College identified. As is the case at other colleges, it offers different academic programmes with different content and outcomes. This difference in learning outcomes propels difference in the lecturers' understanding of the Graduate Attributes.

1.3. RATIONALE OF THE STUDY

The rationale of the study is the redefining of the notion of the Graduate Attributes, in order to align the responsibilities of technical and vocational education with the possibilities of new and changing forms of labour and the application of knowledge. This situation needs to be improved because, in the context of South Africa, there appears to be a mismatch between higher learning outcomes and the expectations of the corporate world and industry. This research study has attempted to align the outcomes of a TVET college's curriculum with the expectations of industry, so that the students' competencies correspond with the manpower demands of South Africa. Overall, it is intended to benefit both graduates and industry. Industry should have the will to interact with lecturers regarding the attributes they expect from student, thus strengthening the relationship between the colleges and industry. This study envisages the development of these Graduate Attributes by higher education institutions in varying programmes, so that they may synchronise with the needs and expectations of employers and, at the same time, with the apparent demands of the rapidly changing world of work.

1.4. PROBLEM STATEMENT

Despite the fact that the Graduate Attributes have been the centre of discussion in higher education institutions in many countries over a number of decades, several authors, such as Chan (2011), Barrie, Hughes and Smith (2009) and Radloff, De la Harpe, Scoufis, Dalton, Thomas and Lawson (2009) argue that the Graduate Attributes are largely invisible in most higher education programmes, due to academics' general lack of engagement with the attributes in question. These arguments indicate that it is important to investigate, firstly, what is meant by the Graduate Attributes in higher education curricula. Secondly, it is to gain a better understanding of how these Graduate Attributes are in fact embedded in curricula through teaching practice, all with a view to equipping graduates for the challenges of the world of work in a modern society (Bester, 2014).

4

Hager and Holland (2008) indicate that a prompt focus on developing the Graduate Attributes could possibly address the mismatch of what higher education provides and what industry expects. Furthermore, Dall'Alba (2009) indicates that the current manner of educating professionals is very limited in scope and not adequate for preparing students for the challenges of professional practice. She suggests a number of key curriculum design principles for education professionals, including the integration of knowledge and skills; overcoming a theory-practice gap in the curriculum; preparing professionals for the challenges of contemporary practice; and promoting the development of professional ways of being.

The focus in South Africa is on two main issues: what employers expect; and their evaluation of what they currently get (Bester, 2014). Griesel and Parker (2009) assert that although employers value the conceptual foundation, knowledge and the intellectual approach to tasks produced by higher education, there is a real need to address existing knowledge, skills and ability gaps between employer expectations and higher education outcomes, such as being experienced in TVET colleges in South Africa. Higher education should thus, take its rightful place in producing thinking, responsive and intellectually well-grounded individuals who are flexible and can readily adapt to new demands and challenges (Griesel & Parker, 2009).

The institutions of learning have described the generic qualities and skills possessed by their graduates to articulate the standards of education they offer to their students. However, there seems to be a continued lack of a theoretical and conceptual base on these widely spoken-about Graduate Attributes, together with being characterised by plurality and different perspectives (Barrie, 2004). The lecturers themselves, as personnel responsible for the development of these attributes, have different understandings of the nature of student generic attributes and the academic processes required to lead the development of these outcomes. Stakeholders in the institutes of higher learning differ as well, in terms of conceptions of the Graduate Attributes phenomenon. There is also a great variance in academics' and TVET college lecturers' understanding of the nature of the attributes, despite an agreement of the attributes as outcomes of learning (Barrie, 2007).

5

The Graduate Attributes revolve around teaching and learning, as well as the effective management of the curriculum and are made explicit within curriculum content (Sorin, Errington, Ireland, Nickson & Caltabiano, 2012). To respond promptly to the Graduate Attributes requirements, TVET lecturers in South Africa may require a fundamental understanding of teaching towards these attributes. Kindley (2002) agrees to this by asserting that there is a transition in knowledge acquisition from the more traditional forms of knowledge acquisition, to more fluid ones, in which learners assess situations and react appropriately. Norton, Taylor, Stewart, Blackburn, Jinks, and Razdar (2012) indicates that as new knowledge about teaching and learning emerges, new types of expertise are required by educators, thus making teaching a dynamic profession.   For this reason, there might be a need to develop teachers/lecturers, in terms of the Graduate Attributes, to better cope with the transition.

The status quo in research concerning the Graduate Attributes at other colleges reiterates the circumstances the researcher has identified at the TVET college under study in the Free State Province of South Africa The phenomenon of the Graduate Attributes has been a matter of much recent discontent and debate at this college as is the case in many higher education institutions. Thus, this college seems to have an urgent need for new, efficient and effective ways of judging, developing and implementing the Graduate Attributes within curricula and other programmes of this institution.

Therefore, in responding to the above said issue, the main research question of this study is:

How is lecturer capacity advanced regarding the development of Graduate Attributes at colleges for Technical and Vocational Education and Training?

The related sub-questions that will further provide direction to this investigation are:
- What is meant by the Graduate Attributes and what should they entail at TVET college level?

- What are the perceptions of students and lecturers regarding the development of the Graduate Attributes for subjects taught by them?

- Do lecturers have the required competencies, skills and experience base in developing the Graduate Attributes for their subjects?

- Which roles and responsibilities should college management fulfil in supporting the development of the Graduate Attributes?

- How can lecturers be supported in the development of the Graduate Attributes at TVET college level?

1.5. AIMS OF THE RESEARCH

1.5.1. General aim

The general aim of this research is to establish a framework for the advancement of lecturer capacity in developing the Graduate Attributes for a Technical and Vocational Education and Training College in the Free State Province.

1.5.2. Specific objectives

The following secondary aims also guided the research project:

- To determine what is entailed in the Graduate Attributes at Technical and Vocational Education colleges.

- To ascertain the perceptions of students and lecturers regarding the development of the Graduate Attributes for subjects taught.

- To investigate whether lecturers have the required competencies, skills and experience base for developing the Graduate Attributes in their subjects?

- To determine the roles and responsibilities TVET college management should fulfil in supporting the development of the Graduate Attributes.

- To establish a framework for the development of the Graduate Attributes at a college for Technical and Vocational Education in the Free State Province.

7

1.6. CONCEPTUAL FRAMEWORK

There are a number of theories and models for educational practice that provide base features addressing how students develop and learn. These theories and models are based on certain paradigms from which they are developed.

The conceptual framework was intended to offer a logical structure that identifies and constructs the epistemological and ontological overview and approach to the Graduate Attributes. In the present study, conceptual framework provides a synthesis of literature on how the theories and models are conceptualised to explain the phenomenon of Graduate Attributes. It provides the researcher's understanding of how the different variables of the study connect with each other. It maps the actions required, thus drawing the implementation plan for the course of study. The conceptual framework of the current study is embedded in a theoretical framework, which draws support from time-tested theories that embody the findings of many researchers on why and how a particular phenomenon (Graduate Attributes) occur.

1.6.1. Employability Theory

There are factors influencing graduate employability (e.g. flexibility and responsiveness) (Bester, 2014) and employability, in turn, influences interaction with industry to ultimately impact employment outcomes (Archer & Chetty, 2013). There are assumptions in this regard, that the qualities that would enable an undergraduate to successfully complete a degree would also equip her/him to be successful in her/his subsequent career.

For this conceptual framework the researcher will employ the USEM model (Yorke & Knight, 2004).

U : Understanding (of discipline and professional expertise);

S : Skillful (ability to apply acquired knowledge in a particular context);

E : Efficacious (believing in oneself, self-worth and personal identity); and

M : Metacognition (ability to regulate one's own learning and behavior).

8

The theory of employability connects with the current study as it promotes the production of skills needed by industry. Moreover, the theory does not only assert to the preparedness of students for employment, but to their success throughout their careers in industry (Archer & Chetty, 2013). It is the employability theory that promotes the working relationships between the colleges and industry, so that the college curriculum is kept abreast of the continuously changing trends in industry (Pool & Sewell, 2007).

1.6.2. Human capital theory

Employability is centred on theories of human development or capabilities theory and human capital theory (Jonck, 2014). The human capital theory, which has been chosen for the current study, emphasises growth in the stock of human capital. This growth is essential for economic growth; thus, employability of students is associated with the human capital theories of innovation and economic performance (Zaman, 2012). Van Lottum and Van Zanden (2011) argue that the human capital should be concerned with the development of skills the labour force possesses. The skills should entail capacities that go beyond just improving the economy (Almendarez, 2011). The theory argues in favour of transforming people to act as a resource or an asset.

Given relevance of the human capital theory, it will be used as the second theoretical paradigm for this study. The theory is more applicable in the context of developing countries (Adawo, 2011), which is the case of South Africa, where education is a high priority. Furthermore, the theory is applicable to the current study through its fundamental assertions of developing students for all contexts in life (Davidson, 2014). The theory is concerned with the provision of formal education by the college. This is viewed in light of investing in student potential, which proponents of human capital theory have considered as equally or even more worthwhile than that of physical capital (Almendarez, 2011).

1.6.3. Constructivism

Constructivism is a philosophy of information acquisition based on the idea that knowledge is constructed through individual interactions with the environment and all that is at the individual's disposal (Beneš, 2011). Constructivism is twofold in nature: (i) cognitive constructivism; and (ii) social constructivism (Powell & Kalina, 2009) (Kalpana, 2014). For this study, social constructivism will be utilised.

Social constructivism is applicable in this study because it promotes interaction among the TVET college students as the basis for information. It suggests that knowledge is not an attribute of an individual, but is mutually built and constructed (Gauvain, 2008). As the students of the identified college interact with the Graduate Attributes through curriculum, extra-curricular and co-curricular activities, students will also get an opportunity to share their views and thus generate a shared understanding relating to the concept.

While cognitive constructivism asserts that students assimilate new information to existing knowledge to enable themselves to make the appropriate modifications to their existing intellectual framework to accommodate that information (O'Hare, Lu,, Houston, Bookheimer & Sowell, 2008), the social constructivism examines the knowledge and understanding of the world that are developed jointly by individuals (Amineh & Asl, 2015). This theory assumes that understanding, significance, and meaning are developed in coordination with other human beings (Leeds-Hurwitz, 2009).

1.7. RESEARCH DESIGN AND METHODOLOGY

Research design is a detailed description of the procedures for conducting a study (McMillan & Schumacher, 2010). The purpose of the research design in the current study is also used to specify a plan for generating empirical evidence that will be used to answer the research questions. A case study design, framed in a mixed-method research methodology was used for the purpose of this study.

1.7.1. Mixed-method research

The method that the researcher used in this study is called mixed method (concurrent triangulation design). Mixed method is a type of research in which a researcher combines elements of qualitative and quantitative research approaches for the broad purposes of breadth and depth of understanding and corroboration (Johnson, Onwuegbuzie & Turner, 2007). Stuckey (2013) asserts that these designs involve the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study. Hennik, Hutter and Bailey (2011) define mixed-method research as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study".

In this concurrent triangulation design (also called integrative or convergent design), the researcher in the current study, simultaneously gathered both quantitative and qualitative data, merged them, using both quantitative and qualitative data analysis methods, and then interpreted the results together, so as to provide a better understanding of a phenomenon of interest (McMillan & Schumacher, 2010).

In the context of the current study, the researcher gathered data from the questionnaire and focus group interviews employed with the students; and semi-structured interviews with TVET lectures and members of management, to arrive at convergent findings for this specific study.

1.7.1.1. Quantitative approach

Quantitative research is the systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques (Given, 2008). The quantitative approach in the current study maximized objectivity by using numbers and statistics. In this approach, non-experimental design was undertaken to describe phenomena and examine the relationships between different phenomena without any direct manipulation of conditions that were experienced by the research participants (McMillan & Schumacher, 2010). The researcher conducted a survey through administering a questionnaire which probed various student participants'

11

perceptions on the phenomenon of the Graduate Attributes.   These questionnaires were distributed to lectures, students and members of management attached to the specific TVET college (Goldfields TVET), used as case study for the aim of this study.

1.7.1.2. Qualitative approach

Denzin and Lincoln (2005) further define qualitative as the word that signifies that emphasis is placed on the processes and meaning and not accurately scrutinising or measuring in terms of quantity, amount, magnitude or frequency. The qualitative approach in the present study was concerned with the understanding of the social phenomenon relating to the research participants' views, experiences and perspectives on the phenomenon of the Graduate Attributes (McMillan & Schumacher, 2010).

1.7.2. Case Study

McMillan and Schumacher (2010) describe a case study as a scrutiny and an in-depth analysis of a single entity. Creswell (2013) refers to it as a microscopic view of a unique system. Baxter and Jack (2008) argue that case study research is more than simply conducting research on a single individual or situation. They further opine that this approach has the potential to deal with simple and complex situations, thus enabling the researcher to answer "how" and "why" type questions, while taking into consideration how a phenomenon is influenced by the context within which it is situated.

Stake (2008) distinguishes between intrinsic case (case focused) and instrumental case (theme-based study). The researcher used an instrumental case which provided insight into the Graduate Attributes at a college for technical and vocational education and training.   The latter process required an exploration of the phenomenon (Graduate Attributes) in question within its context, using a variety of data sources. This ensured that the issue was not explored through one lens, but rather through a variety of lenses which allowed for multiple facets of the

phenomenon to be revealed and understood.

In this case study, the researcher explored the TVET College concerned, in all possible spheres on the phenomenon of the Graduate Attributes. The initial focus of this study ascertained the perceptions of students with regard to the Graduate Attributes, and how students found these attributes embedded in the curriculum. The researcher gathered these data on students' perceptions through focus group interviews.

The lectures were interviewed through semi-structured interviews. The intention of the researcher in this regard, was to determine how lecturers experienced the notion of the Graduate Attributes and the challenges they faced in transferring such skills to the students. These lecturers are in charge in teaching attributes that are entailed in the curriculum.

Furthermore, the staff of the Student Support Services Department (as it relates to Goldfields TVET college), also have the objectives of: (i) improving the quality of teaching and learning; and (ii) capacitating students with accredited programmes and life skills. These support staff research participants contributed to the research project via their input through semi-structured interviews and a workshop session. Academic support and other assistive services they render to the students were scrutinised in order to check how they contribute to the development and implementation of the Graduate Attributes.

Members of senior management provided an account of how the Graduate Attributes are incorporated into the policy framework and consequently, the support they offer. The members of management participated in the study and contributed with regard to curriculum re-evaluation, staff training and funding, so as to support the development of the Graduate Attributes.

In addition, the study was executed as a participatory research. The participatory research method was used in the current study for planning and conducting the research process for TVET college students and lecturers whose perceptions of the Graduate Attributes were probed. Since participatory research is an approach to

research that emphasises participation and action, it highlights collective inquiry and experimentation grounded in experience and social history (Chambers, 2008). Chevalier and Buckles (2013) postulate that the three components of participatory research are: participation; action; and research. In this regard, the researcher integrated these three basic aspects of participatory research into the study of the Graduate Attributes.

1.7.3. Data gathering tools

1.7.3.1. Interviews

Roller and Lavrakas (2015) regard the objective of interviewing as not to answer questions, and not to evaluate, as the term is commonly used. An interest in understanding the experience of different people and the meaning they make of that experience is the basis of interviewing.

- **Focus group interviews**

Focus group interviews were held with students and lecturing staff. The researcher conducted interviews with five focus groups of students. The total number of students who formed part of the focus group interviews was 25 in total. The researcher tape-recorded the focus group interviews and transcribed the data. The intention with the focus group interviews with students was to gather data pertaining to their perceptions of the Graduate Attributes and how they thought they should be embedded in the curriculum.

Another set of focus group interviews was also held with lecturers and 25 lecturers were interviewed. Lecturer participants were allowed to interact with the Graduate Attributes in question. The intention of the focus group interviews with this group was to assess how they embed the Graduate Attributes in the curriculum; and to determine how these services contribute to the development of the Graduate Attributes.

14

- **Semi-structured interview**

A semi-structured interview is a data collection method in which an interviewer asks questions to elicit self-reports of opinions, attitudes, values, beliefs or behaviours (Stuckey, 2013). The response format is open-ended; that is, there is no fixed response to the question, thus differing from a more structured interview. In a semi-structured interview a list of options can be provided, from which the respondent can choose to guide the interview process. In a structured interview the categories or topics in which information is gathered are already determined.

In this study, the researcher conducted a semi-structured interview with a member of the Executive Management about the development of the Graduate Attributes at the TVET College. This interview was held on a one-on-one basis. This is because it would have been difficult to conduct focus group interviews with all the Executive Managers, as many have commitments that cause their schedule to be somewhat unpredictable.

The rationale for the semi-structured interview with the Executive Manager was to determine how management supports the lecturers to embed the Graduate Attributes in the curriculum, and how they provide possible solutions to the challenges the lecturers face. The researcher had a one-on-one semi-structured interview with the Executive manager. This interview was tape-recorded and transcribed into a Microsoft document for analysis.

The motive behind using the semi-structured interview approach was that the structured questions were followed by clarifying open or unstructured questions. The open questions facilitated further explanations and understandings of the responses to the structured questions.

1.7.3.2. Questionnaires

A questionnaire is a set of carefully designed questions given in exactly the same form to a group of people, in order to collect data about some topic(s) in which the researcher is interested (McLean, 2006). Questionnaires are used in a wide range

15

of settings to gather information about the opinions and behaviour of individuals. For the purpose of this study, the questionnaires were given to all participants who had been selected by means of purposive sampling.

The questionnaires were distributed to the students of the identified college (Goldfields TVET). All the students who were selected for the interviews were given the questionnaires in order to respond to matters pertaining to the Graduate Attributes. The Coltech system, which is used by the identified college in the Free State Province, stores students and lecturers' data. The list of all the students who filled in the questionnaires was extracted from the Coltech system.

1.7.3.3. Information sharing sessions, workshops and seminars

- **Information sharing sessions**

In the current study, an information sharing session was held with lecturers from the different faculties of the Goldfields TVET College. This session was conducted on a day when lecturers had fewer administrative tasks to fulfil (during a test week). The intention of this session was to get lecturers together to discuss possible ways of developing a framework, as well as possible ways of implementing the Graduate Attributes at a college. This process allowed lecturers to exchange ideas and seek common ground on the notion of the Graduate Attributes. The researcher facilitated this two-day workshop on the Graduate Attributes for lecturers. Some experts were invited to talk about the notion at hand and share ideas and understanding with the lecturers.

1.8. POPULATION AND SAMPLING

The target populations for this research were the students and lecturers of the identified college in the district of Lejweleputswa in the Free State Province (Goldfields TVET College).

Sampling is a process of systematically selecting cases for inclusion in exploratory

16

research (Greenbank, 2003). This involves a strategy for choosing a group of participants to participate in a research study. For the present study, purposive stratified sampling was used to identify the participants for this research project. According to Tongco (2007), the purposive sampling technique, also called judgment sampling, is the deliberate choice of informants due to the qualities the informants possess. A purposive sample is selected based on the knowledge of a population and the purpose of the study. The participants are selected because of some characteristic that is of interest to the researcher (Teddlie & Yu, 2007).

As a result of this purposive sampling, the study comprised 25 lecturers who were interviewed through semi-structured interviews. The lecturers were subjected to focus group interviews. The students whom formed part of the focus group interviews were 25 in total and represented the different faculties at the Goldfields TVET College.

1.9. DATA ANALYSIS

Data analysis is the act of transforming data with the aim of extracting useful information and facilitating conclusions (Roller & Lavrakas, 2015). The transcripts of the recordings of interviews are carefully scrutinised and analysed.

1.9.1. Thematic Analysis

Thematic Analysis was used in the current study to analyse the qualitative data. The rationale behind choosing thematic analysis was the intention to analyse the classifications and present themes that emerged from the data. According to Alhojailan (2012), thematic analysis illustrates the data in a much more detailed manner and deals with diverse phenomena through interpretations.

Blacker (2009) argues that thematic analysis provides a systematic element to data analysis and allows the researcher to associate an analysis of the frequency of a theme with one of the whole content. This method of analysis goes beyond counting explicit words or phrases, and focuses on identifying and describing both implicit and explicit ideas (McNiff, 2010).

17

1.9.2. Descriptive statistics

Descriptive statistics were used to analyse the quantitative data. Descriptive statistics provide simplified summaries about the chosen sample and about the observations done within a particular setting (McMillan & Schumacher, 2010). These summaries may sometimes become the fundamental base for the initial description of the data as part of the extensive statistical analysis, or they may be sufficient in and of themselves for a particular investigation.

The descriptive statistics group the data extracted from the investigation. Once the data are grouped, different statistical measures are used to analyse the data and draw conclusions. For the current study, the following statistical measures of descriptive analysis were used:

- Measures of Central tendency;
- Measures of Variability;
- Measures of Divergence from Normality; and
- Measures of Probability.

The results of the two sets of data were the analyses which were compared for similarities and differences. After the triangulation of the findings, they were subjected to the participants' validation. The participants' validation in this research project entailed going back to the participants with the results to refine them with the participants, in light of their initial responses (Stuckey, 2013).

1.10. LITERATURE STUDY

The Graduate Attributes are particularly difficult to define and consequently, difficult to implement (Green, Hammer & Star, 2009). They are described and defined differently in various education systems and a bewildering array of terms has emerged as a result (Barrier, 2006). The lecturers responsible for them do not hold similar conceptions, thus creating a challenge for lecturers in devising a course that

achieves an appropriate balance of technical discipline, knowledge and skills (Senini & Nouwens, 2004).

Similar to the case of lecturers, the institutions of higher education and training at large, hold different conceptions of the phenomenon of the Graduate Attributes; thus, the base can be unclear conceptually and theoretically (Barrier, 2004). This conceptual confusion has over a long time, derailed the development of these attributes, despite the fact that they still require institutional and policy change implementation (Green, Hammer & Star, 2009).

A number of higher education institutions have battled with curriculum re-evaluation in order to incorporate the Graduate Attributes into teaching programmes. This said, some lecturers still perceive the development of such attributes as part of co-curricular activities, not part of curriculum itself; therefore, not part of their teaching responsibilities (Moalusi, Oladiran & Uziak, 2012). This provokes contentious ideas, with some authors arguing that it is through teaching, learning and effective management of the curriculum that the Graduate Attributes are acquired (Rowe, 2012). Others argue that these attributes develop when students are exposed to and engage with realistic and relevant experiences that demand the interaction and practice of these skills (Lowe & Marshall, 2004). Scholars have differed on whether the Graduate Attributes are outcomes of a specific course, or if they are derived from the total effect of professional experience (Wells, 2003). While the possessions of generic or job-specific skills are necessary, they are not sufficient for effective professional performance (Scott & Yates, 2001).

1.11. ETHICAL CONSIDERATIONS

A letter was written to the principal/campus manager to obtain permission to carry out the investigation. The academic staff was involved in assisting the researcher with administrative issues and to make appointments with the selected students.

The key ethical principles that were followed in the planning and execution of the project included the following:

19

- **Voluntary participation**

The researcher had to ensure that no participant was coerced into participating in the research. This was done by stating clearly upfront to the participants that their participation was voluntary. All participants were also informed that they had the right to declare their unwillingness to participate.

- **Informed consent**

The research participants were fully informed about the procedures and processes involved in the research. They were also requested to give their consent to participate, if they were willing to take part in the project.

- **Confidentiality**

The researcher guaranteed absolute confidentiality about the involvement of the participants and their perceptions. This meant that the contributions of participants and the outcome of the project were safeguarded. All information and data gathered from the participants were kept confidential.

- **Anonymity**

The participants were not asked to identify themselves before, during and after the investigation. This essentially means that the participants would remain anonymous throughout the study. Clearly, the anonymity standard is a strong guarantee of privacy.

1.12. SIGNIFICANCE OF THE STUDY

The results of this study, although limited, could assist lecturers in understanding and developing suitable Graduate Attributes for the TVET colleges' populations. This study is significant because of its intentions to contribute to the limited existing body of knowledge by developing a TVET framework for the Graduate

Attributes. The study also attempted to address critical issues pertaining to the Graduate Attributes.

The project will investigate lecturer capacity concerning the development of the Graduate Attributes, in order to give recommendations for improving teaching, learning and management of the curriculum at a TVET college in the Free State Province of South Africa. An assessment of lecturers' approach to teaching formed an integral part of understanding their current academic results and throughput rates. The lecturers, who experience challenges in achieving their targets in terms of results, could be assisted and the framework for the development of attributes will be given to lecturers to enable them to develop and implement the Graduate Attributes. This might, in turn, lead to the implementation of mechanisms for the development of the Graduate Attributes at TVET colleges, nationally.

1.13. STRUCTURE OF THE RESEARCH REPORT

Chapter 1:   Introduction, orientation, statement of the problem and clarification of concepts
Chapter 2:   The development of the Graduate Attributes at colleges (Literature Study)
Chapter 3:   Enhancing lecturer capacity in developing the Graduate Attributes (Literature Study)
Chapter 4:   Research design and methodology
Chapter 5:   Empirical research
Chapter 6:   Findings, conclusions and recommendations
Chapter 7:   A proposed framework for the Graduate Attributes at a TVET college.

1.14. CONCLUSION

The aim of this chapter was to introduce the significance, aim and the problem statement of the research project. The following chapter will outline the literature review on the Graduate Attributes at colleges for Technical and Vocational Education and Training.

CHAPTER 2

CONCEPTUALISATION AND DEVELOPMENT OF THE GRADUATE ATTRIBUTES: THEIR RELEVANCE FOR THE SOUTH AFRICAN TVET CONTEXT

2.1. INTRODUCTION

This chapter is aimed at providing an overview of the existing body of knowledge with regard to the notion of the Graduate Attributes within the setting of TVET (Technical, Vocational and Training) colleges and other institutions of higher learning, across the globe and particularly, in South Africa. The chapter elaborates on the theories that the researcher used as lenses to view the notion of graduate attributes at various institutions of higher learning.

2.2. THEORETICAL AND CONCEPTUAL FRAMEWORK

An eclectic mix of theories (Constructivism, Employability theory and Human Capital theory) will be used to conceptualise thinking, discourse and the understanding of lecturer capacity around the development of the Graduate Attributes for the TVET sector of South Africa. The theory of Social Constructivism states that knowledge evolves through the process of the social negotiation and evaluation of the viability of individual understanding (Amineh & Asl, 2015). It is for this reason that the theory is applicable in the context of understanding the Graduate Attributes in the TVET sector, where education is of high priority (Karacasulu & Uzgören, 2007). This theory is well synchronised with Human Capital Theory and Employability theory in this study of graduate attributes. These theories are relevant and applicable for understanding and advancing the educational, professional and pedagogical competencies of lecturers and students' learning repertoires (Mays, 2015).

23

2.2.1. Social Constructivism

The first theory that underpins the theoretical framework of the study is Social Constructivism. This theory serves as a useful theoretical framework as it allows a necessary qualitative analysis to reveal insights on how people interact with the world (Creswell, 2013). Accordingly, the theory asserts that in the current study of the advancement of lecturer capacity in developing the Graduate Attributes at a TVET college in South Africa, the research participants' ideas coincided with their experiences, whilst the researcher was enabled to build on the aspect of socio-cultural awareness, a key point in the identity construction of lecturers (McKinley, 2015).

The study of the Graduate Attributes mainly requires the interaction of both students and lecturers who have encountered and gathered experience of people within an environment of a selected case. Social Constructivism, in its social forms, suggests that students have to be actively involved in a joint enterprise with the teacher in the construction of new meanings (Atherton, 2013). The Social Constructivist theory to learning puts strong emphasis on how meanings and understandings grow out of social encounters (Sthapornnanon, Sakulbumrungsil, Theeraroungchaisri & Watcharadamrongkun, 2009). In this sense, the Graduate Attributes study fits into the constructivist framework. The knowledge raised by Social Constructivism positions students and lecturers as the active producers of information and meanings (Kim, 2008). The role of the researcher is therefore, to enter into a discussion with the students, lecturers and relevant stakeholders in an attempt to extract their understanding and meaning of the learnt content.

Several authors, such as Barrie, Hughes and Smith (2009), Nicol (2010) and McCabe (2010) conceptualise the development of the Graduate Attributes as a process that occurs through social and environmental interactions, and emphasis that knowledge exchange between students and lecturers occurs in a mutually created social context. Through the Graduate Attributes, students learn concepts or construct meaning about ideas through their interaction with others in a particular environment; they further make an analysis and interpretation of that world by actively constructing meaning (Thomas, Menon, Boruff, Rodriguez & Ahmed, 2014). Students gain

24

knowledge and information through participating in activities in their environment and in their exposure to the world (Öztürk, 2009).

There are perceptions about the relationship between culture and learning. Culture influences the perceptions of students in the TVET college environment (Farland-Smith, 2009), which in turn, influence the way information is acquired, processed and organised (Romanelli, Bird & Ryan, 2009). This relationship between culture and learning is part of the college setting (Thomas & Brown, 2011), and students are most likely to influence the research process, particularly with regard to this study. As a theory of interaction, Social Constructivism emphasises the importance of culture and socialisation in the cognitive development of individuals (Kutay, Howard-Wagner, Riley & Mooney, 2012). From the process of upbringing in humans, the family enculturation, institutions of learning and professional interactions, individuals acquire the cognitive tools and knowledge shared by the community (Abdullah, 2009). The cognitive tools individuals acquire from the community should therefore allow them to construct new knowledge based on knowledge previously acquired or learnt (Collet & Green, 2017).

The knowledge produced through the Graduate Attributes includes attributes in the curriculum (Wallenborn & Heyneman, 2009); the perceptions of various stakeholders concerning the Graduate Attributes; policy development; and pedagogic discourse (Hill,Walkington & France 2016). The use of this knowledge and the processing of such information within TVET institutions are perceived as an active learning process (Collet & Green, 2017). This is due to the fact that knowledge is not an inert object that an individual receives and sent away with, but is understood to be a fluid set of understandings shaped by those who produce it and those who use it. Social Constructivism extends into these social settings, wherein individuals and groups construct knowledge and information for one another (Atherton, 2013). This is a collaborative creation of a small culture of shared artefacts and shared meanings (Thomas & Brown, 2011). When an individual is immersed within a culture, he or she is much more likely to learn in a continuous manner (Farland-Smith, 2009). Social Constructivism is relevant in this study of the Graduate Attributes because it is regarded as a sociological theory of knowledge that focuses on how individuals come to construct and apply knowledge in socially mediated and constructed educational

contexts (Kutay *et al.*, 2012). The fundamental premise of this theory is that knowledge is a human construct and that the learner is an active participant in the learning process (Thomas *et al.*, 2014).

Social Constructivism allows students who are the recipients of the Graduate Attributes to make reality out of the entire process (Amineh & Asl, 2015). Wallenborn and Heyneman (2009) state that the students create this reality by giving meaning to what they are being exposed to, from curriculum content; co-curricular and extra-curricular activities; student support services; life skills programmes; and workplace-based experience. In other words, reality about the development of the Graduate Attributes will be constructed through a student's active experience of them (Bester, 2014).

The theory of Social Constructivism further insists that students produce knowledge and meaning based on their experiences. Moreover, it asserts that cognitive concepts, such as accommodation and assimilation facilitate the construction of an individual's new knowledge acquisition. Through assimilation, students incorporate new college experiences into their old life experiences (Abrahamson, 2011). This process then enables college students to develop new outlooks; channel them to rethink what were once misunderstandings; evaluate what is important; and ultimately alter their perceptions (Skolnik, 2012). On the other hand, accommodation refers to the students' reframing of their acquired new experiences into the mental capacity they also possess (Ginsberg & Schulte, 2008).

In designing the suggested framework for the advancement of lecturer capacity for the development of the Graduate Attributes at the Goldfields TVET College in South Africa, the researcher aimed at giving students an opportunity to narrate their college experiences at TVET level. Thus, the students and lecturers, in the process, might be able to develop the skills and confidence to analyse the world around them and create solutions for a modern society. Social Constructivism encourages students' exposure to learnt contents and their continuous interaction with what is at hand. Öztürk (2009) states that the theory allows students to rely not only on a particular individual for the production of information, but if exposed to various learning activities, may create their own reality.

2.2.2. Human Capital Theory

Human Capital theory is founded upon the knowledge that formal education, particularly Higher Education and training, is enormously critical and necessary to improve the capacity of a particular population in a given setting (Mamoon & Murshed, 2009). The founders of Human Capital theory have argued from the outset, that people who have knowledge, skill and education appear to be a much more productive group of individuals (Almendarez, 2011). Human Capital theorists attest to the fact that education increases the productivity and efficiency of people, by producing intellectually well-grounded individuals who have the ability to drive the economy in a society (Davidson, 2014).

In the current study of the Graduate Attributes, Human Capital theory is concerned with the provision of formal education at a TVET college in South Africa. This is viewed in light of investing in student potential, which proponents of Human Capital theory have considered as equally or even more worthwhile than that of physical capital (Almendarez, 2011). The theory further suggests that investment in TVET college students leads to the best economic outcomes. The contemporary world regards education and skills as the future prospects for economic growth and sustainability (Tan, 2014). This perception about education is one of the best investments for the promotion and advancement of the human race (Gillies, 2015). Cohen and Soto (2007), indicate that education is being re-theorised under Human Capital theory as an economic device. In a number of countries, economic viability is determined by the number of graduates who are also referred to as human capital (Rospigliosi, Greener, Bourner & Sheehan, 2014).

Human Capital theory also puts emphasis on the enhancement of capacity building opportunities amongst TVET college students, and in this study the students at the Goldfields TVET College, with the view of focusing on the required skills. It stresses the significance of education and training as pivotal assets for actively participating in the global economy (Plomin & Deary, 2015). Higher education and training institutions have a role to play in all types of economic endeavours in any country (Stinebrickner & Stinebrickner, 2009), with the determination of economic success in terms of human development, being influenced heavily by the number of well-

27

attributed graduates a country might produce (Pelinescu, 2015). Generally, human capital represents the assets each individual student, registered at a TVET college, acquires as a means of enhancing economic productivity and growth (Almendarez, 2011).

According to Oketch (2014), the theory argues in favour of the advancement of academic policies that posit education and development. It emphasises how education increases the productivity and efficiency of college students and consequently, increases the number of creative thinkers for the nation (Nsiah-Gyabaah, 2009). Accordingly, Yuzhuo (2013) states that the provision of formal education to the college student is seen as a productive investment in human capital, which the proponents of the theory have considered as equally or even more worthwhile than that of physical capital.

Making investments in the potential of TVET college students and what they are being exposed to at the various institutions, may result in incremental economic growth for certain communities and the society at large. Nalere, Yago and Oriel (2015) argue that for many communities, such investments in TVET learning programmes provide returns in the form of individual and economic success and achievement. TVET college students, who should ultimately become the human resources of a nation, should be provided with earning opportunities which are aimed at advancing and sustaining the economy better, than when the country has material resources without education (Mamoon & Murshed, 2009). Human resources constitute the ultimate basis of the wealth of nations. Capital and natural resources are passive factors of production. It is for this reason that Plomin and Deary (2015) indicate that human beings are the active agencies who accumulate capital, exploit natural resources, build social, economic, and political organisations, and carry forward national development, such as in the case of the Goldfields TVET college.

Furthermore, according to Babalola (2003), there are motives behind investing in human capital, which appear to be the following aspects:

- Students need information already possessed by previous generations.

- Students require knowledge on how the existing information should be used.
- Students should be encouraged to discover and produce new information.

Given the importance of education in the economic development of a country and the sustainability of every society (Nsiah-Gyabaah, 2009), TVET colleges should fulfil a central role in human development (Williams, 2013). TVET colleges in most developing countries are expected to play crucial roles in efforts directed at national sustainable development (Badat, 2010). These include the provision of educational and training opportunities and career advancement avenues for students, as well as providing skilled manpower needed at various levels of the economy (Cloete *et al.*, 2015).

According to Yuzhuo (2013), the achievement of well-enhanced human development in the general society requires the application of the theory of human capital to educational systems. The application of this strategy simply means productivity is enhanced and sustained, based on an increased and diversified labour force (Almendarez, 2011). Babalola (2003) also posits that the contribution of education to economic growth and development occurs through its ability to increase the productivity of an existing labour force in various ways.

The assertion by Oketch (2014) that education generates positive outcomes in the society is reiterated in human capital theory. TVET students are members of society before they are college stakeholders. They leave the college, returning to their communities as educated citizens with skills to cope with the ever-changing economic demands of the community (Pelinescu, 2015). Therefore, college graduates should be enabled to communicate efficiently and be skilled in solving economic problems. Education plays a significant role in the economy of a nation; thus, educational expenditure is found to constitute an investment in citizenry (Stinebrickner & Stinebrickner, 2009). This augments an individual's human capital and leads to greater output for society and enhanced earnings for the individual worker (Nalere *et al.*, 2015). Education and skills increase graduates' chances of employment in the labour market, and allows them to reap pecuniary and non-pecuniary returns, thus giving them exposure to job mobility (Rasool & Botha, 2011).

29

Van der Merwe (2010) postulates further, that human capital theory increases students' productivity, which consequently has a direct effect on their job performance. The more highly educated students are the more successful and effective they will be in labour markets, in terms of both income generation and work opportunities (Bester, 2014). Therefore, the type and quality of education acquired at TVET colleges, such as the Goldfields TVET college, may provide organised business and industry with the marketable skills and abilities needed for the relevant job (Yuzhuo, 2013).

2.2.3. Employability Theory

Employability for TVET students in South Africa is a priority for the Department of Higher Education and Training, as well as the institutions of higher learning (DHET: White Paper, 2013). TVET colleges' academic policies exist mainly to enhance the employability of graduates, which is part of a wider strategy to extend the skills of individuals (Heffernan, Morrison, Sweeney & Jarratt, 2010). Employability is further associated with the human capital theories of innovation and economic performance (Almendarez, 2011). Growth, in the form of human capital, is essential for economic growth and consequently, the government's agenda is driven by the desire to stem the productivity shortfall (Pelinescu, 2015). Higher Education and Training is therefore being steered to place greater focus on the employability of graduates (Knight & Yorke, 2004).

Employability theory refers to factors affecting graduate employability, such as flexibility and responsiveness (Bester, 2014). Employability in turn, also influences its interaction with the industry to ultimately respond to employment outcomes (Archer & Chetty, 2013). Knight and Yorke (2004) have defined employability as a set of achievements, understandings and personal attributes that make individuals more likely to gain employment and be successful in their chosen careers. Employability is having a set of skills, knowledge, understanding and personal attributes which make a person more likely to choose and secure occupations in which they can be satisfied and successful (Pool & Sewell, 2007).

According to Stinebrickner and Stinebrickner (2009), most employers seek graduates who are proactive, can use higher level thinking skills, such as analysis, critique, synthesis and multi-layered communication to facilitate innovative teamwork in catalysing the transformation of their organisation. Siu and Contreras (2016) further assert that employers expect graduates to have technical and discipline competencies from their degrees. They also require graduates to demonstrate a range of broader skills and attributes that include teamwork; communication; leadership; critical thinking; problem-solving; and managerial abilities (Bester, 2014). It is thus the onus of the institutions of higher learning to produce graduates who will match the manpower demand of the nation (De Weert, 2011). According to Van Broekhuizen (2016), TVET colleges of education, such as the Goldfields TVET in South Africa, should develop the capacity to develop graduates to acquire certain knowledge, qualities, abilities, characteristics, values, skills and attitudes that constitute employability, both in general and specific terms (Terblanche, 2017).

2.3. TVET COLLEGES OVERVIEW- INTERNATIONAL PERSPECTIVES

The enthusiasm to produce graduates with employable skills and competencies revives the demand to realign the TVET sector worldwide (Saunders & Zuzel, 2015). In addition, Jackson (2013) also states that the TVET is globally known as a sector that produces the highly needed skills and competencies for industry. This process may be viewed as an attempt to resuscitate employment prospects, alleviate poverty and drive the economic growth of all countries (Akoojee, 2016). The TVET policies in various countries have been developed in conjunction with the country's political, social and economic needs (Arfo, 2015). Consequently, this has brought about effective strategies, new implementation possibilities, current academic programmes with various levels of success to TVET operations in these countries. It has also been observed that the TVET sectors in various countries also differ in nature, size vision and mission statements.

TVET colleges offer various types of courses in industry-related fields, such as agriculture; arts and culture; business, commerce and management; education, training and development; engineering, manufacturing and technology; services; and building construction and security (Panacci, 2014). As the institutions of higher

learning in many countries engage more directly with industry, the learning to be emphasised at TVET colleges has a swift transition from the student experience to the work-readiness of the graduate (Hailu, 2012). This focus on the student as potential worker is expressed through a set of related graduate attributes and particular sets of employability skills developed by TVET institutions and further embedded in the curricula of programmes (Arfo, 2015).

2.3.1. Indian TVET System

Agrawal (2013) reveals that the Vocational Education and Training institutions (Polytechnics) in India have been given more recognition and attention over the past few years. It has been the responsibility of the Indian government to revive these VET colleges, thus giving them preference in the main policy agenda of the government, with a corresponding increase in fiscal funding (Aggarwal, Kapur & Tognatta, 2011).

Tognatta (2014) states that the Technical and Vocational Education and Training Colleges in India were established to respond to the creation of employment opportunities. Furthermore, Vocational Education in India is meant to impart suitable skills for entrepreneurship and self-employment (World Bank, 2012). These skills are also extended by all possible means to the Indian rural areas, as well as the unorganised economic sectors (Agrawal, 2013).

Vocational Education plays a highly significant role in the country's human resource development by producing the output of skilled manpower (Sharma & Sharma, 2015), which further enhances the industrial productivity and improves the quality of life. Furthermore, it is observed that within the Indian context, the term Technical Education and Vocational Training is sometimes used synonymously (Hanushek, Woessmann & Zhang, 2011). However, as per present practice, the term TE refers to post-secondary courses of study and practical training aimed at the preparation of technicians to work as supervisory staff (Annual Report, 2008). Vocational Training refers to lower level education and training for the population of skilled or semi-skilled employees in various sectors and trades in the economy (Sheik, 2017).

Polytechnic education in India contributes significantly to its economic development. Most of the polytechnics India offer conventional disciplines, such as Civil, Electrical and Mechanical Engineering over a period of three years, leading to the conferral of a generalised diploma (PWC, 2012). More recently, various polytechnics in the country have started to offer academic programmes in other disciplines, such as Electronics, Computer Science, Hospital Engineering, Architectural Assistantship and Medical Lab technology. Polytechnics are meant to provide skills after class X. The duration of diploma programmes is 3 years, which means the student becomes employable at the age of 19 years (Agrawal, 2013). The Annual Report (2008) affirms that Indian polytechnics also offer specialisation orientated programmes at post diploma and advanced diploma levels that take 1-2 years of training.

By offering all these academic programmes and qualifications, the Indian polytechnics produce highly employable graduates and a pool of skill (Azam, Chin & Prakash, 2013). These graduates, who are ultimately the country's workforce, function in industry as the middle-level link between technicians and engineers (Goel, 2011). The offering of diplomas in Engineering and Technology from these institutions plays an important role in managing these operations (PWC, 2012). It is further an established fact that small & medium Industries prefer to employ diploma graduates because of their special skills in reading, interpreting drawings, estimating costs and supervision (Sheik, 2017).

2.3.2. Korean TVET system

Korea is one of the developing countries that successfully relied upon state-funded specialised vocational education in secondary schools in their early period of industrialisation (Lewis, 2009). The country established Technical and Vocational Education and Training on a massive scale in secondary schools and post-secondary schools (Agrawal, 2013). This assured that Korean industries and all sectors of the economy attract the workforce it requires.

The success of the Korean TVET system is credited within the auspices of a well-developed curriculum, strong college and industry linkages and relationships including internships; industry-based training for faculty members; education for mid-

career industry employees; and joint college and industry research programmes (Chang, 2009). Consequent to this, Korean graduates are highly rated and valued, with the employment rate of College graduates estimated at 18.1 to 21.5 per cent higher than that of four-year University graduates (Korean Council for College Education, 2005). Out of the 329 higher educational institutions in the Republic of Korea, 158 are Colleges (Goodman, Hatakenaka & Kim, 2009).

Korean Technical and Vocational Education and training colleges have widely been credited for effectively supporting the country's rapid economic growth in the last 40 years. Since 2000, the goal has been to streamline the division of roles and responsibilities and strengthen collaboration among TVET stakeholders (Chung, 2010). The county's government is firmly committed to increasing the involvement of industry, policy development and the implementation thereof in TVET colleges (Ministry of Labour, 2009). In relation to the latter, the Korean government, allows the VET sector to develop exponentially and autonomously, especially with regard to teaching and learning (Chang, 2009). Moreover, the Korea Research Institute for Technical and Vocational Education and Training and the Korea Labour Institute are given the responsibility of conducting research, related to vocational education and training (Korean Council for College Education, 2005). These two structures also conduct research on qualification frameworks; the development and provision of TVET programmes; the nature of qualifications; the assessment of TVET institutes and courses; and the provision of career information and counselling (Goodman *et al.*, 2009).

2.4. African Perspective on TVET

2.4.1. Vision of the African Union

Afeti (2017) asserted that the vision of the African Union (AU) is that of an integrated and prosperous Africa, driven by its own people to take its rightful place in the global community and in the knowledge economy. It is a major advantage that this vision is therefore based on the development of human resources through the TVET systems on the continent (Maiga, 2013). The onus is on the African TVET systems to capacitate young people to cope with the rapid and continuous technological changes

taking place in industries (Oketch, 2007). Given these developments in industries, it has become necessary to integrate flexibility and adaptability, with apprenticeship training (Essel, Agyarkoh & Sumaila, 2014).

One of the most important developments on the African continent's TVET sectors has been the paradigm shift that has resulted in a more holistic policy (Hailu, 2012). This shift is actually in favour of the African TVET sectors adopting and recognising the need for the acquisition of skills at all levels of education and training (Arfo, 2015). According to Abubakar, Kazaure and Yusuf (2013), the African continent's TVET systems need to be coherent and meet the continent's economic development demands. These systems ought to do so in terms of skilled human capacity, both in sufficient quantity and in quality for all countries on the continent, in order to attain collective social welfare (Afeti, 2017).

According to Akoojee (2010), the TVET institutions have to respond spontaneously to a specific labour market demand and to various traditional learning structures. The main objective of Technical and Vocational Education and Training in Africa is to provide skills for gainful employment (Marfo, 2014). Furthermore, Baffour-Awuah and Thompson (2011) assert that the TVET systems continue to encourage and support creativity, innovation and entrepreneurship development. This is to ensure the ability to create jobs and employment opportunities. TVET in Africa has to be made congruent with employability, as this is at the heart of all best practices and strategies observed worldwide in TVET (Abubakar *et al.*, 2013).

2.4.2. African Strategy Mission for TVET

According to Loynes (2017), the actual mission of this strategy is firstly to build a unified general framework serving as a continental platform around which AU Member States will cluster. The different African states will converge to establish coherent and integrated TVET systems at national, regional and continental level through the development and implementation of national and regional plans (Afeti, 2017). Subsequently, this will be done to ensure a network that enables the establishment of common quality standards for all African TVET education systems and the harmonisation of training among different countries (Dzigbede, 2009).

Secondly, the continental TVET strategy intends to position TVET within the education system as a tool for the empowerment of African people (COTVET, 2011). Young people have to be targeted as the focus of all the training needed for the socio-economic development of the continent (African Union, 2007). The other intention of the strategy is to promote skills acquisition through training, which ought to be focused on responding to the demands of the socio-economic milieu (Loynes, 2017). This intention promotes an efficient and cost-effective system of quality Technical, Vocational Education, and Training, thus ensuring the relevance of training to the demands of various sectors of the economy (Aggarwal & Gasskov, 2013). The African TVET, in essence, means developing young people to become job creators rather than job seekers (Essel *et al.*, 2014).

2.5. The current era of TVET colleges in South Africa

As part of the global community, South Africa is affected by the international political and socio-economic trends taking place in the world (Terblanche, 2017). These trends have brought about significant changes in the education system of South Africa, resulting in the establishment of a technical and vocational curriculum at colleges (Jones & Skolnik, 2009). South Africa implemented this educational transition in 2007, eight years after TVET was born from the 1999 UNESCO second International Congress on TVET held in Seoul, South Korea (UNESCO-UNEVOC, 2014).

The intention was to have tertiary education that plays a crucial part in the economic and social development of a country (Alam, 2009). With the implementation of TVET, South Africa was tasked with strengthening the already existing role of colleges to develop the country and allow its labour force to take part in the economy (Tkachenko & Mosiychuk, 2014). It was expected that this process would simultaneously address the existing mismatch between the outcomes of higher education and training and the expectations of industry (Pillay, 2012).

South Africa's TVET sector, called the Technical and Vocational Education and Training colleges offered the so-called "NATED / Report 191" programmes, delivered under the auspices of the Department of Higher Education and Training and quality assured by Umalusi (DHET: White Paper, 2013). The programmes consist of 18

months theoretical studies at colleges and 18 months relevant practical application in workplaces. Engineering studies range from N1–N6, while Business and Service Studies range from N4–N6 (Umalusi, 2017). The transition from Further Education and Training (FET) colleges to Technical Vocational Education and Training (TVET) colleges signalled a new era for the colleges and skills development in South Africa and assists in aligning the country with international practices (Taylor & Govender, 2013).

The renaming of public FET colleges to TVET colleges was a process that came concurrently with the passing of the "Further Education and Training Colleges Amendment Bill" (B24, 2012). This Bill included a ratifying clause that redefined the term "college" as used in the South African educational system. Henceforth, a "college" would be a public or private further education and training institution that is established or declared as a technical and vocational education and training college, a community education and training college, or a private college that is established, declared or registered under this Act.

2.5.1. South African TVET System

The college sector in South Africa consists of the existing Technical and Vocational Education and Training colleges, the community colleges and the private colleges (Terblanche, 2017). Gewer (2010) also posits that these colleges offer qualifications mainly to those who have left school, whether or not they have completed secondary school and who wish to do vocational training or complete their schooling. The South African college sector is central to the provision of post-school education and training, and is the area targeted by the Department of Higher Education and Training for the greatest expansion and diversification (HRDC, 2014).

With regard to Technical and Vocational Education and Training, South African TVET colleges' role is to train young school leavers, providing them with the skills and competencies, functional knowledge and attitudes necessary for the industry (DHET: White Paper). The TVET colleges primarily provide training for the mid-level skills required to develop the South African economy (HRDC, 2014). The colleges mainly concentrate on occupations in the engineering and construction industries, tourism and hospitality, and general business and management studies, which are the fields

in which a workforce is required to drive the economy of the country (Stumpf, Papier, Needham & Nel, 2009).

In addition, the transformative agenda in the TVET sector in South Africa has largely been driven by an economic imperative (Vally & Motala, 2014). This means that the TVET is primarily aimed at securing the fundamental and necessary skills and competencies required by industry. The legislative framework that entails the White Paper on Post-School Education and Training (DHET: White Paper, 2013) posits that the TVET sector needs to be strengthened and expanded so that the colleges thereof become institutions of choice for a large proportion of school leavers.

The South African TVET curriculum is designed in such a way that it prepares students for a specific job or a broader occupation by equipping them with industry relevant knowledge and skills that will enhance their employability (Rasool & Mahambe, 2014). Moreover, Bester (2014) affirms that the TVET curriculum content is being revised to match the needs of the labour market through regular research and reviews, as well as industry involvement and support with curriculum development. The country's TVET curriculum design provides structure to the further development of teaching content, learning, assessment and learning materials (Arfo, 2015).

2.5.2. The current context of TVET colleges in South Africa

Given the high rate of youth unemployment in a number of countries, the intention to increase low-income and low-skilled youth in the labour market is becoming the highest priority internationally, particularly in developing countries (Tripney, Hombrados, Newman, Hovish, Brown, Steinka-Fry & Wilkey, 2013). In furtherance of this assertion, Statistics Portal (2017) asserts that the unemployment rate in South Africa was around 27.3 per cent in 2017. This intention moves simultaneously with an increasing focus on skills development to curb poverty and underdevelopment (Jacobs & Hart, 2012), placing technical and vocational education and training at the centre for the expansion of opportunities for economically segregated individuals (Alam, 2009). In other words, technical and vocational education are deliberate interventions to bring about teaching, learning and a theory-practice compounded

curriculum which would make people adequately productive in designated areas of economic activity (Engelbrecht, Spencer, & van der Bijl, 2017).

TVET colleges play a noticeably important role in providing citizens, especially younger adults, with security and stability in all spheres of human existence (Ansah & Ernest, 2013). TVET should be a sector that produces well-skilled individuals who should respond promptly to the technical and professional manpower demands and sustainable national development needs of a country; thus, it tends to be an investment with very high returns for many countries (Nsiah-Gyabaah, 2009). It is important to note, however, that each individual college is influenced by a country's economic makeup, and should respond to the actual needs of the given country (Pavlova, 2014). Global TVET colleges may not necessarily have a resemblance to academic courses. They each have responsibility of concentrating on the actual needs of industry in a given country and design flexible programmes that serve the needs of production. This is achieved through designing practices and learning experiences that best serve the labour market (Engelbrecht, *et al.,* 2012).

The TVET College in South Africa offer a variety of academic courses, developed to respond to the scarce skills needed by the employers. The courses differ in admission requirements and their structure, as well as their position in the National Qualification Framework established by SAQA (HRDC, 2014). While students flock in numbers to TVET colleges around the world to compete for space, the situation in South Africa is particularly arduous. Gewer (2010) revealed that there is an annual supply of 330 000 grade 12 school leavers from the schooling system, of which around 80 000 to 90 000 of these gain access to higher education. The remaining 250 000 join the approximately 750 000 young people that drop out or fail further down in the system. The prevailing fact is that there is already 3.3 million of the 10.4 million youth aged 15–24 who are not in employment, or engaged in education or training opportunities (Rasool & Mahambe, 2014). The TVET colleges have been entrusted to address this concern; thus, their enrolments have been increasing rapidly over the past few years. This growth is envisaged to continue in order to address South Africa's skills shortage, such as artisanship and entrepreneurship (Reddy, Bhorat, Powell, Visser & Arends, 2016).

2.5.3. The Role of TVET Colleges in the development of South Africa

The conceptualisation of the purpose and role of TVET colleges in South Africa requires more than just an in-depth understanding of TVET history and its theoretical underpinnings (Hicks, Weingarten, Jonker & Liu, 2013). Given the existing history of this sector, the revelation is that it has been closely linked with the process of economic development (Amedorme & Fiagbe, 2013). This fact dominates sectoral policy development and implementation, consequently causing TVET policies to be directed by economic and equity perspectives. Arfo (2015) revealed that the technical and vocational education and training discourse in South Africa is innately coupled with a distinctive set of major policies promulgated by the democratic government. These policies stipulate the nation's current social and economic status quo, with explicit reference to the role to be played by the TVET college sector in responding to developmental challenges (DHET: White Paper, 2013).

The existence and purpose of the TVET college sector in South Africa is firmly embedded in the paradigm of a developmental state (Rasool & Mahembe, 2014). This reiterates the axiom that success in skill development is intricately linked to the success of the developmental state (Akoojee, 2010). There is also provision for a number of policy documents, plans and strategies which make constant referral to South Africa as a "developmental state", with the solutions to the country's structural problems lying within that dynamic (ANC, 2012).

2.5.4. Expansion of TVET in South Africa

The South African Department of Higher Education and Training (DHET) is concentrating on the development of the Technical and Vocational Education and Training colleges as ideal institutions to address the country's urgent need of technical and vocational skills Gewer, & Akoobhai, 2013). The initiative of the DHET to expand colleges is intended to absorb a great number of out-of-school youth into the TVET sector (DHET: White Paper, 2013). The Government has prioritised the expansion and internal development of TVET colleges for the provision of skills and competencies needed for economic growth (Rasool & Mahembe, 2014). The high demand for artisans and skilled workers by the economy has necessitated the re-

prioritisation of the TVET sector in order to meet the country's future development targets (Bester, 2014). One of the most critical objectives of the DHET as explicitly revealed in the White Paper for Post-school Education and Training and National Development Vision 2030, is to increase access to education and training opportunities for the youth.

Another focus of the DHET is broadening access to the TVET sector in rural areas and many other poverty-stricken areas where there is inadequate or no provision of education and training (Gewer, 2010). Accordingly, the White Paper for Post-school Education and Training asserts that the TVET infrastructure expansion programme aims to develop the TVET college system by providing quality teaching and a conducive infrastructure for learning. The TVET infrastructural expansion is intended to establish multi-dimensional capacity to provide an array of artisanship and entrepreneurship related qualifications and programmes. The needed qualifications and programmes ought to pinpoint accurately the needs of the immediate community and many other sectors of the South African economy. This process of prioritising the establishment and refurbishment of TVET colleges was conducted with due consideration by the Human Sciences Research Council research in 2006.

Like many countries in the world, South Africa is unanimously of the opinion that technical vocational education and training is most critical for economic development and social advancement (McGrath & Akoojee, 2009). Countries with leading economies maintain that their citizens acquire the necessary technical and vocational education and training opportunities; this is what is needed for the advancement of the South African economy as well.

TVET college students' tuition fees are highly subsidised by the South African government to ensure that TVET colleges across the country are easily accessible and affordable. There is also financial assistance in the form of the National Student Financial Aid bursary scheme, which is available through the DHET for TVET college students who are needy and academically deserving. TVET colleges should therefore be restructured to meet the demand for high quality education and training in South Africa. As a means of promoting the constitutional imperatives of 'access', TVET

colleges are compelled by government to admit multiple students throughout the year for particular qualifications and programmes.

2.6. PROBLEMS IN DEFINING THE GRADUATE ATTRIBUTES FOR THE SOUTH AFRICAN TVET CONTEXT

Although the Graduate Attributes are viewed as the orientating framework of educational outcomes that a TVET college community agrees upon, its graduates should develop further, as a result of completing their studies in a successful manner (Hill, Walkington & France, 2016). The Graduate Attributes are becoming a bone of contention and a catalyst for controversy at a number of institutions of learning in the higher education and training fraternity (Barrier, 2006). TVET colleges around the world have their graduate attributes rolled out differently through their academic departments to those of the support services departments (Cribb & Gewirtz, 2013). While the nature of these graduate attributes and their possible implementation strategies are the starting point of controversy, these competencies continue to instil various perceptions and perspectives among academics around the world (Haigh & Clifford, 2010).

There is currently the lack of a conceptual or theoretical base for the understanding of graduate attributes throughout the world (Ipperciel & ElAtia, 2014). Any attempt to conceptualise these outcomes (Graduate Attributes) appears to be difficult (Pitman & Broomhall, 2009). The variety of definitions by various authors further contribute to making the phenomenon of graduate attributes more complex. Therefore, the matter is subject to a plurality of ideas and contending perceptions (Green, Hammer & Star, 2009). There are arguments, which seem to be implicit in these definitions, which cause tension that is not always readily understood.

The academic staff responsible for the teaching of the Graduate Attributes seem not to hold the same ideas and understandings (Moalusi *et al.,* 2012). Therefore, the very same academic staff tend to experience the establishment of common programmes that contain or develop the Graduate Attributes as a challenging task. Therefore being equipped as TVET college staff, to achieve an appropriate balance of technical

discipline, knowledge and skills, is fundamental (Barrie, 2012). The manner in which academics understand and interpret the Graduate Attributes, both their nature and their roles, is fundamental to how any institutional conversation on these issues is to be taken forward (Hill *et al.*, 2016).

In the institutions of higher learning, there are lecturers who argue that the Graduate Attributes are in place to create responsible citizens who accept civic responsibility and, therefore, the emphasis should be on moral development (Al-hooli & Al-Shammari, 2007). For others, the emphasis should be on teaching for employability where the Graduate Attributes are described as the skills and competencies which future industry and business employers might find desirable (Lowden, Hall, Elliot & Lewin, 2011). Green *et al.* (2009) suggest that there is a functional link between academic conceptions about 'generic' attributes and their approach to learning and teaching.

There are lecturers who emphasise that course delivery should be made up of several different sets of activities that link together to develop the technical, practical and emancipatory knowledge of a student (Pitman & Broomhall, 2009). Some lecturers perceive the development of the Graduate Attributes as something outside pedagogical discourse, and have very little to do with teaching and learning (Mohammad, 2012). They caution about the complexity of modifying the curriculum to enhance the Graduate Attributes, while continuing to maintain technical competence at a higher level and within a limited programme time (Ipperciel & El Atia, 2014).

2.7. WHAT IS THE GRADUATE ATTRIBUTES THEN?

Bowden, Hart, King, Trigwell and Watts (2000) provide a standard definition of the Graduate Attributes. They regard the Graduate Attributes as the qualities, skills and understandings a university or college community agrees its students would desirably develop during their tenure at the institution. Consequently, these skills find expression in behaviours, values, attitudes, communication and forms of knowledge application (Potgieter & Coetzee, 2013). These Graduate Attributes further shape

43

graduates in a manner so that they might contribute significantly to their professions (Nagarajan & Edwards, 2014). With these attributes being entrenched in TVET colleges' curricula, students become leaders, life-long learners and they engage in civic responsibility as part of their programmes (McGovern, Corey, Cranney, Dixon, Holmes, Kuebli, Ritchey, Smith & Walker, 2010). Barnett (2010) also indicates that life-long learning should be understood in multiple contexts, and be transferred to all areas of life, such as work, the wider community and society.

The Graduate Attributes are not merely skills, but go beyond skills and an understanding of professional discourse (McCabe, 2010). Attributed graduates are able to apply their skills and knowledge to authentic problems in a wide range of contexts (Trapp, Banister, Ellis, Latto, Miell & Upton, 2011). They include qualities, such as loyalty, commitment, integrity and honesty; thus graduates should display and demonstrate applicable abilities for the broad application of knowledge to real life and work situations (Nagarajan & Edwards, 2014). Furthermore, the Graduate Attributes are skills and knowledge that all labour market participants should possess to be effective in the workplace. All these skills should benefit TVET graduates themselves, their employers, the broader community, as well as the economy.

Moreover, it should be noted that these skills are curriculum outcomes obtained from the institution of learning as they should invoke and evoke competencies, such as effective communication; problem solving; team work; creative and critical thinking; and research and inquiry (Moalusi, Molokwane & Mothibedi, 2015). According to Bowman (2010), the Graduate Attributes are also inclusive of other critical abilities, such as literacy and numeracy; problem solving and critical thinking; and self-reliance and interpersonal understanding. These qualities and skills foster personal development in all spheres of human existence (Nicol, 2010). UNESCO (2014) postulates that the Graduate Attributes comprise three-fold skills, namely:

- foundation skills – entailing literacy and numeracy skills necessary for employment;
- transferable skills – incorporating a broad range of skills that can be transferred and adapted to different work needs and environments; and

- technical and vocational skills – involving technical and professional expertise.

2.8. GRADUATE ATTRIBUTES DEVELOPMENT DURING COLLEGE STUDIES

Different terms refer to the Graduate Attributes, which are often used interchangeably, with different meanings that are extracted from such use of terms (Rowe, 2012). The Graduate Attributes are usually broader than just skills or competencies and include qualities, such as loyalty, honesty and integrity (Tan, Koppi & Field, 2016). Rowe (2012) argues that the combination of all these qualities is usually referred to as Graduate Attributes, and have been found to be highly desirable by employers. Simultaneously, there are significant differences in the manner in which the Graduate Attributes are interpreted and implemented in the various institutions of learning. Another variation can also be attributed to the extent to which the lecturers charged with these qualities and skills are committed to their development (Moalusi *et al.*, 2012).

Gamble (2013) suggests that the Graduate Attributes development process will work only if students participate meaningfully and signal enthusiasm for the development process. Despite contending views, TVET colleges globally have started to embed the Graduate Attributes in their curricula, programme contents and forms of assessment. Thompson, Treleaven, Kamvounias, Beem and Hill (2008) further reiterate that the Graduate Attributes are conceptualised at different academic levels in colleges. Although such conceptualisation is a sound initiative for the development of the Graduate Attributes, it leads to challenges relating to curriculum development, since there are different levels at which they should be embedded (Potgieter & Coetzee, 2013). One of the approaches to managing the embeddedness of the Graduate Attributes at different levels is the use of overarching attributes that are then broken down into specifics and implemented at lower levels (Bridgstock, 2009). Consequently, these attributes tend to be translated by colleges into a set of more specific learning outcomes as they relate to various academic programmes (Barnett, 2011).

The successful mapping and embeddedness of the Graduate Attributes into the college curriculum is then subjected to teaching and learning activities, as well as

different assessment criteria (Johan, 2015). However, the mapping of the Graduate Attributes does not necessarily guarantee that they are being taught in an explicit manner. If the purpose of the Graduate Attributes development is not made explicit to the students, they might just target obtaining a specific mark without acquiring the specific attribute. James, Lefoe and Hadi (2004) suggest that the process of developing the Graduate Attributes should be shared among the lecturers and students. Moreover, the Graduate Attributes development initiative should not be a process undertaken for compliance, but for the holistic development of all TVET students in preparation for industry and the community at large (Bester, 2014). The well-synchronised linkage between teaching, learning, curriculum management, assessments and the Graduate Attributes are necessary for the students to participate meaningfully in the development of such attributes (Thompson, Treleaven, Kamvounias, Beem & Hill, 2008).

Similarly, another aspect involving the successful development of the Graduate Attributes at TVET colleges is the feedback from stakeholders (Mbatha, Wildschut, Mcnwango, Ngazimbi & Twalo, 2015). Feedback from industry pertaining to the Graduate Attributes production is essential (Gamble, 2013). Industry can assist in the process of developing the work-related attributes through student practicum programmes (Amedorme & Fiagbe, 2013). Simultaneously, the student could provide valuable feedback on learning experiences gained from industry, thus verifying their achievements in terms of the development of the Graduate Attributes (Ayalew, 2011). In addition to the feedback from industry, colleges tend to be compelled by the developments in education and labour market policy to produce employable graduates (Bridgstock, 2009). This increases the focus on the Graduate Attributes' development and the TVET colleges' congruence with industry (Rowe, 2012). The students at TVET colleges need these attributes to adapt and remain flexible to the ever-changing trends of industry (Bester, 2014). Industry in all countries expects graduates to be skilled and to have acquired the relevant competencies to deliver on their responsibilities (McCabe, 2010). It is expected that when work-related complexities arise, graduates should be able to rise to the challenge by acknowledging that they have the responsibilities, by combining acquired knowledge and competencies for the required situation (Baffour-Awuah & Thompson, 2011).

2.9. CONCEPTUALISING THE GRADUATE ATTRIBUTES IN TVET

The Graduate Attributes are made explicit in the curriculum of vocational education programmes and as such, should not be viewed as being independent from these fields of study, thus implying development in a separate unit of study. Firstly, the designers of vocational education curricula should start by ascertaining the qualities and skills needed by students upon graduation in consultation with industry and other relevant stakeholders (Amankwah & Swanzy, 2011). With this knowledge of qualities and skills required of students, the desired programme outcomes are outlined. The curriculum structure is then designed to guide teaching and learning activities towards the attainment of specific outcomes (Booyens, 2009). This process of establishing the curriculum structure required for a vibrant TVET sector compels the facilitation of the Graduate Attributes through the relevant learning activities, learning outcomes, teaching activities, tasks and assessment criteria (Kamvounias & Thompson, 2008). This curriculum structure also makes provision for the curriculum content to be further expanded by lecturers and what TVET colleges may deem necessary to expose their students to (Papier, 2009).

2.9.1. Embedding the Graduate Attributes in the TVET Curriculum

While the Graduate Attributes are embedded in all types of pedagogical discourse, the academic components (teaching, learning and management of curriculum) should aim at promoting different, appropriate attributes and provide students with the opportunities to both acquire and develop the relevant knowledge, skills and dispositions related to their fields of study and practice (**Jones & Killick, 2013**). The Graduate Attributes further entail that planners to aligning the curriculum and cademic courses with workplace and relevant professional organisations, thus enhancing employability (Žeravíková, 2013), give consideration. The curriculum is almost immediately relevant to students' needs, experiences and abilities, providing meaningful opportunities and engagement for active learning. As such, the Graduate Attributes would be poised to promote work-integrated learning activities, which expose students to flexible learning pathways (Bridgstock, 2009).

47

Robertson (2008) further asserts that the development of the Graduate Attributes entails a curriculum of institutions of higher education, which have shifted their emphasis of technical skills (covering knowledge of a particular discipline) to the inclusion of generic attributes as well. These attributes should characterise each individual graduate, irrespective of the discipline from which he or she acquired knowledge (Allais, 2011).

Many institutions of higher learning around the world have undergone curriculum re-evaluation with the purpose of incorporating the Graduate Attributes into the curriculum (Oliver, 2013). This did not only bring about a paradigm shift in academic units being taught, but also changes in the teaching, learning and management of the curriculum (Loynes, 2017). Other units of these institutions, responsible for co-curricular and extra-curricular components, have all been affected by this paradigm shift (Dzigbede, 2009). This meant that the academic departments and non-academic departments at TVET colleges had to explore all possible avenues of working together in a well-synchronised manner across all disciplines. The cooperation between all departments and across all faculties at TVET colleges is extremely necessary in the process of developing the Graduate Attributes (Baran & Correia, 2014).

It should be noted that the Graduate Attributes are entailed in all education curricula, including the curriculum of higher education and training (Scheepers, 2015). They revolve around the curriculum that is taught and the learnt outcomes; thus, they are constituted in subject contents and included in various assessment modes (Moalosi *et al.*, 2012). To address them, lecturers should be empowered and skilled in the use of a variety of teaching methods and strategies that engage, involve and support students to develop an understanding and the application of knowledge in all life spheres (Woldetsadik, 2012). Success in the development of the Graduate Attributes is therefore largely dependent on each individual lecturer's level of knowledge and expertise (Green *et al.*, 2009). It is for this reason that Papier (2009) argues that lecturers need to be subject specialists and possess specific subject didactics required for the teaching of the Graduate Attributes. Educators approach the Graduate Attributes differently and they, simultaneously, bring together different skill sets, expertise and approaches to the implementation of the Graduate Attributes

(Hanf, 2011). While these methods and teaching strategies applied by lecturers varies in characteristics, they tend to achieve approximately the same results in instilling intellectual development, creativity, cooperation, and critical reflection (Mmako, 2015). Higher learning institutions make provision for a variety of teaching methods in accommodating lecturers' understanding and expertise when developing such attributes (Baran & Correia, 2014).

2.9.2. Teaching and Learning of the Graduate Attributes

With a variety of teaching methods and strategies in place, the curriculum plays a pivotal role in terms of funnelling what the educators teach in the Graduate Attributes programme (Bingimlas, 2009). Jones and Killick (2013) indicate that a curriculum is an academic guideline which outlines the knowledge and skills educator practitioners have to teach and what learning is required of students. In its nature therefore, the curriculum is implemented and articulates the specific learning outcomes, which in turn, describe the attributes expected from each individual student after their exposure to the intended curriculum (Saunders & Mydlarski, 2015). The Graduate Attributes are now the core set of higher education and training outcomes that every student has to possess (Rasool & Mahambe, 2014).

Easa (2013) further argues that the Graduate attributes are the most critical factors to consider when planning the curriculum for academic programmes at any higher education and training institution. The curriculum is, in most instances, planned and structured in such a way that it clearly stipulates the contents, skills, values and attributes that it intends to achieve with students who will learn it (Rowe, 2012). Moalosi *et al.* (2012) affirm that attributes are made visible in the curriculum and compounded to cover technical knowledge and skills, personal attributes and values, which students should acquire irrespective of their study domain. Students at TVET colleges should complete their academic programmes with a sound knowledge structure intact, a positive outlook, and with the ability to think independently and critically. The curriculum that incorporates the relevant Graduate Attributes produces work-ready students who are flexible and intellectually well grounded to respond to a country's needs (Oliver, 2013).

Furthermore, Rowe (2012) argues that the promotion and further development of the Graduate Attributes in the South African context should be steered by the following processes, namely:

- The Graduate Attributes are mostly embedded in the modules, specifically when integrated into the curriculum in the context of disciplinary knowledge.
- Pedagogical practices, including assessments, ought to be aligned with module outcomes, particularly those linked to the curriculum.
- Formative feedback is fundamental to the development of the Graduate Attributes.
- Academics' current conceptions of the Graduate Attributes need to be explored and shared.
- The link between the Graduate Attributes, generic skill and academic literacies is carefully considered.
- The manner in which the Graduate Attributes are assessed and the way in which they are demonstrated, requires thoughtful planning.

2.10. GRADUATE ATTRIBUTES IN INDUSTRY/WORKPLACE

The next section reveals the Graduate Attributes expected from graduates by industry. Table 2.1 shows the attributes required by the industry. Different authors, such as Griesel and Parker (2009), Moalosi *et al*., (2012) and Green *et al.* (2009) provide similar expectations by industry from graduates. In their assertions, they agree on the provision of the following Graduate Attributes for industry (see Table 2.1).

Table 2.1   Graduate Attributes for Industry

Academic excellence	Critical thinking and effective communication
- In-depth and extensive knowledge, understanding and skills at internationally recognised levels in their chosen discipline(s); - A breadth of knowledge, understanding and skills beyond their chosen discipline(s); - An ability to participate in the creation of new knowledge and understanding through research and inquiry; - A contextual understanding of past and present knowledge and ideas; - An intellectual curiosity and a willingness to question accepted wisdom and to be open to new ideas.	- A capacity for independent, conceptual and creative thinking; - A capacity for problem identification, the collection of evidence, synthesis and dispassionate analysis; - A capacity for attentive exchange, informed argument and reasoning; - An ability to communicate effectively for different purposes and in different contexts; - An ability to work independently and as part of a team; - A diverse set of transferable and generic skills.
Learning and personal development	**Active citizenship**
- An openness to, and an interest in, life-long learning through directed and self-directed study; - An awareness of personal strengths and weaknesses; - A capacity for self-reflection, self-discovery and personal development.	- An awareness and appreciation of ethical and moral issues; - An awareness and appreciation of social and cultural diversity; - An understanding of social and civic responsibilities, and of the rights of individuals and groups; - An appreciation of the concepts of enterprise and leadership in all aspects of life; - A readiness for citizenship in an inclusive society.

Table 2.1 shows the Graduate Attributes expected from the graduate by industry. It reveals four sets of the Graduate Attributes, which are related to academic excellence; critical thinking and effective communication; learning and personal

development; and active citizenship. Graduates who seem to possess the skills and qualities required by industry are highly sought after by employers and appear to be easily employable (Nagarajan & Edwards, 2014).

Industry expects graduates to possess high levels of skills (Jones & Killick, 2013)**.** Magnus, Prinsloo, Bird and Singh (2013) further suggest that the graduate should be flexible and adaptive; willing to learn; function well in a team; show a high level of competence; and have a commitment to excellence. In achieving the latter said, TVET colleges should focus on aligning their curricula with the expectations of the workplace in maintaining the employability of their graduates (Easa, 2013). This process then, in turn, might allow lecturers to engage with the process of graduate attributes development in recognition of their responsibility to equip graduates with relevant competencies needed for life-long learning in a rapidly changing industry (Papier, 2009). Bester (2014) reveals that TVET colleges seem to be undertaking the responsibility in developing students' employability and, in particular, their awareness of the issues of ethics, global sustainability and equity, including the aspect of intercultural sensitivity.

Technical Vocational Education and Training (TVET) curricula require continuous renewal and the constant involvement of various stakeholders in the conceptualisation, review and design of programmes (Afeti, 2017). Owing to a lack of curriculum design expertise, TVET institutions, in developing contexts, seem to encounter challenges in maintaining and advancing the quality and relevance of their programmes in meeting labour market needs and demands (Albashiry, Voogt & Pieters, 2015).

Moreover, Stumpf, Papier, McBride and Needham (2012) assert that the delivery of employable graduates forms the central point of higher education's core business, which is, teaching and learning. It encompasses the full educational spectrum of values, from imparting knowledge and understanding to developing skills and attributes (Maclean & Pavlova, 2013). According to Loynes (2017), this articulates that the focus rendered by TVET colleges should be on employability which assists students to be attractive to industry and helps maintain their competitiveness. In furtherance of the assertion that employability is of strategic importance to the

economies of many nations, Afeti (2017) argues that the employability mandate of a country also assists in addressing other agendas, such as widening the participation rates of students and giving consideration to internationalisation.

Maclean and Wilson (2009) and Zavale (2017) provide a theoretical and conceptual base for understanding the relations between Higher Education and industry. Industrial occupations are a fundamental link between individuals, and their substantial effects on an individual's outlook and identity.

2.11. GRADUATE ATTRIBUTES PROCESSES' GUIDING LAWS

Educational epistemology and pedagogy in South Africa bring together a number of guiding documents that propel the process of the Graduate Attributes development. This distinctive set of documents by the South African democratic government has played a pivotal role in guiding policy on the Graduate Attributes development since the advent of democracy in 1994. The promulgated laws are (but not limited to) the following documents:

The Green Paper for Post-School Education and Training (2012); The White Paper for Post-School Education and Training (2013); Human Resource Development Strategy for South Africa 2010-2030 (2009); New Growth Path: Skills Accord (2011); National Development Plan, Industrial Policy Action Plan (2013); Reconstruction and Development Plan (1994); Growth, Employment and Redistribution (1996); and the National Skills Development Strategy III (2010).

2.11.1. The Green and White Papers for Post-School Education and Training

The pieces of legislation provide the conceptual base on the nature of the Department of Higher Education and Training and clearly set out its priorities (DHET: White Paper, 2013). They provide a vision for a single, coherent, differentiated and highly articulated post-school education and training system (Terblanche, 2017). This system is aimed at providing strategies and plans that will respond promptly to the multi-faceted challenges that South African communities face. This is intended to

53

expand access to education and training opportunities, increase equity, as well as the achievement of innovation and excellence at high levels (Taylor, 2011).

The Green and White Papers for Post-School Education and Training acknowledge the major problems in the Department Higher Education and Training. They also outline the possible solutions to the barriers that prevent the Department from playing its potential role in the development of the nation's attributes (Terblanche, 2017). The documents reiterate departmental inadequacies in terms of quality, quantity and diversity. On the known notion of about three million young people between the ages of 18 and 24 who are not accommodated in either of labour market or education and training, the papers facilitate the process of increasing higher education access to 2,5 million by 2030 (Gewer, 2010). It is in this context that the Green and White Papers for Post-School Education and Training align the imperatives of the post-school education and training system to the entire objectives of the TVET colleges, so as to bring into line academic discourse and the pronouncement of relevant Graduate Attributes for industry. This is intended to synchronise the TVET college sector with the national policy discourse.

Consequently, TVET colleges are ensured of having a direct and meaningful contribution to address the Graduate Attributes for the economic developmental needs of the country and industry (Maclean & Pavlova, 2013). There is thus, a resemblance and congruence between the TVET college sector and the *National Development Plan* 2030 (RSA, 2012). This plan reverberates the vision of an education system that will:

> "*play a greater role in building an inclusive society, providing equal opportunities and helping all South Africans to realise their full potential, in particular those previously disadvantaged by apartheid policies, namely, black people, women and people with disabilities.*"

There is compelling evidence from various stakeholders in the TVET sector that the colleges are important for economic growth and social cohesion through focusing on

the provision and acquisition of knowledge and skills for South Africa's development (UNESCO-UNEVOC, 2012).

2.11.2. National Skills Development Strategy III (2010)

The National Skills Development Strategy **(**NSDS) reiterates the development of the relevant Graduate Attributes for the South African workforce (Arfo, 2015). This policy is the guiding strategy for skills development and provides further direction to sector skills planning and the implementation of the Sector Education and Training Authorities (Terblanche, 2017). It provides a framework for the development of the Graduate Attributes or skills development, setting out the linkages with, and responsibilities of other education and training stakeholders. It identifies and promotes the required skills, knowledge, values and attitudes for a future South Africa (Mmako, 2015).

There is unanimous agreement about the contribution of relevant competencies and skills development as fulfilling a key role in addressing various challenges, such as unemployment, poverty and inequality, as well as the urgent need to accelerate growth and equity in the context of an underperforming South African economy in a fragile global context (DHET, National Skills Development Strategy III, 2010). Accordingly, the NSDS asserts that South Africa has the potential and capacity to address poverty and reduce inequality. This ought to be executed by expanding the TVET sector in particular, with a focus on the development of relevant Graduate Attributes (Arfo, 2015). This process further requires a new approach that motivates a seemingly 'passive citizenry' who are dependent on receiving services from the state, to one that systematically includes the socially and economically excluded. In aspiring towards this ideal, people might be propelled to become active champions of their own development and advancement. Furthermore, the government might see the need for developing citizens' capabilities in an effective way and as such, their socio-economic well-being ((RSA, 2012). The success of this approach is premised on accelerated economic growth and the strengthening of links between economic and social strategies (Van Nieuwkerk, 2014).

In addition, the National Skills Development Strategy of South Africa requires that TVET colleges maintain a set of the Graduate Attributes which comprise a broad set of generic skills, consistent with the national Department of Higher Education and Training Standards (Reddy, Bhorat, Powell, Visser & Arends, 2016). This is envisaged to ensure that graduates achieve a set of course learning outcomes that address the Graduate Attributes, in addition to the requirements outlined for the relevant academic discipline or profession, and the related professional accreditation requirements (Taylor, 2011).

2.11.3. Reconstruction and Development Plan (1994)

The Reconstruction and Development Programme (RDP) is a policy framework for integrated and coherent socio-economic progress (DHET: White Paper, 2013). It relates directly to the development of the TVET Graduate Attributes by mobilising TVET colleges and the country's resources toward the required development of skills and a response to increasing unemployment. Furthermore, it should be noted that the main purpose of the RDP is to build a democratic, non-racial and non-sexist future. The RDP therefore represents a vision for the fundamental transformation of a diverse South Africa (Magnus, Prinsloo, Bird & Singh, 2013).

The Reconstruction and Development Plan (1994) further asserts to the economic transformation of the country through improving skills. It also reveals anticipated economic success is possible, if the people themselves are voluntary participants in the process towards the realisation of these goals (Terblanche, 2017). In this spirit, the RDP, which has developed through a process of consultation and joint policy development, seem to encourage TVET colleges in South Africa to take responsibility for the effective implementation of their skills development programme (Van Nieuwkerk, 2014).

2.12. POLICIES PERTAINING SPECIFICALLY TO THE GRADUATE ATTRIBUTES

The critical issue about the Graduate Attributes is that they are usually promoted through policy and enacted through pedagogy (Stracke & Kumar, 2014). These

policies recognise that all graduates, from any discipline or profession, require a broad set of generic skills for employment, life-long learning and making constructive contributions to society (Visser & Kruss, 2009). Although it is not all TVET colleges globally that already possess policy pertaining to the development of the Graduate Attributes, a large portion of institutional stakeholders have recognised the need for such policies (Paudel, 2009). The development of the Graduate Attributes could be legally binding to institutions of higher learning if policies were developed and implemented in this regard (NCVER, 2010). The process of the Graduate Attributes development would also require all providers of higher education to ensure that students have attained the crucial Graduate Attributes upon graduation or the completion of a course (Magnus *et al.*, 2013). These attributes need to be reflected in a TVET college's curricula and the Academic Standards and Assessment Frameworks, as well as the academic strategic objectives (Domenech & Gomez, 2014). Furthermore, policies should be developed in such a manner that they address and promote a range of skills, literacies and the capacity to apply knowledge through intellectual inquiry in professional or applied diverse learning contexts (Mukora, 2009). Policies pertaining to the Graduate Attributes need to acknowledge the importance of graduates being able to demonstrate knowledge of an individual country through the promotion of cultural competency and professional capacity development (Paudel, 2009). These policies should the further attempt to bring knowledge to life through the responsible engagement and appreciation of diversity in an evolving world (HRDC, 2014).

2.13. THE GRADUATE ATTRIBUTES AS A POLICY MATTER

There tends to be a growing understanding of the role and function of the Graduate Attributes in the workplace and the accompanying development of these skills within the curricula of TVET colleges (Lowden *et al.*, 2011). While there is a variance in the implementation of the Graduate Attributes processes, reference to these skills can be found in the institutional policy frameworks or statutes across the regions in a country (Barrie, 2012). In some countries the Graduate Attributes are included in laws and regulations, as target goals in policies or as implementation strategies (NCVER, 2010). There are, however, colleges that have not yet developed the

policies pertaining specifically to the Graduate Attributes and how they should go about rolling-out these processes at particular institutions (Reddy *et al.*, 2016). On the other hand, TVET colleges that have developed these policies use different terminologies that suit their own understanding and context (Radloff, de la Harpe, Dalton, Thomas & Lawson, (2008). Despite these differences in terminology, the broad trends are simply identifiable when studying these transversal skills (Green *et al.*, 2009).

Given the in-depth discussions that have taken place over a number of years across all educational sectors on the notion of the Graduate Attributes, the language used to describe them appears to have evolved over time, through policy shifts and research developments (Paudel, 2009). The discussion of the Graduate Attributes seems to be rooted in complex environments of sometimes competing policy initiatives (Dall'Alba, 2009).

Noting the above, Griesel and Parker (2009) provide the three types of skills that are inter-related, as well as a range of features:

- The core skills that include employability skills and other areas which influence the person's capacity to cope with the demands of industry;
- The core language, literacy and numeracy skills of reading, writing, communication and learning; and
- Technical or discipline specific skills which are embedded within a college curriculum.

With the provision of the above-mentioned skills, Griesel and Parker (2009) indicate the types of skills that should constitute the development of the Graduate Attributes. These skills resonate with the needs of industry, as they entail employability and technical skills, which are necessary for professional development engagements. Lastly, language proficiency skills ensure that graduates are enabled to function effectively in a team and that they can communicate information clearly to the recipients of the information.

TVET colleges in South Africa need to include these set of skills during their policy development processes on the formulation of the Graduate Attributes. Some colleges already have academic plans which are premised on the principle of "education for all" which, in turn, emphasises that vocational education should not only teach students essential knowledge, but should also foster students' holistic development (Hager & Holland, 2008). The type of holistic development initiatives that are rendered by these institutions should include preparation for the Graduate Attributes and the world of work (Nagarajan & Edwards, 2014). According to Oliver (2011), these academic plans should further encourage TVET colleges to enhance students' comprehensive competencies and lifelong developments as necessitated by industry and organised business.

2.14. CONCLUSION

The complexity that arises in defining and explaining the concept of the Graduate Attributes was the cornerstone for the literature review. This was used to assess the ways in which other researchers have had the opportunity to investigate the Graduate Attributes in a broader perspective and to comprehend the concepts. The researcher used the literature review to interrogate the critical points of current knowledge on attributes issues, thus formulating a phenomenon on which the investigations will be based.

In the next chapter, the role of different TVET stakeholders on the development of the Graduate Attributes is scrutinised. The chapter will also reveal how different roles of stakeholders are synchronised to embed the Graduate Attributes into legislative and pedagogical discourse. The implications for lecturer competencies development will also be explored. Lastly, the chapter will look into the possibilities of developing a framework for lecturer development for the provision of the Graduate Attributes.

CHAPTER 3

GRADUATE ATTRIBUTES IN TVET COLLEGES AND THE ROLES OF STAKEHOLDERS

3.1   INTRODUCTION

Being a student at a college for Technical and Vocational Education and Training in a sense establishes South African youth as part of a worldwide phenomenon where individuals prepare themselves to become economically and productively active citizens and, as such, fulfil a role within society (Mahadea & Simson, 2010). The TVET colleges sector is viewed worldwide as a beacon for economic growth and a socio-economic developer and innovator in various countries (Pavlova, 2014).

TVET colleges exist to equip individuals with the knowledge skills that function as a catalyst for economic development (Mouzakitis, 2010). Their key task is to produce a well-prepared workforce that can drive the economy for all sectors (Jackson, Lower & Rudman, 2016). Graduates from colleges are expected to apply their acquired knowledge in their professional and social contexts. Thus, they should lead very responsible lives characterised by life-long learning, leadership and civic responsibility (Andrews & Higson, 2008). Furthermore, graduates pursue knowledge for the betterment of themselves, society and the community at large (Knight, Lattuca, Kimball & Reason, 2013), and are well positioned to influence other individuals in their communities (Morin, Jaeger & O'Meara, 2016). By virtue of having attended TVET colleges, the graduates are able to model characteristics and behaviours that consequently promote societal well-being (Catalano, 2013).

The production of well-attributed graduates by the TVET colleges places lecturers at the forefront of academic, pedagogical and professional discourse (Mager & Spronken-Smith, 2014). Lecturers need to be well skilled and to possess a range of competencies that allow them to convey knowledge to the students (Green, Hammer & Star, 2009). This requires the lecturers to have good knowledge, understanding and skills of the labour market, so that they can align what they teach with what takes place in industry (Davos-Klosters, 2014).

Various colleges around the globe have established and implemented the policies and frameworks that enable the development of graduate attributes (Hill *et al.*, 2016). These legislative imperatives promulgate the implementation of graduate attributes, the development, design and the delivery of the TVET curriculum at various levels. Therefore, the mandated   policies, processes and procedures earmarked for the TVET sector of a specific country, smooths out the Graduate Attributes development processes by providing the acquired guidelines and related procedures for the implementation of key competencies (Anakin, Spronken-Smith, Healey & Vajoczki, 2017).

3.2   THE NEED TO IMPROVE TVET GRADUATE OUTPUT

TVET colleges need to be cognisant of and deliver quality, quantity and equity imperatives. Besides the need for the improvement of graduate output (Badat, 2010), there also exists a need to improve TVET graduate output for a large number of students who enrol at institutions of learning and yet fail to complete their studies (Stinebrickner & Stinebrickner, 2009). The students who have been to institutions of higher education and training, but could not complete their studies; have a lesser chance of employment than those who have completed their studies (Williams, 2013).

In various countries, there seems to be an urgent need to increase the production of graduates, in order to respond to the prevailing manpower demand across all sectors of the economy (Rasool & Botha, 2011). While the Department of Higher Education and Training in South Africa is given the responsibility of producing these quantities and delivering certain outcomes, the quality of the graduates is also a bone of contention (Cloete, Mouton & Sheppard, 2015). Graduates are expected to be well prepared and highly attributed to cope with the changing demands of industry (Siu & Contreras, 2016). If graduates are trained via appropriate content and workplace means, they may be in a position to flexibly bridge the gaps in the economic sectors of their respective countries (Bester, 2014).

Good quality graduates are highly sought after for their disciplinary, professional and technical expertise (Hill, Walkington & France, 2016). They are considered to be the

cornerstones of societal improvements and all sectors' economic advancements and innovations (Barrell, Holland & Liadze, 2011). These individuals are therefore the custodians and embodiments of entrepreneurship; thus, they are entrusted with not only responding to labour market demands, but are tasked with responding to job creation priorities and needs as well (Holland, Liadze, Rienzo & Wilkinson, 2013). It would be a very difficult task to fulfil all these needs without considering the delivery of quality graduates without a repertoire of workplace skills and expertise.

Path (2013) reveals that the demand and supply graphs pertaining specifically to production of well-prepared graduates do not balance. There is currently a high need for more graduates with knowledge and competencies required by the labour market (Rasool & Botha, 2011). In further assertion to this, Moeliodihardjo (2010) revealed that Higher Education institutions still need to work on the quality of the graduates they produce for communities and industry. In relation to the latter, Bester (2014) argues that the TVET College sector can play a pivotal role in the implementation and promotion of sustainable development initiatives in a country. The TVET colleges are expected to be the major suppliers of work-ready individuals who will be at the forefront in providing prompt responses to economic and sustainable development initiatives (Terblanche, 2017). The notion of sustainable development is constituted by three significant components namely, economic; socio-cultural; and environmental developments (Goniadis, 2015). These three aspects need to be integrated into the academic practices and policies of TVET colleges as a whole and as such, not neglect their focus in strengthening the advancement of a country's socio-economic initiatives. Ignoring the economic development pillar may mean that the initiative is unattractive for funding donors or investors (Zungu, 2015). Therefore, neglecting or excluding sustainability efforts can be interpreted as initiatives, which focus only on the short-term benefits, therefore being irresponsible morally and socially. Neglecting socio- cultural development will not attract the local people and may cause the loss of local identity (Goniadis, 2015).

The TVET sector and its stakeholders should take a lead in awareness for sustainable development through improving graduate output and creating a workforce that supports sustainable development (Lemke & Harris-Wai, 2015). These sustainable development ideas should be integrated into the TVET curriculum,

learning contents; teaching learning processes, and reflects in college statutes and academic practices. This suggests that the TVET colleges ought not only to be the source of masterminds for sustainable development, but also have the phenomenon entailed in teaching, learning, policies and academic practices (Goniadis, 2015). In the case of potential barriers and challenges that TVET institutions may face in implementing these ideas, various stakeholders should consider working cooperatively and introducing innovative ideas (Small *et al.*, 2017).

While the need to produce highly skilled and employable graduates is a critical outcome of the public Technical and Vocational Education and Training (TVET) sector in South Africa, TVET colleges could respond by offering mainstream vocational programmes, skills programmes and learnerships through a range of SETAs. However, the articulation of TVET programmes to industry and communities at large is still not impressive, and little is known about the progression of TVET students through college and into employment. TVET colleges do not have graduate tracking systems with which to gather data about graduate employment.

It is, therefore, necessary that the college curriculum be restructured to enhance responsiveness to industry needs and requirements and to improve Technical and Vocational Education and Training (TVET) standards. There is also a knowledge gap, indicating the need to investigate possible strategies for leading the required changes in the TVET. The TVET sector needs to develop an industry-incorporating framework for curriculum change, so as to keep it abreast with industrial trends.

3.3   THE ROLE OF TVET COLLEGES IN DEVELOPING THE GRADUATE ATTRIBUTES

TVET colleges in South Africa seem to produce students who are not employable, are often deemed unsuccessful in the mission of academy, and are subject to criticism (Van Broekhuizen, 2016). Vocational Education and Training is thus a mechanism by which the TVET sector attempts to bridge the gap between education outcomes and industry's expectations (Fisher & Scott, 2011). While vocational education is aimed at producing what employers expect from graduates (De Weert,

2011), there is still a mismatch between what industry needs and what higher education offers (Hager & Holland, 2008). This type of training is still the order of the day at colleges given their curriculum structure and the practicum component entailed into it (Wallenborn & Heyneman, 2009). No amount of macro planning for a match between industry expectations and academic production will resolve the problem of graduates not getting jobs if they lack what employers need (Jaschik, 2015).

In most cases, employability issues are closely congruent to the missing set of employability skills (Aamodt & Hovdhaugen, 2008). These skills are very often referred to as the soft kills e.g. time management, communication skills, decision-making skills and problem-solving skills. This has led to many lecturers, especially in the South African context, incorporating more of these skills beyond curriculum expectations (Moalusi, Oladiran & Uziak, 2012). Lecturers normally attempt to alert students to such employer expectations, but they are difficult to teach formally and can best be modelled or experienced in the workplace (Jackson, 2013). Lecturers find opportunity either inside or outside the scope of curricula to effectively prepare students for employer needs (Hénard & Roseveare, 2012). Most employers look for graduates who are proactive and can use higher-level competencies, such as analysis, critique, synthesis and multi-layered communication skills to facilitate innovative teamwork, thus enhancing the transformation of their organisations (Bester, 2014).

TVET colleges need to become a fundamental instrument for the country's development in the 21st century. These colleges can help develop the country's expertise. TVET colleges should play a critical role in the country's problem identifications and in enhancement analysis for such problems. Consequently, the colleges would strengthen the various domestic institutions and serve as a model environment for the practice of good governance. It is expected of these institutions of learning to enable their graduates to play an active part in the global community with other scholars.

Most importantly, TVET colleges ought to take stock of the current state of graduate employability from both industry and their graduates. These perspectives would assist in responding promptly to the knowledge and skills requirements of industry.

The colleges need to revive graduate employability, as it becomes an increasingly popular concept within the various sectors of the economy.

3.4   THE ROLE OF LECTURERS IN DEVELOPING THE GRADUATE ATTRIBUTES

A common thought is that both lecturers and employers should have an equal input in curriculum review processes and how the curriculum should be compounded; in this way, the students will be better prepared for the workplace (Barnett, 2011). This will require that employers have the required capacity and sufficient time to give input on how they actually prefer the students to be prepared for industry. However, given time limits, congestion and industrial programmes, employers appear to be unable to connect to academic institutions on a regular basis (Kew, 2014). Another factor that makes it difficult for lecturer-employer connectivity is issues of pedagogic complexities and subject teaching didactics. It is therefore, imperative that college lecturers in South African TVET colleges play an educational role in initiating and maintaining a balance between the continuously changing needs of employers and students' skills for the challenges they will face in the workplace (Moalusi *et al.*, 2012). This will be achieved if lecturers themselves are better equipped with exactly what is taking place in industry, and convey this to the students (Johan, 2015). Employers are thus left with what they can do well, which is putting into place a thorough induction for the employees' transformed students into the specific organisational practices, processes and company culture (Hendricks & Louw-Potgieter, 2012).

The induction programmes differ within various organisations and sectors. Even if companies could resemble in the services they provide, the manner in which they induct and enculturate employees, will address their specific organisational needs (Chidambaram, Ramachandran & Thevar, 2013). An unrealistic and unachievable expectation on the part of employers, is that college lecturers should prepare and produce students who accurately fit into specific jobs, even if they have had exposure to workplaces, through work-integrated learning (Lie, 2007). As a result, it becomes extremely difficult to produce accurately prepared students for industry (Oluwajodu, Blaauw, Greyling & Kleynhans, 2015). If lecturers are given adequate exposure to explore the operations of various organisations in industry, and from sector to sector,

65

lecturers can link what they have observed to what they teach or should, for that matter (Clark, Threeton & Ewing, 2010).

Lecturers are viewed as the cornerstones and custodians of the graduate attributes including employability (Heffernan, Morrison, Sweeney & Jarratt, 2010). As the custodians of their own programmes, it is important for them to establish and maintain their occupational and industry networks, in order to efficiently link their students to the opportunities in industries (Mafini & Pooe, 2013). These lecturer-industry links can consequently have a significant influence on student employability and assist the entire college curb rates of students' unemployment (Perkmann & Walsh, 2007). While the lecturers and colleges have good links with industry, an array of opportunities is created for the students. What is important though, is that trust should be built through these linkages (Bester, 2014).

Lecturers in vocational education should plan occasional visits to industry to familiarise themselves with modern technologies, cultures and various other issues (Gentelli, 2015). When lecturers extract as much information as possible from these visits, they are easily able to strengthen and consolidate the curriculum by drawing on real-world and local examples. In engaging in these visits, lecturers integrate work into their teaching (Choy & Delahaye, 2009). This will enable them to model what the expectations of employers are, and what the differences between employers are (Oluwajodu *et al.*, 2015).

Lecturers' modelling of these employers' expectations create a good impression with the employers themselves (Gentelli, 2015). Ultimately, the employers will have confidence in the human resource production of the colleges and will have interest in understanding the qualification mix thereof (Moalusi *et al.*, 2012). The employers understanding and trust in the college qualifications and programmes elevates their likelihood to recruit and employ college graduates (Cronin, 2013). The employer trust lies particularly in the specific college or college campus and the academics that are taught there, and not necessarily in a national qualification alone. As a result, the organisation is much more likely to employ a student from a known college with which it has a relationship (Davos-Klosters, 2014).

The colleges and lecturers give their students greater employment opportunities when they are known in the sectors for which they produce human resources (Su & Wood, 2009). While the academic reputation and the Graduate Attributes that the lecturers build play critical role in students' employability, the process of building working relations is equally pivotal (Labov, 2012). As much as people prefer what they know to what they do not, industry will similarly opt for academic products they know and understand (Davos-Klosters, 2014).

Furthermore, lecturers play a critical role in the development of the Graduate Attributes. It is their responsibility to plan the curriculum and related programmes offerings in such a way that they develop the Graduate Attributes. Lecturers are entrusted with the responsibility of presenting the curricula contents in such a way that they prepare students for both the technical and generic attributes needed by industry.

The mismatch between the higher education outcomes and the expectations of industry is increasingly becoming a bone of contention. This on its own puts the lecturer at the centre of the solutions. Lecturers need to synchronise the taught curriculum with what industry needs, subsequently allowing students to possess the Graduate Attributes. These attributes have now become one of the core sets of higher education outcomes that every graduate should possess. The lecturers' responsibility of integrating the generic attributes into the curriculum ensures that students develop skills that will better equip them for the work environment and self-employment. The lecturers should put an increasing value on developing the Graduate Attributes, seeking to renew and articulate their purpose in response to calls for accountability and quality assurance processes.

3.5   THE ESSENCE OF LECTURERS' QUALIFICATIONS

Although the majority of   lecturers at TVET colleges appear to have sufficient qualifications (diplomas, bachelor's or master's degrees) to teach in TVET colleges (SACE, 2011) and sufficient work experience, it does not mean that current staff qualifications and work experience are adequate for the relevant knowledge and skills

required to implement a vocational education and training curriculum (Papier, 2009). Booyens (2009) argues that there is a gap between the study fields in which the lecturers obtained their qualifications and the curriculum content outcomes they need to deliver, and whether the acquired work experience is directly related to what is currently required in terms of the delivery of industry-related vocational and occupational programmes (Terblanche, 2017).

As curriculum re-evaluation for college and industry, linkages are in many respects related to the expertise of lecturers, both the curriculum content and pedagogical expertise of TVET lecturers have not maintained similar pace with curriculum changes and developments in industry (Gewer, 2010). The prevailing circumstances require the TVET sector set various staff development attempts in motion as a means of building the capacity of its lecturers (Kamin, Cartledge & Simkin, 2010).

It should be a priority for TVET colleges to engage in further staff development to ensure quality programme delivery. This will mean that lecturers will have to obtain all the necessary competencies and expertise to properly deliver on relevant and responsive vocational education and training programmes (Mmako, 2015). The quality of teaching, learning and assessment, as well as the effective management of the curriculum, including the type of training to be provided to lecturers who may not possess the basic pedagogical competencies to assist students academically and sympathetically, needs serious introspection and remedial steps (Papier, 2009).

Various perceptions and perspectives pertaining specifically to the competencies of lecturers at TVET colleges result in a lack of consensus about what the minimum teaching qualification and subject specialisation should be (Žeravíková, 2013). There are different qualifications and academic streams for lecturers who specialise in vocational subjects, with the requirement of a bachelor's degree as the main distinguishing feature between the different tracks (Musau & Abere, 2015).

It is, however, important to indicate that teachers of vocational subjects are not necessarily required to be in possession of a degree or a higher diploma in their subject specialisation (Booyens, 2009). There is a range of entry teaching qualifications at TVET colleges due to the nature of the programmes offered, with each programme requiring unique attention (Gamble, 2013). There is a tendency to

lower the mandatory teaching entry requirements to the standard-based qualifications in order to attract individuals with industry experience, to TVET colleges (Mmako, 2015).

The fact that the mandatory teaching requirement at colleges is lowered does not mean that curriculum dealt with is easily comprehensible to everybody (Pavlova, 2014). TVET teaching is increasingly becoming diverse and the curriculum content is becoming broader and deeper (Ansah & Ernest, 2013). The deepening of the knowledge base on which TVET teaching rests, in terms of both content engagement and pedagogic engagement, is the basis for moves towards increased professionalisation (Mylrea, Gupta & Glass, 2015).

Simply stated, the basis of TVET teaching can be schematised as the interrelation between three foundational dimensions namely, formal subject or technical knowledge; pedagogic expertise; and practical workplace experience (Robertson, 2008). Despite the motion in the direction of the acquisition of professional standards in many countries, there is still no resemblance of a developmental trajectory to ensure that all three dimensions are in place and interconnected (Gallie & Keevy, 2014). However, in South Africa, the Department of Higher Education has started a consultative process with designated universities, of developing the professional qualifications of lecturers attached to TVET colleges (Terblanche, 2017).

The lecturers in all the disciplines require the skills to assist graduates to develop and be able to demonstrate the industry-needed Graduate Attributes. This requires continuous and focused lecturer training and development programmes to assist lecturers to develop teaching skills to support students in developing the Graduate Attributes. Simultaneously, the skills for assessment and evaluation of these attributes in the students should also be considered. This requires lecturers to set clear standards, which allow for the assessment of a graduate's ability to demonstrate and apply the required skills. For all these issues to be possible, lecturers need to have sophisticated knowledge of the assessment and evaluation approaches, as well as a range of approaches to teaching and learning.

The Graduate Attributes that the college need to instil in students should be possessed first by the lecturers. This is the case in any context of TVET teaching to

any cohort of students, given the diversity of students undertaking study. In any cohort of students, regardless of background, there will be a vast array of differences, preferences in learning approaches, abilities and attitudes. TVET lecturers should be trained in their courses to accommodate student differences and to cater for them in all academic processes.

It is also recommended that the provision of lecturer preparation programmes and continuous support for lecturers is highly necessary. Despite the fact that some universities offer TVET related qualifications and specific activities for lecturers, in many cases these seem to attract those members of staff who are actually motivated already to improve their skills. The number of these lecturers is generally low.

3.6   THE NEED TO IMPROVE LECTURER QUALIFICATIONS AND TRAINING

It should be pointed out that having qualified TVET lecturers is critical for the quality of TVET delivery, as is developing and improving their skills, knowledge and experiences (Arfo, 2015). Pertaining specifically to the issue of lecturer development, the TVET lecturers need to improve and develop themselves, starting from qualifications to technical and general knowledge (Woldetsadik, 2012). The quality of lecturers in the TVET sector reflects on the quality of teaching and learning and consequently, on the Graduate Attributes (Akoojee, McGrath & Visser, 2008).

The majority of academic staff in the South African TVET sector needs to improve and develop their academic-vocational knowledge and experience (McGrath & Akoojee, 2007). The effective delivery of quality programmes for a modern and responsive TVET college system requires qualified and competent staff (Terblanche, 2017). The chances and possibilities are few to improve the quality of TVET programmes and delivery, unless the lecturers themselves are well trained and developed (Booyens, 2009).

It has been also been emphasised that that unless the national system of training the lecturers for TVET colleges is integrated into the curriculum development process, the chance of improving the quality of TVET delivery will be low. It is suggested that

a coherent framework for the development of lecturers should be developed (Kamin *et al.*, 2010). The provision of quality technical and vocational education requires competent, qualified and dedicated teachers (Mylrea *et al.,* 2015). An effective framework for the development and advancement of technical and vocational education and training and lecturer capacity is necessary. This would ensure the continuous and constant provision of quality and responsive technical and vocational education and training (Robertson, 2008).

There has also been an issue about the lack of adequate funding of the TVET sector to recruit and employ quality lecturers (Hanf, 2011). This leads to the employment of least qualified lectures that, in consequence, would have negative impact on the quality rendered to programmes, and of the graduates produced by the sector (Papier, 2009). Inadequate funding leads to the delivery of programmes that are not responsive to the needs of the graduates, country and consequently industry (Zungu, 2015).

There is a correlation between students' achievement and lecturers' professional development. The extent to which the college management support and encourage the lecturers to engage in continuous professional development is also key to the achievement of quality teaching and learning. The quality of teaching at TVET colleges is greatly influenced by the quality of lecturers and their qualifications. However, additionally to the qualifications they possess, lecturers need support from college managers.

It is evident that a high level of content knowledge of teachers will positively influence the academic performance of the students. This suggests the connection between lecturers' preparation in their subject matter and student performance. Lecturers need a high level of subject matter knowledge, which is at times measured by the academic qualifications they possess.

Knowledge of teaching methodology and discourse has positive effects on student outcomes and achievement. Lecturers have to balance between sound subject or content knowledge and pedagogical expertise. The combination of these is key to the achievement of students' attributes and the prescribed standards of achievement.

71

TVET lecturers should have a repertoire of teaching approaches in which they are both competent and confident.

3.7 TVET LECTURER DEVELOPMENT FRAMEWORK

Given the fact that there is a need to improve the quality of TVET lecturers, it is necessary for the TVET sector at large to design a framework for the advancement of lecturer capacity for the development of the Graduate Attributes in the colleges (Wiek, Withycombe & Redman, 2011). The framework would have to assert explicitly, on the knowledge, skills, qualifications and the various competencies required to lecture at TVET Colleges (Mmako, 2015).

To this end, the National Plan for Technical and Vocational Education and Training in South Africa only indicates that a framework for the enlistment and development of lecturers should be developed (Scheepers, 2015). This framework would specify the requirements, knowledge and skills required to lecture at TVET colleges (Baran & Correia, 2014). However, this framework does not yet exist for the colleges to access and use (Terblanche, 2017).

The framework for the advancement of lecturer capacity is intended to provide a guide for the recruitment and development of qualified TVET lecturers (Mmako, 2015). Continuous and constant professional development and training for TVET lecturers enhances their pedagogical discourse and further capacitates them to become experts in their own disciplines (Woldetsadik, 2012).

3.7.1 Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training

The importance of lecturer development in the TVET sector cannot be overemphasised (Elkins, Nink, Kenison & Krzeminski, 2011). Noting the crucial role that lecturers play in the provision of Technical and Vocational Education and Training, skills development and technological competencies, the policy on professional qualifications for TVET lecturers has been promulgated (Arfo, 2015).

72

Upon the promulgation of the policy on professional qualifications for TVET lecturers, the guidelines on training and the development of knowledgeable and competent lecturers has been provided (Terblanche, 2017). This is done through the provision of appropriate higher education qualifications that can be used for the professional and post-professional development of TVET lecturers (Booyens, 2009).

The policy is intended to strengthen the quality of teaching and learning with the view to providing a responsive technical and vocational education and training system (DHET: PPQFET, 2012). This TVET education system has been designed to provide skills and competencies for employment and socio-economic advancements (UNESCO-UNEVOC, 2014). The policy will be used for the determination of the professional TVET lecturer education qualification programmes submitted by public higher education institutions for approval for inclusion in their programmes and qualifications mix (PQM) and therefore, for funding (SACE, 2011).

Moreover, the policy will evaluate professional TVET lecturer qualification courses submitted by private higher education institutions for registration, enabling them to offer such courses (Akoojee & McGrath, 2007). It will also assist in the determination of professional qualification programmes for employment as a lecturer in institutions that offer Technical and Vocational Education and Training under the jurisdiction of the Department of Higher Education and Training (DHET: PPQFET, 2012).

Furthermore, the organisation that declared interest and ratified the policy is the Higher Education Quality Committee, under the auspices of the Council for Higher Education, which uses the policy for accreditation and quality assurance processes (Mmako, 2015). The policy will also regulate TVET lecturer qualification programmes offered by all types of institutions and as a requirement for registration with a professional council for TVET lecturers (DHET: PPQFET, 2012). Lastly, the policy provides that TVET lecturers need to possess pedagogical and industrial competencies, and that they should be knowledgeable in both the theoretical and practical TVET curriculum programmes reviewed as workplace demands change (Akoojee *et al.*, 2008).

The Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training is aimed at setting the standards for the development of quality lecturers for the TVET sector. It does so by putting in place a set of suitable higher education qualifications that can be used for the professional and post-professional development of TVET lecturers. The qualifications indicated therein are not restricted to lecturers in one specific institution type, but are available for the training and professional development of lecturers in all public institutions under the jurisdiction of various government departments and private institutions offering TVET. The policy is thus in place to ensure the quality of teaching and learning across the entire cohort of TVET colleges.

Moreover, the policy provides a fundamental base for the construction of a curriculum for TVET lecturer qualifications. The higher education institutions are expected to use it when developing programmes leading to professional qualifications for TVET lecturers. These TVET qualifications are not appropriate for teaching at schools, but cater strictly for lecturers intending to enter careers in TVET. Similarly, appropriately qualified school teachers who wish to embark on a TVET lecturing career could complete a suitable qualification to develop the additional competencies that are required to teach in a TVET context.

3.8 LECTURER CONCEPTIONS AND REFINEMENT OF THE GRADUATE ATTRIBUTES

3.8.1 Refinement Guidelines and Procedures

Saunders and Mydlarski (2015) assert that curriculum re-evaluation for the graduate attributes is developed through a step-by-step process that entails sequential processes and procedures. These processes and procedures are sequentially tabulated below. Table 3.1 presents a refinement of the Graduate Attributes processes and procedures.

74

Table 3.1   Refinement of the Graduate Attributes Process and Procedure

PROCEDURE	IMPLEMENTATION
Curriculum mapping/re-evaluation	Course content and assessment are mapped to Graduate Attributes and competencies (indicators).
Assessment	Student performance is assessed for a sampling of students and data are collected and reported to the Heads of Department.
Analysis and interpretation of data	Results are used to inform Departments about programme quality.
Validation of curriculum content	Departments determine whether the programme provides students with opportunities for competencies associated with the Graduate Attributes and whether the courses indeed incorporate activities associated with the Graduate Attributes designated.
Programme improvement	Actions are taken to improve courses and programmes.

Table 3.1 shows the guidelines and procedures that need to be considered in the lecturer refinement of a Graduate Attribute. It reflects that the refinement starts with the curriculum and assessments, mapping out or re-evaluating if they already exist. The contents of the new curriculum should be subjected to assessment for the analysis of data. Various Departments and Faculties attached to TVET colleges should then determine whether the programme provides students with opportunities to competencies associated with the Graduate Attributes, with programme improvement following subsequently.

Easa (2013) indicates that the rationale behind the establishment of the guidelines and procedures is to build consensus among lecturers around the embedding of the Graduate Attributes into the curriculum. Impagliazzo (2009) also avers that these guidelines are presumed to be the catalyst for curriculum enrichment and continuous re-evaluation, so as to keep it abreast with contemporary industrial trends.

3.8.2 Lecturer Conceptions of the Graduate Attributes

Barrie (2007) provides a conceptual framework that arises from an investigation into academics' conceptions of the Graduate Attributes. He further opines that academics hold disparate understandings of the nature of the Graduate Attributes and their place amongst the outcomes of education. The perceptions and perspectives held by the teachers responsible for the Graduate Attributes determine the policy development and implementation in each discipline (Green *et al.*, 2009). The disciplines are based on different ontologies and epistemologies that lead to a range of beliefs about the certainty or uncertainty of knowledge and how to explore and critique that knowledge. Furthermore, Hager and Holland (2008) state that academics at different colleges perceive the Graduate Attributes differently and from different perspectives. The various conceptions about the Graduate Attributes affect and influence the manner in which teachers respond to the involvement of the Graduate Attributes in curriculum reform (Bester, 2014).

3.8.2.1 Precursor conception

The Precursor Conception perceives the Graduate Attributes as important basic precursor skills, but considers them not part of higher education outcomes, as they are a regarded as a prerequisite for entry into the college (Hager & Holland, 2008). The students enroll at a TVET college with generic graduate attributes and discipline knowledge is added to these attributes. Any graduate attribute work is only remedial and done as a co-curricular or extra-curricular project (Barrier, 2007).

3.8.2.2 Complement conception

The Complement Conception perceives the Graduate Attributes as functional capacities and personal skills that complement the discipline-specific learning outcomes of the college education outcomes (Barrier, 2007). This portion states that the Graduate Attributes are learnt as part of the disciplinary learning but are secondary to it. The Graduate Attributes add to the general abilities students bring to their studies and complement their disciplinary learning (Ghazivakili, Norouzi, Nia, Panahi, Karimi, Gholsorkhi & Ahmadi, 2014).

3.8.2.3   Translation conception

The Translation Conception perceives the Graduate Attributes as the abilities that allow students to translate and apply disciplinary knowledge in all circumstances (Hager & Holland, 2008). There are discipline-specific specialised skills that are essential to and in partnership with the application of disciplinary knowledge and on a par with disciplinary knowledge. They assist the translation and application of knowledge to unfamiliar settings, thus changing the product of their learning (Green *et al.,* 2009).

3.8.2.4   Enabling conception

The Enabling Conception perceives the Graduate Attributes as enabling abilities that infuse learning and knowledge at TVET college level. The Graduate Attributes are the abilities and aptitudes that lie at the heart of their scholarly learning and knowledge. They have the potential to transform that knowledge and to support the creation of new knowledge (Van Schalkwyk, Herman & Muller, 2010). The Graduate Attributes are interwoven with disciplinary knowledge and are longer lasting. They provide a framework that enables graduates to acquire and shape new knowledge as required, even in the context of other disciplines. Generic attributes are key to inquiry and learning in many aspects of life and as such, should not be perceived as a form of formal learning only (Mmako, 2015). They are about intellectual and personal development.

Despite the differences in disciplinary beliefs about knowledge, Barrie (2007) found a variety of conceptions held within the disciplines, indicating that other factors were affecting the academics' understanding of the nature of the Graduate Attributes. However, how academics view the Graduate Attributes in relation to disciplinary knowledge, will affect their response to calls for curriculum reform (Mwaikokesya *et al.,* 2014). Academics who see the Graduate Attributes as sitting outside disciplinary knowledge will view the inclusion of the Graduate Attributes in the curriculum as an imposition, time consuming, and unlikely to be tolerated (Ghazivakili, *et al.,* 2014). Green *et al.* (2009) also draws attention to the institutional cultural change

77

that may be required to implement a graduate attribute agenda and to encourage and support academics in this area.

The key to embedding the Graduate Attributes in a course is to have an alignment between the intended learning outcomes and the graduate profile. Across numerous TVET, qualifications there should be opportunities for students to foster the desired graduate attributes. In TVET colleges it is highly possible that various courses will address different graduate attributes. In some academic programmes, teaching and learning may be towards the attainment of numerous graduate attributes, whilst other institutions might focus only on a few. Some of the Graduate Attributes may not be covered in the curriculum but in extra-curricular and co-curricular activities. It is thus necessary to use the learner centred outcome-based approach when designing an academic programme. In this way, outcomes are first developed and then consideration is given to the assessment regime and the teaching and learning activities. There should also be a link between the intended graduate attributes and the assessment styles that lecturers are expected to develop.

3.9   STANDARDS FOR LECTURER/TEACHER COMPETENCE IN THE GRADUATE ATTRIBUTES ASSESSMENT

3.9.1 Choice of the Graduate Attributes assessment methods

Lecturers are required to plan the Graduate Attributes they intend to instil in the students and how a particular attribute will be assessed. Furthermore, TVET lecturers are required to have good skills in choosing appropriate and technically adequate assessment methods appropriate for the Graduate Attributes (Sharifirad, Rezaeian, Jazini & Etemadi, 2012). They should possess adequate and relevant information provided by a broad range of attribute assessment alternatives and their strengths and weaknesses. This requires of lecturers, criteria skills for evaluating and selecting assessment methods in light of the identified Graduate Attributes (Brookhart, 2011).

78

3.9.2 Development of the Graduate Attributes assessment methods

Lecturers at TVET colleges should be skilled in developing the assessment methods appropriate for the Graduate Attributes (Mussawy, 2009). This skill should allow lecturers to simultaneously develop conceptual and application skills that allow planning the collection of information that facilitates the decision-making process (Herrera, Murry & Cabral, 2007). Possession of this skill enables lecturers to know and follow appropriate principles for developing and using the Graduate Attribute assessment methods in their teaching, and avoiding common pitfalls in the assessment of the said attributes (Dhindsa, Omar & Waldrip, 2007).

3.9.3 Administration, scoring and interpretation of GAs' assessment results

It is not sufficient for TVET lecturers to only select and develop good Graduate Attributes assessment methods; they must also be able to apply them properly (Jarr, 2012). Lecturers should be skilled in administering, scoring, and interpreting results from diverse assessment methods (Hamilton, Halverson, Jackson, Mandinach, Supovitz, Wayman, Pickens, Martin & Steele, 2009). The skills verify the ability to interpret the attribute assessment results. Lecturers should be skilled in interpreting their own assessment results, including students' performances in the identified Graduate Attributes (Brookhart, 2011).

3.9.4 Usage of assessment results

TVET Lecturers should be skilled in using assessment results when making decisions about individual students, planning teaching, developing the Graduate Attributes orientated curriculum, and responding to college improvement initiatives (Brookhart, 2011). Lecturers who master this standard have the conceptual and application skills that enable them to use accumulated assessment information to organise a sound instructional plan for facilitating students' attributes development (*Chauraya, Madzanire, Maphosa & Zikhal, 2014)*. The assessment results need to be interpreted in an accurate manner and should   inform the planning and evaluation of the Graduate Attributes (Evans, 2013).

79

3.9.5 Development of grading procedures

The other pre-requisite for TVET lecturers is the skill of developing valid student grading procedures which use student assessments (Miller, 2013). They are expected to demonstrate the ability to devise, implement, and explain a procedure for developing grades composed of marks from various learning activities that constitute the teaching and learning component (Brookhart, 2011). Lecturers should understand and be able to articulate the reasons for which assigned grades are rational, justified, and fair, thus acknowledging that such grades reflect their preferences and judgments of the Graduate Attributes (Reeves, 2009).

3.9.6 Communication of assessment results

It appears that lecturers at TVET colleges routinely report assessment results to other lecturers and students. They should, therefore, have the skill to communicate such assessment results (Duta, Panisoaraa & Panisoaraa, 2014). In addition, they should frequently report or discuss assessment results with other lecturers and with diverse lay audiences (Domenech & Gomez, 2014). To communicate effectively with students and others on matters of the Graduate Attributes assessment, the lecturers must be able to use assessment terminology appropriately and must be able to articulate the meaning, limitations, and implications of assessment results (Sharifirad, *et al.,* 2012). Lecturers should also be able to justify their own assessment procedures and their interpretation of them (Brookhart, 2011).

3.9.7 Recognition of inappropriate assessment methods

The last skill that TVET lecturers ought to possess is the ability to recognise unethical, illegal, and inappropriate assessment methods when attaining accurate assessment information (Chireshe & Chireshe, 2010). Fairness, the rights of all concerned, and professional ethical behaviour must undergird all student assessment activities from the initial planning for and gathering of information, to the interpretation, use, and communication of the results (Young, 2017). Lecturers ought to be well versed in

their own ethical and legal responsibilities in the Graduate Attributes assessment (Chireshe, 2017).

The process of utilising the assessment and evaluation of the Graduate Attributes in the context of the TVET education system relates to the principles of good teaching and classroom management. These are highly necessary aspects of academic excellence and pedagogical discourse; thus, the lecturers need to use, develop, administer and communicate various assessments methods. Assessments should enable lecturers to discover which aspects of the Graduate Attributes have been taught. The importance of measurement, assessment and evaluation techniques to the teaching of the Graduate Attributes relates to the reason for the process of teaching itself.

The assumption at various institutions of learning is that there should be a difference in students' learning after a component of a curriculum has been taught. The concern that arises subsequently, is the extent to which students are different; thus, measurement, assessment and evaluation are important to determine the degree of difference. In the TVET context of teaching the Graduate Attributes, the main purpose of classroom instruction is to enable students to achieve the intended learning outcomes. Lecturers decide to utilise a particular technique because they expect that the chosen technique will be more effective in producing the desired Graduate Attributes. Selecting a particular technique requires evaluation and therefore the need for assessment arises.

3.10   LECTURER COMPETENCIES AND IMPLICATIONS OF THE GRADUATE ATTRIBUTES

Teaching, learning and the management of the curriculum constitute the academic triangle, which is the fundamental purpose for the existence of any institution of learning (Renehan, 2015). These three dimensions of the academic world seem to be dependent on lecturers' competencies. This suggests that TVET lecturers who are in a position to synchronise these dimensions can consequently produce the

desired academic outcomes in the disciplines of their responsibilities (Muzenda, 2013). The improvement or deterioration in academic accomplishments reflect the lecturer's competencies and the quality of teaching (Ganyaupfu, 2013).

According to Ali (2015), lecturer competence is the acquisition of explicit knowledge in the form of expertise or skills to perform academic responsibilities and the motivation to develop, deploy, and distribute knowledge and skills to others. This involves a willingness to perform actions that support the vision, needs, priorities, and goals of the college. Ciechanowska (2010) suggests that lecturers should have three types of competencies:

- **Cognitive competence** – the cyclical processes of assimilation and accommodation, which indicate that lecturers need the capacity to manipulate their personal experiences to the teaching of the Graduate Attributes (Sun & Hui, 2011);

- **Communicative competence** – features which make self-expression and communication of the Graduate Attributes to the students be smooth. Communicative competence involves language proficiency needed for the Graduate Attributes (Usó-Juan & Martínez-Flor, 2008); and

- **Organisational competence** – ability to operate effectively in a manner consistent with the college mission to plan and teach the Graduate Attributes, college mission and culture. This is also an understanding of the unique issues related to higher education and industry in the process of academic planning (Janssen, Bouwman, van Buuren & Haaker, 2014).

The ability and potential of a lecturer in academic affairs directly influences the nature of the Graduate Attributes in developing student abilities and competencies (Kazar, 2014). Lecturer ability entails discipline-based knowledge, experiences, skills and creativity (Astuty, 2015). Furthermore, lecturers are expected to take initiatives in preparing students for the unknown challenges of their futures. Lecturers' high level

82

of motivation and a positive work culture are also fundamental in expanding their professional expertise (Kovacs, 2013).

These competencies which lecturers have obtained may eventually assist with the required academic delivery to diverse students, especially those who constantly interact with them (Ramirez, Schau & Emmioglu, 2012). Competent lecturers work according to their objectives and are always ready to conform to the standards of service that are mostly needed by the students, whilst they also contribute to the achievement of the vision and mission of a college (Brookhart, 2011). These competencies enable lecturers to convey the required attributes to the students (Kazar, 2014). Lecturers need to be aware of these Graduate Attributes and how to convey them to students. The lecturers should, therefore, have communication skills, managerial and leadership skills, project skills and analytical skills (Usó-Juan & Martínez-Flor, 2008). In addition to these skills, they should demonstrate technical and professional knowledge and possess personalities that are characterised by integrity, and various skills and knowledge repertoires within their area of specialisation. Ruggeri, Dempster, Hanna and Cleary (2008) postulate that there is a correlation between the lecturer's pedagogic competencies and the learning achievements of students.

The lecturers are regarded as competent and able to contribute to the development of the Graduate Attributes when they have mastered the four basic areas that have a direct contribution to their teaching responsibilities, which include aspects, such as pedagogic competencies, professional competencies, personality skills and social skills (Hood, Creed, & Neumann, 2012).

Teaching, learning and curriculum management are three dimensions of the academic world which seem to be dependent on lecturers' capabilities. Effective lecturers are deemed as those individuals who produce the desired academic outcomes in their institutions of learning (Froese-Germain, 2015). Consequently, if there is either deterioration or success in the students' academic accomplishments, interest is focused on the teaching quality or lack of a lecturer's competencies (Maher, 2011). The level of competence lecturers possess in the classroom situation and the nature of their interaction with their students are directly responsible for the

observed performance of students in the classroom (Baker, Grant & Morlock, 2008). Lecturer competency should therefore comprise more than just skills and the mastery thereof affects the attainment of the Graduate Attributes. In other words, it ought to synchronise with discipline knowledge, various skills and attitudes. Given the fact that these lecturer competencies are observable and measurable, they should give a valid assessment of a lecturer's performance (Agu, Onyekuba & Anyichie, 2013).

The competencies normally differ in terms of the content they attempt to instil among lecturers. Some of the lecturer competencies involve more of knowledge than skill and attitude, while there are others of these competencies that encompass much more skill or are performance oriented (Doyle, 2008). The definition and an understanding of a particular lecturer competence depends on the institution's academic discourse, which includes teaching, learning and the management of the curriculum (Janssen *et al.*, 2014). These competencies are particularly required and are in place to primarily ensure that the students' learning is effectively and efficiently implemented (Brookhart, 2011).

Competent lecturers are empowered with the skills to map and plan relevant classroom-based activities, thus providing effective instructions to students (Moalusi *et al.,* 2012). The learning evaluation methods and techniques that these lecturers carry out should be convincingly adequate and prompt. The effectiveness or ineffectiveness of teaching is closely linked to lecturer competencies, skills and knowledge. Competent lecturers strive towards promoting classroom conditions and a climate which are conducive to student learning (Agu *et al.*, 2013). A number of studies have also confirmed that students are the most relevant and qualified sources to determine the extent to which the learning experience was productive, informative, satisfying or meaningful (Frey, 2007).

Since lecturer competence and efficacy are considered to be indicators and predictors of teaching effectiveness, it is evident that efficacious lecturers are capable of bringing about desirable academic changes in students' lives in general (O'Connor, Dearing & Collins, 2011). This reveals that student achievement is heavily influenced and led by lecturer capacity, as well as the positive relationships in the academic

© Central University of Technology, Free State

fraternity (Cataldi, Laird & Kewalramani, 2009). The benefits associated with being taught by good, motivated and competent lecturers are cumulative. Students gain significantly and achieve more when they are taught by lecturers who possess sound teaching competencies. This suggest that there would be a widening gap between students with the most effective lecturers and those with the least effective lecturers (Brookhart, 2011).

Matzler and Woessmann (2010) assert that there is a significant relationship between lecturer competencies and the development of students' growth in terms of a profession and the related attributes to be acquired. They further argue that the teaching quality and students' achievements are parallel to each other. It is therefore cardinal that lecturers develop strong teaching competencies in order to deliver quality teaching. Entailed in the competencies, subject knowledge is also critically important and could assist both lecturers and students to achieve the desired academic outcomes (Sorin *et al.,* 2012).

The Technical and Vocational Education and Training (TVET) college sector is mandated by the South African government to develop a knowledgeable and skilled citizenry who are able to contribute effectively to the social and economic development of the country. It is for this reason that academic programmes at TVET institutions need to provide real skills and competencies required by the public and private sectors. The social and economic development and advancement of the country relies heavily on the maintenance of a prompt and responsive TVET education system. In South Africa, TVET takes place in the institutions currently known as TVET colleges.

The TVET Education system locates the lecturers at the centre of academic activities in these institutions. Appropriately qualified and competent lecturers who possess the expertise in pedagogical discourse and industry-related knowledge are needed in making a critical contribution to the realisation of effective and efficient TVET institutions.

3.11   THE CHALLENGES FOR ECONOMIC DEVELOPMENT: THE ROLE OF THE TVET SECTOR

There appear to be a number of challenges which might affect the development of the Graduate Attributes at TVET colleges in the democratic South African context (DHET: White Paper, 2013). These challenges are linked to one another, and one influences the other. Furthermore, they can be attributed to the broadly growing and controversial consensus that TVET colleges do not function and deliver to the expected standards, in terms of meeting the needs of the South African economy (Wedekind, 2016). It is also argued within economic development discourse that the TVET sector's seeming failure is due to its low production of graduates in terms of quality and quantity. There are notable improvements and advancements in the TVET sector; however, such improvements are just a fraction of what needs to be done to address the challenges it faces. TVET colleges should fulfil a crucial role with regard to economic development (Tripney & Hombrados, 2013).

3.11.1   Unemployment

The basic challenge which democratic South Africa faces across all areas of development is chronic unemployment (Leibbrandt & Mlatsheni, 2008). South Africa had an unemployment rate of 23.2% in 2008, which had grown by 2.5% to 25.7% in 2011 (Barker, 2007). These statistics further reveal that in 2013, about 4.2 million South Africans were actively searching for employment across all economic sectors, with a drastic growth in this number (Posel, Casale & Vermaak, 2013).

The hard reality is that there are 10.4 million young people aged between 15 and 24 years, of which 3.4 million are outside the education and training sector, without employment opportunities (Cloete, 2015). This trend shows that the unemployment rate among youth aged between 15 and 24 is 31.4%. Moreover, those who are at colleges do not find it easy. The statistics reveal that 65% of TVET college students find it difficult to get workplace-based experience (Stats SA, 2014). This work- place-based experience is viewed as voluntary activities students do for employers or in the labour market, in order to understand and develop knowledge on how things work. There are still those young people who do not have the means to access

86

TVET colleges and other institutions of learning (DHET: White Paper, 2013). Over 400 000 young people do not pursuer further studies after their grade 12 examinations (Gewer, 2010).

There is further evidence which suggests that individual prospects to find jobs is highly congruent with the qualifications youth possess. Individual qualifications create an image about the youth being prepared for industry and whether their qualifications appeal to prospective employers (Bester, 2014). The qualifications, either professional, vocational or academic, are the critical elements for a country's economic mobility (Ansah & Ernest, 2013).

The section below reveals the statistics pertaining to the students who left high schools and pursued higher education thereafter. It also reveals the numbers who have dropped out of the schooling system and those who are already out of a learning environment. Figure 3.1 is a representation of the schooling supply of students to higher education.

Figure 3.1 Schooling supply of students to Higher Education
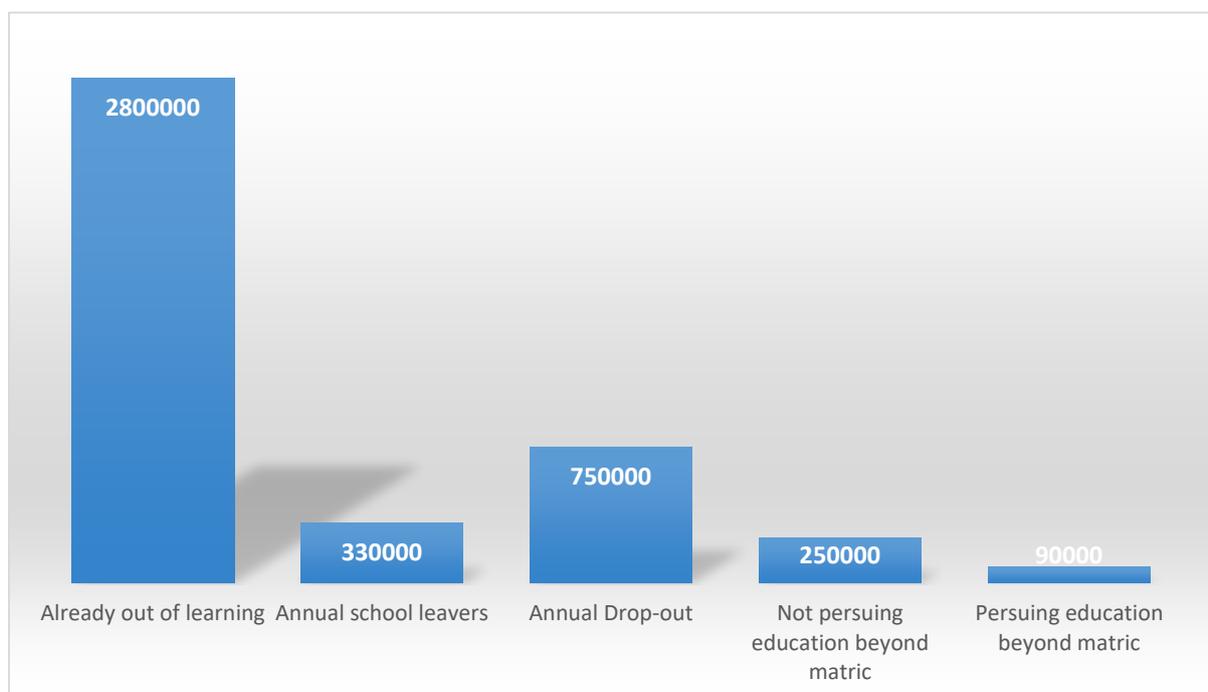
Figure 3.1 shows the supply and transition from school to higher education. It reveals that the huge numbers of school leavers who do not pursue further studies after grade 12 expands unemployment rates and broadens structural unemployment (Booyens & Crause, 2012). The statistics reveal yet again that 72% of unemployment is constituted of the youth (Stats SA, 2014). The disturbing reality is that the high percentage of youth unemployment is due to a lack of skills and knowledge, which makes it difficult for the labour market to absorb them (Cloete, Mouton & Sheppard, 2015). The outcome of this is the difficulty South Africa faces to reduce the unemployment rate and effect similar economic standards, like various middle income countries (Tripney & Hombrados, 2013).

Given the economic development problems, educationists and economists have argued that the TVET colleges sector has a contributory role to play in resolving these problems (Olajide, 2015). The role involves providing quality vocational education that enables its recipients to gain the necessary technical and professional skills, resulting in discipline in all spheres of human existence (Ayonmike, Okwelle & Okeke, 2015). The TVET educational process should expose young people to a job-linked curriculum and practicum that leads to the acquisition of skills (Mclean & David, 2009). TVET colleges have been structured in such a way that also accommodates those already in the labour market, yet in the informal sector. Opening access to the colleges for all can have a significant impact on curbing unemployment (Chukwumerije, 2011). The TVET's vocational curriculum involves the new venture creations which fuel the country's ability to create and sustain new jobs for the youth (Moemeke, 2013).

3.11.2 Poverty

Given the history of marginalisation of other people in South Africa and its impact, many citizens still find themselves living below the poverty line. This has prevented many people from participating meaningfully in education and economic activities; thus, the reason for the prevalence of structured poverty (Armstrong, Lekezwa & Siebrits, 2008). Poverty is present in many communities that were limited from developing skills and education that lead to active participation in economic development (Olajide, 2015).

88

In the year 2001, it was confirmed that 57% of the 52 million people in South Africa appear to live below the income poverty line and that this situation has hardly changed (Sikrweqe, 2013). In the middle of the South African poverty line lies ordinary citizens' inability to generate income for their households and an economy that does not create any job opportunities (Baloyi, 2013). Poverty is mainly the result of many communities' lack of education and skills. The fight against poverty and reducing its related effects require a response aimed at educating communities, as a way of mitigating the lacuna in economic growth and development (Barrell *et al.,* 2011).

TVET colleges are viewed to be a well-positioned sector in rendering possible solutions to poverty and its related problems (Uddin, 2013). Measures should involve creating a TVET sector which provides access and related opportunities for the financially needy, yet academically deserving students. Some campuses of TVET colleges are positioned closest to the indigent multitudes and to rural areas (Ogbunaya & Udoudo, 2015). In South Africa, the government has prioritised colleges and Small, Medium and Micro-sized Enterprises (SMME's) as catalysts for economic advancement and societal development (Abubakar & Yahya, 2013). The establishment of work-related relationships and collaboration between these two sectors is critical (Alias & Hassan, 2013). The fundamental part of the collaboration in ensuring employability in the labour market and self-employment as a mechanism would enable the poor to generate income for their households (Shirley, 2015). This socio-economic and transformative role set for TVET colleges should be directed at responding constructively to the challenges relating to unemployment, inequality and poverty (Tripney & Hombrados, 2013).

Furthermore, it should be noted that TVET colleges fulfil an important role in an increasingly globalised economy and have a related effect on a nation's economic development. In the region of sub-Saharan Africa, multi-level economies appear to be diverse and complex in nature. One of the core economic elements to be facilitated is the free flow of skilled labour. There seems to be a growing recognition that the promotion of transversal skills could increase the benefits expected from intensified labour mobility. Well-trained and adequately skilled workers could be in high demand and significantly influence direct foreign investment in the region.

By developing the required Graduate Attributes, countries could also increase their economic growth. This would require these countries to also strengthen the alignment between TVET policies, curriculum activities, teaching and learning practices, assessment, and eventually match TVET outcomes to the national labour market and industry needs. Developing the appropriate skill sets through TVET colleges is critical to ensuring an adequate match between labour market needs and demands.

3.12   THE ROLE OF INDUSTRY IN THE DEVELOPMENT OF GRADUATE ATTRIBUTES

Technical and vocational education and training plays a critical role in skilling and upgrading the quality of individuals in communities and consequently, has an impact on political, economic and social developments and growth imperatives (Holland *et al.,* 2013). It is for this reason that Alam (2009) avers that quality education and training should be viewed as very important and treated as a priority. Nations that develop and maintain quality higher education will consequently have much more stable economies and communities which invariably, might experience responsible living and a knowledgeable citizenry (Watermeyer, 2012).

This said, it is also important to note that the report issued by Shah (2007) indicates that higher education appears to be strained by an inappropriate allocation of resources, the design and delivery of quality, budgets and financial implications. The mentioned complexities result in a negatively affected training system of the required Graduate Attributes, which will also have alarming consequences in students' employment prospects and affect the international competitiveness of graduates (Tremblay, Lalancette & Roseveare, 2012).

Employers are therefore compelled by these prevailing circumstances to play a role in developing their competencies deemed necessary for graduates (Clarke, 2015). These competencies are those that would prepare graduates for the unknown industrial challenges and enable graduates to cope with whatever the demands of the labour market are (Bester, 2014). In curbing these negative outcomes and

academy- related setbacks that overlap from Higher Education and Training, industry can work together with the institutions of learning in implementing industry-based training (Usman & Tasmin, 2015). A number of South African TVET colleges have already started establishing these working relationships with the labour market in a form of Work Integrated Learning and Workplace Based Experience (Lotter, 2016). Furthermore, business owners and employers view competency as the acquisition of relevant and appropriate knowledge, skills, attitudes and good personality characteristics that are essential in executing workplace duties and responsibilities (Paadi, 2014). These job competencies are so essential that graduates who already possess them are highly sought after by employers; thus, employers signify the implementation and coordination of relevant Work Integrated Learning and Workplace based Experiences to be enacted by TVET colleges (Schreuder & Coetzee, 2011).

The section below states the role of industry in developing the Graduate Attributes for Technical and Vocational Education and Training College students. Industry should fulfil a significant role in developing these competencies through Workplace Experience and Work-Integrated Learning. Figure 3.2 illustrates the threefold stream for TVET students, the institution and industry.
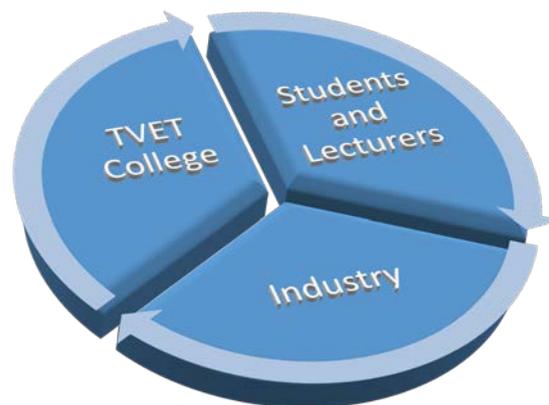
Figure 3.2 Threefold Stream for Students, Institution and Industry

91

The above (Figure 3.2) demonstrates the college and industry collaboration for the benefit of students. Furthermore, it suggests the need to create functioning relationships between TVET colleges and the corporate world, so that students experience a smoother transition from college to industry (Bester, 2014). This is to ensure that the TVET colleges become responsive to the needs of the labour market and industry (Taylor & Govender, 2013). Simultaneously, TVET colleges should make a meaningful contribution to addressing national socio-economic goals. As institutions designed to address the artisanal skills development in the intermediate occupational level (Shields & Johnson, 2008), it becomes necessary for colleges to incorporate industry into all the academic discourse, from curriculum mapping to full implementation (Watermeyer, 2012).

3.13   LABOUR MARKET INVOLVEMENT RATIONALE

The discussion about the role of Higher Education in the development of the Graduate Attributes suggests that it is expected to prepare and produce graduates for industry by developing the attributes that employers regard as important (Holland *et al.,* 2013). It is also important to note, that while the Higher Education is charged with this responsibility, the soft and hard skills attained at higher learning institutions appear to be insufficient for employability. The graduate success in the workplace requires the convergence of the Higher Education sector and the labour market (Lotter, 2016).

According to employers, students graduating from Higher Education and training come across as being unprepared to assume responsibilities (Fabris, 2015). Employers then have to assume the responsibility of further preparing and training newly employed graduates. Moreover, these employers have to deprioritise their core tasks, so that they can assist graduates who appear to be ineffective in executing their responsibilities; thus adversely affecting the company's production rates (Busteed & Seymour, 2015).

92

It is evident that education and training opportunities from TVET colleges do not exactly match the realities of the labour market and the world of work (Wedekind, 2016). Consequently, graduates then find it difficult to adjust to the realities of industry, without being exposed to prior employment opportunities. Employers make provision for the institutions of learning to expose their graduates to industry-related activities through a curriculum incorporated practicum (Selvadurai, Choy & Maros, 2012). Graduates are then exposed to employer-demanded competencies which are addressed through an exhibition and/or performance of professional tasks. Students will again need time at the institutions of learning or through curriculum revision to align the curriculum to everything they have exhibited and performed (Jackson, 2013).

There has also been a concern about the staff's understanding at TVET colleges, their knowledge of industry and what takes place there from day to day (Johan, 2015). The fact that lecturers are always at the colleges and distant from the labour market, they appear to be less knowledgeable about the latest technologies and development trends in industry. Bringing the TVET staff on board with the latest workplace traits and trends may have fruitful outcomes in the preparation of students for the world of work (Karinka, 2016).   Lecturer involvement in industry will not only benefit lecturers and students, but also the manner in which the curricula are structured and delivered at TVET level (Clark, Threeton & Ewing, 2010).

The promotion of the Graduate Attributes is essential in every academic programme, as well as in labour market for student experience (Alias & Hassan, 2013). Furthermore, there is an urgent need for the development of these graduate skills and competencies at colleges for Technical and Vocational Education and Training (Rasool & Botha, 2011). This need emerges from the gap left between the existing curriculum and the newest technologies (Osman, Omar, Kofli, Mat, Darus & Rahman, 2008), as well as the perplexing rate of unemployment, labour market concerns about graduates employability and low entrepreneurship development initiatives (Tripney & Hombrados, 2013).

The TVET sector alone cannot provide higher learning opportunities that produce the desired Graduate Attributes required by employers (Gentelli, 2015). Developing

the Graduate Attributes at TVET level, warrants the involvement of industry in the curriculum planning and roll-out (Wedekind, 2016). The TVET and industry linkage further provides students and lecturers with an opportunity to learn and understand the contemporary trends of industry, while at the same time, providing the industry with an opportunity to identify good employees during their time of practicum (Lotter, 2016).

The section below reflects on the employers' list of preferred Graduate Attributes. The graduates who possess the Graduate Attributes needed by industry are highly sought after. Table 3.2 indicates a list of the Graduate Attributes needed by the employers.

Table 3.2   Employers' list of important Graduate Attributes

Communication skills	Language skills in communicating with company stakeholders
	Language proficiency
	Language grammar, linguistics and semantics
	Ability to structure messages in business words
	Good choice of words
	Business selling communication
	Corporate discussion
	Business meetings
Time management	Schedule projects with stipulated durations
	Allocate enough time for organisation's priorities
	Ability to execute more than one activity at a time
	Achieve goals within the deadlines/timelines
	Usage of technology to manage time
Teamwork skills	Functioning effectively in teamwork
	Giving and accepting tasks from team
	Keeping members of the team abreast with new developments
	Handling feedback to and from the team
	Dealing with team conflicts and differences
Project management	Estimating the timeframes from the beginning to the end of a project
	Determination of costs involved
	Human resource or manpower implications
	Effective management of risk factors when performing tasks
	Work delegation and accountability

94

Business skills	Promotion and selling of products, goods and services
	Ability to acquire information, retain information and process information
	Maintaining good relationships with stakeholders
	Understanding business policy, guidelines and procedures
	Knowledge of organisational dynamics and performance appraisal
Working with people	Understanding colleagues and customers from different backgrounds
	Awareness of protocol and hierarchies at workplace
	Developing trust and positive relationship with clients
	Ability to work with both competent and incompetent staff
	Accepting and tolerating people's cultural backgrounds
Personal attributes	Ability to adapt to new changes
	Setting work-related goals
	Emotional intelligence
	Enthusiasm and passion for one's own work
	Ability to learn from others and create new experiences
Working across cultures	Being able to work with clients and colleagues from different backgrounds
	Understanding cultural diversity
	Working with customers from local organisations and abroad
	Sensitivity for other people's way of doing things (writing, talking and behaviour)
	Building trust in people despite their culture

Table 3.2 shows the Graduate Attributes expected by industry as developed by Higher Education institutions. The attributes expected by industry are twofold: technical knowledge and skills; and generic attributes. To achieve these Graduate Attributes needed by industry, Vorster (2010) suggests that TVET colleges should engage in a regular process of curriculum review. This should be an important factor in planning the curriculum of any TVET college undergraduate. Many TVET colleges have commenced with refining their curricula with a view to incorporating the Graduate Attributes in teaching programmes and classroom practices.

Industries in the various sectors of the economy are becoming more vocal in their demands for improvement in graduates attributes. Graduate employability is thus becoming increasingly contentious as employers call for greater development,

95

evaluation and benchmarking of student skills and capabilities in TVET programmes. The demand of the Graduate Attributes by industry increases pressure on TVET institutions. For these reasons, there seems to be a need to understand industry's current needs and those that might arise in the future from the Technical and Vocational Education system.

From various studies, industry has indicated that skills and competencies, such as graduates' abilities to develop and apply knowledge in various contexts are very necessary. These are coupled with generic skills, such as critical thinking and problem solving. Simultaneously, employers place a high value on numeracy and language proficiency. Attributes such as flexibility, adaptability and developing knowledge relevant to the position, are also identified as significant. The initiatives that promote a greater dialogue and collaboration between academics and employers, employability skills and attributes can be better inculcated in undergraduates, to the benefit of graduates and society as a whole.

3.14   COLLEGE-INDUSTRY COLLABORATION EXPERIENCES

The collaboration between the institutions learning and the industry cannot be over emphasised as a critical component of successfully producing well attributed graduates. According to Herrmann (2013), the collaboration between the college and the industry provides the students with required experience, thus enabling them to engage the contemporary corporate world trends. Application of curriculum content at the industry gives students an opportunity to align the education outcomes with contemporary technologies of the industry (Nilson, 2010). This assists in bridging the gap between output produced by the institutions of learning and the industry's expectations (Bester, 2014).

In furtherance of assertions by Herrmann (2013), Townsend and Urbanic (2013) are of the opinion that engagement of the industry by the students plays a pivotal role in improving learning experiences. Smith, Brooks, Lichtenberg, McIlveen, Torjul and Tyler (2009) reveal that students who have had an experience with industry during their studies tend to succeed in their careers after graduation. This points to the fact

that lecturers need to incorporate workplace based experience in the pedagogical discourse (Trowler, 2010). Such experience gets emphasis in teaching and learning through curriculum, co-curricular and extra-curricular activities (Johan, 2015).

These academic activities warrant the involvement of all stakeholders, the students for effective learning, the lecturers for effective teaching and the industry for the practicum component (Smith *et al.*, 2009). While the students are at the institutions of learning, they engage the curriculum for labour market preparation (Usman & Tasmin, 2015). The TVET institutions' collaboration with the industry create the opportunities for students to experience how classroom learning can be applied to industry (Alias & Hassan, 2013).

3.15 THE ROLE OF GOVERNMENT IN TVET COLLEGES IN SOUTH AFRICA

The South African government's priority is to provide capacity to the public TVET Colleges and strengthen them to meet the production expectations of graduates with skills (DHET: White Paper, 2013). This involves expanding them so that they accommodate as many young people as possible. Expansion in the TVET sector means that government has the responsibility to task TVET colleges with reconstituting their roles and becoming institutions of choice for a large proportion of school leaving youth (Gewer, 2010).

The main strategic intentions for the expansion and strengthening of TVET colleges by the government include improving access to students from all socio-economic backgrounds; success and certification rates; throughput rates; and management capacity (DHET: White Paper, 2013). The Department of Student Support Services at TVET colleges in South Africa is also compelled by the government to assist students with various skills in all possible ways (Masino & Niño-Zarazúa, 2016). The government therefore plays a critical and leading role in ensuring that partnerships with employers and stakeholders are built (Griffiths, Maggs, George, 2008). The Department of Higher Education and Training has taken the necessary steps to assist the colleges to develop management information systems and to strengthen the sector's governance thereof (Mouzakitis, 2010). This has simultaneously shown a

© Central University of Technology, Free State

drastic improvement in the colleges' responsiveness to industry, as well as improvements in placing the students at various organisations of the practicum component of the curriculum (Rasool & Botha, 2011).

The South African Department of Higher Education and Training is attempting to provide support to TVET colleges at different levels (DHET: White Paper, 2013). Colleges in South Africa that are well established in terms of infrastructure and finance (Kreider, Bendixen & Lutz, 2015). There are others which actually battle to provide assistive services to students due to budget issues and the financial implications for what they need to achieve. This suggests that the colleges are operating at different stages of development and that government therefore, has a huge responsibility to maintain the optimum balance between colleges and the needs of the wider society.

The government strives to recruit and retain highly qualified academic staff for the advancement of the TVET sector's agenda (DHET: White Paper, 2013). This requires the government to contest the labour market for academically advanced manpower; thus, the government is compelled to ensure that they provide sufficient financial support to the TVET sector for building capacity and competency.

The South African government has an obligation to develop and maintain the college infrastructure that enhances teaching and learning. Furthermore, the government needs to budget for and provide the incentives to the organisations that work with colleges for on-the-job training and the formulation of governing prescripts to synchronise the curriculum with labour market functionality. This would also require of government to establish training centres to empower lecturers' and students' capacity for the labour market and the world of work.

3.16 HIGHER EDUCATION AND TRAINING'S CONTRIBUTION TO THE DEVELOPMENT OF THE GRADUATE ATTRIBUTES (SOUTH AFRICA)

Generic attributes are skills and competencies that are developed while students are in the fraternity of higher education, irrespective of the academic discipline or field of

study (Hill *et al.*, 2016). These attributes are embedded within the curriculum outcomes and in various exercises during teaching and learning. They are not simply curriculum add-ons; therefore they are not necessarily gained by attending extra-curricular or co-curricular activities (Thompson, Treleaven, Kamvounias, Beem & Hill, 2008). They are most specifically acquired via the initiation of a number of activities that constitute the higher education experience.   It requires not only curriculum compounded components, but lessons to which the students are exposed during their time as students (Hill, Walkington & France, 2016).

It is highly significant that higher learning institutions such as TVET colleges, plan and design their curriculum in such a way that it accommodates the Graduate Attributes, consequently enhancing the graduate employability across many sectors of the country's economy (Moalusi *et al.,* 2012). Graduate attributers should be developed in all academic disciplines and should characterise each individual graduate, irrespective of their field of study (Collier, Jobbins & Taylor, 2012).

While Higher Education and Training takes the responsibility for the development of the Graduate Attributes, it should identify the Graduate Attributes and monitor each institution's implementation or roll-out strategies (Hill *et al.*, 2016). The process in which the Graduate Attributes are monitored and assessed at TVET level, is most likely to propel various institutional departments at colleges to possibly participate. The development and further promotion of the Graduate Attributes in the institutions of learning cannot be left for one particular department to deal with, but they should be the responsibility of all internal stakeholders and relevant bodies across all the departments (Van Schalkwyk *et al.,* 2011).

In a number of countries, such as South Africa, the funding dedicated to the development of the Graduate Attributes has become solely the responsibility of the government (DHET: White Paper, 2013). The institutions of higher learning also should respond by embedding the Graduate Attributes into the curriculum, as well developing policies and procedures that lead the process (Rowe & Melvyn, 2012). Furthermore, these institutions, such as TVET colleges, have accepted the responsibility of leading the development and further enhancement of the Graduate

99

Attributes amidst the prevailing diverse perspectives and perceptions relating to the roll-out process (O'Leary, 2016).

The specific issue that continues to vex the Higher Education and Training sector is how the Graduate Attributes should be embedded in the curriculum and consequently taught (Dall'Alba, 2009). The reason is mainly that institutions of learning as academies, are not necessarily meant to produce what is needed by industry. The academies were initially meant to produce creative thinkers and highly attributive individuals outside the scope of the labour market (Perkmann, Tartari, McKelvey, Autio, Broström, D'Este, Fini, Geuna, Grimaldi, Hughes, Krabel, Kitson, Llerena, Lissoni, Salter & Sobrero, 2013). However, realising that graduates intend to enter the labour market upon the conferral of their qualifications, the higher learning institutions took it upon themselves to adjust the academic and pedagogic discourse as a means of constructively preparing students for the world of work (Holland *et al.,* 2013). This initiative develops an individual holistically, while at the same time ensures success and transformation. The other soft skills, such as creativity, attitude and professionalism are less assessed in the curriculum due to the complexity of teaching them (Andrews & Higson, 2008). These soft skills do not resemble in nature the hard skills, such as knowledge and technical skills that are easily assessed by Higher Education. For these soft skills many more resources, time and effort are required to develop and assess them (Williams, 2015). The Higher Education and Training sector teaches the hard skills and the soft skills which generally result in qualities such as:

- **Life-long learning**

An enthusiasm to pursue knowledge for the betterment of oneself in professional and social contexts (Collins English Dictionary, 2014).

- **Leadership**

Ability to direct and lead initiatives, while commanding discipline and respect among one's peers (Collins English Dictionary, 2014).

100

- **Civic Responsibility**

The demonstration of high levels of empathy to the overall community whilst possessing the ability to influence attitudes, behaviours and general conduct among people in the community (Collins English Dictionary, 2014).

The importance of employability skills is highly recognised and valued by TVET training providers. Although TVET systems, in general, have the responsibility for imparting generic and employability skills, it has been shown in various studies that these skills are best acquired when taught in real-life situations and not just in TVET programmes.

Employers have also indicated their enthusiasm for the development of the Graduate Attributes and acknowledge their role in developing employability skills in a number of ways in industry. Besides acknowledging enthusiasm for this role, employers should be equally equipped with skills, such as honesty, integrity and empathy, among other things. The involvement and participation of industry is one key driver for the success of TVET in general, and for teaching and assessment employability skills in particular. The on-the-job trainings (WIL and WBE) are considered the major sources for trainees to gain experience, since they could practise the technical skills, as well as nurture some general attribute skills, such as self-confidence and teamwork.

Workplace Based Experience and Work-Integrated Learning are useful tools which specify the technical skills that are required of a competent technical person. They also include certain areas of generic/employability skills, such as teamwork and occupational health and safety. Some important Graduate Attributes are included in these programmes, whilst others should be addressed while the student is with the TVET for the theoretical component of the curriculum.

3.17   SOUTH AFRICAN LEGISLATIVE MATTERS

The legislative components that impact on the TVET colleges sector and its strategic and national imperatives include the Continuing Education and Training Act, 2006 (Act No. 16 of 2006), the White paper for post-school Education and Training and the Skills Development Act, 1998 (RSA: Act No. 97 of 1998).

3.17.1   Continuing Education and Training Act, 2006 (Act No. 16 of 2006)

The Constitution of the Republic of South Africa (Section 29(1)-(4)) provides for the right of basic and further education to everyone in the official language of their choice, with equity, redress and practicability taken into account (DHET White Paper, 2013). In addition, the Continuing Education and Training (CET) Colleges Act (No 16 of 2006) provides for the regulation of continuing and further education and training through the establishment, governance and funding of public technical and vocational education and training (TVET) colleges and the promotion of quality in continuing and further education and training (CET, 2006).

The CET Act exists to provide for the quality, regulation, the establishment, governance, funding and the employment of staff of public further education and training colleges (CET, 2006). The Act recognises that the provision of education and training alone is not sufficient to significantly reduce inequalities; thus, it promotes the commitment to establish pro-poor institutional structural frameworks and funding modalities that are key elements to assist and accelerate the attainment of the vision of the National Development Plan's (NDP) 2030 agenda: that of an egalitarian and prosperous society (RSA: NDP, 2012).

3.17.2   White paper for post-school Education and Training

The fundamental purpose of the White Paper for post-school Education and Training is to set out strategies to expand the current provision of education and training in South Africa (Terblanche, 2017). Considering the fact that South Africa intends to improve the provisions of its education system, the White Paper guides the improvement of this quality, and integrates the various strands of the post-school

system. The document sets out modalities for ways in which employers, in both the private and public sectors, can play an important role in the creation of a skilled labour force (DHET: White Paper, 2013).

While there is still a need to improve the expansion of the economy, to increase employment and to equip people to achieve sustainable livelihoods, the White paper incorporates these needs in itself. This means that there still are various tasks that should be done under the auspices of the White Paper. These tasks include: improving partnerships; developing effective and well-understood vocational learning and occupational pathways; and improving the quality of the learning and work experiences along those pathways (DHET: White Paper, 2013). Most importantly, the White Paper sets out a vision for the type of system the country hopes to achieve in the period up to 2030 (RSA: NDP, 2012). Such critical enthusiasm requires guidelines provisioned in the White Paper.

3.17.3 The Skills Development Act, 1998 (Act No. 97 of 1998)

The Skills Development Act No. 97 of 1998 was promulgated for the provision of the institutional structure to formulate and implement national, sector and workplace strategies (Terblanche, 2017). It was meant to advance the skills of the South African workforce and to incorporate those strategies within the National Qualifications Framework as reflected in the South African Qualifications Authority Act of 1995 (RSA: NQF, 2008). The act provides for learnerships through TVET Colleges and private providers that lead to recognised occupations and the funding thereof (RSA: SDA, 1998). It encourages the South African workforce to participate in learning programmes, thus facilitating employability among people from disadvantaged backgrounds (DHET: NSDS, 2011). Achieving the anticipated outcomes of the Skills Development Act include promoting partnerships between the public and private sectors of the economy and co-operating with the South African Qualifications Authority (SAQA, 1995).

3.17.4   National Strategic Outcome Orientated Goals

The 2019 Medium Term Strategic Framework is structured around 14 priority outcomes which cover the focus areas identified in the National Development Plan. The Department of Higher Education and Training is responsible for Outcome 5 of the 14 government outcomes, namely *"A skilled and capable workforce to support an inclusive growth path".* The Medium Term Strategic Framework (MTSF) outcomes assert to the credible institutional mechanism for labour market and skills planning. It reveals that access and success in programmes leading to intermediate and high-level occupationally-directed programmes should be increased, thereby expanding the availability of intermediate level skills, with a special focus on artisan skills.

3.18 THE TVET SECTOR'S STRATEGIC OBJECTIVES

The TVET colleges' strategic plan takes into account the following priority areas to ensure more effective teaching and learning and student achievement (RSA: TVET College Strategic Plan 2015/16 – 2019/20). These priority areas are:

- Growth and expansion of access and articulation opportunities for the youth;
- Improvement of quality and success in terms of the academic achievement and certification of students;
- Partnerships and linkages with industry and SETAs and/or other professional bodies, as well as collaboration with institutions of Higher Education;
- Systemic capacity building and efficiency;
- Institutional governance, management and leadership; and
- Any other pertinent strategic focus for the college.

The section below reveals the sector's strategic objectives and the key performance indicators assigned to TVET colleges by the Department of Higher Education and Training. Table 3.2 presents the sector's strategic objectives.

Table 3.3   The TVET sector's Strategic Objectives

STRATEGIC OBJECTIVE	KEY PERFORMANCE INDICATOR
To provide post-school education and training services by increasing quality and success in terms of the academic achievement of students	Successful implementation of college and national student attendance and punctuality policy Significant improvement of student achievement in: Attendance rates, Retention rates, Throughput rates, and Certification rates. Successful implementation of College Student Attainment Strategy Communication with parents Recognition of students and staff achievements
To provide post-school education and training capacity by having adequate infrastructure and systems in place to increase access and provide effective services to students	Academic and social support services, established and effective Bursary management effective Concessions for qualifying students to register without deposit Sport, art and culture services established and effective
To develop partnerships and maintain good stakeholder relations in support of increasing the number of students who are adequately prepared to enter the labour market or further and higher learning.	Positive profile of the college with stakeholders Broad base of partnerships and linkages with business, industry and government departments Membership of Goldfields Chamber of Business and effective communication established Network of host employers for placement of students Dedicated placement officers
To ensure continuous business excellence in terms of good corporate governance, including continuous effectual resource management (human resources, financial and infrastructure and/or facilities management), as well as information management and data reporting	Effective implementation of college policies Quality management system implemented and maintained ISO 9001: 2008 certification Functional Health and Safety systems Access control to college campuses Sound financial management systems Functional infrastructure committees Archiving and backup systems in place Compliance to data reporting requirements Electronic fault reporting system
Business excellence in terms of good corporate governance, including continuous effectual resource management (human resources, financial and infrastructure and/or	Establishment of a business unit for third-stream income Implement electronic archiving and filing systems Biometric access systems for both students and staff

facilities management), as well as information management and data reporting	

Table 3.2 shows the South African TVET sector's strategic objectives and the key performance indicators that are used to determine if the TVET sector is succeeding in the fulfilment of its mission. The TVET sector is mandated to provide post-school education and training services by increasing quality and success in terms of the academic achievement of students. Furthermore, TVET colleges are expected to ensure continuous business excellence in terms of good corporate governance, including continuous effectual resource management (human resources, financial and infrastructure and/or facilities management), as well as information management and data reporting.

The White Paper for Post-School Education and Training (DHET: White Paper, 2013), reiterates the central role for colleges in the post-school system; a more focused but expanded mandate is professed. Some of the South African colleges have already developed working relationships with Higher Education Institutions in order to offer Higher Certificates and Diplomas as part of the integrated system alongside TVET Colleges. The White Paper indicates the necessity for the establishment of Community Colleges and envisages a stronger integration with other colleges, such as in the Agricultural and Health sectors.

3.19   INTERNATIONAL BENCHMARKS ON TVET ATTRIBUTES

3.19.1 Singaporean Graduate Attributes

The socio-economic developments and growth in countries, such as Singapore have happened drastically and aggressively in the past twenty years (Das, 2013). Simultaneously to such economic developments, there has been a considerable interest in the Technical and Vocational Education and Training in various countries (Jelita, 2017). The processes of skills formation in a number of countries reveal the congruence between skills development and economic growth (Bhorat, Cassim &

106

Tseng, 2016); thus, the on-going search for new approaches to Vocational Education and Training (Leutert, 2016).

The highly noted intervention and support from the Singaporean government has assisted in TVET College and labour market relations, which has attracted a considerable amount of international interest in the country (Gopinathan, 2013). It is well-known for its international stages for academic prosperity in developing a high performing education system in an exercise known as Programme for International Student Assessment, as well as for its dynamic, future-oriented and industry-linked human capital development initiatives (Law, 2011).

Singapore has a strong vocational education and training system which is well-funded in both pre-employment education and training (PET) and continuing education and training (CET) (Tan, 2016). It has succeeded admirably in responding promptly to the skills demand in every phase and sector of its development (How, 2015). Singapore's success is not only reflected in its education system but in its overall economy which has risen drastically (Chew & Chew, 2011). More recently, the Singapore government introduced a higher education initiative called the "Skills Future", with the intention of merging the education outcomes with the country's economic development initiatives (Cheng, 2018). This intention of emphasising the skills relevance would concurrently ensure a high quality of lifelong learning and employment, as Singapore continues its transition to an innovation economy (WDA, 2015). A number of compelling issues, such as globalisation, technology-driven disruption, and youth unemployment worldwide has energised policy makers in Singapore (Tucker, 2012). Skills Future entails three important components for advanced economic development, which are: the integration of education, training and career progression; promotion of industry support for individuals to advance, based on skills; and the further efforts to foster a culture of lifelong learning (Cavanagh, 2009).

With regard to the development and use of the Graduate Attributes for Singapore, different educational accords exist in which they instil the Graduate Attributes (Alias & Hassan, 2013). Each educational level accord is based on the principle of substantial equivalence (Paul, Hugo & Falls, 2015). This means that the educational

107

levels are not expected to have the identical Graduate Attributes, although each level is expected to map and teach the Graduate Attributes in a particular and unique method. These Graduate attributes are all synchronised together to produce graduates who can enter employment upon the completion of a particular qualification (Wan Mohamed & Omar, 2010). The graduates are thus prepared to be fit to undertake a programme of training and experiential learning, leading to professional competence and registration (Kamin *et al.*, 2010).

3.19.2 Malaysian Graduate Attributes

In Malaysia, the Education Act 1996 (Act 550) covers all forms of education, including TVET. Sub-section 35(2) states that "technical education" covers the provision of skills training; job-related training; training for the continuation of competencies; and technical skills training, as approved by the Ministry of Education (MoE, 1996).
As in the case of Singapore, the collaborations between TVET agencies and industries occur at various levels of the education sector in Malaysia (Lukas & Andrews, 2013). The pre-employment skills-development forms the main collaboration objective across all levels of education, while research and innovation serve as a second main objective in the higher TVET sectors (Jelita, 2017). The improvement of technical skills is prioritised to reduce the supply and demand mismatch (Alias & Hassan, 2013). The Malaysian education system enhances employability skills and promotes knowledge transfer between institutions and the community (Cicerello, 2012).

The Malaysian Graduate Attributes provide a point of reference for the colleges, industry and registration bodies to describe the outcomes of a particular qualification (Osman *et al.*, 2008). The Graduate Attributes in these countries (Malaysia and Singapore), are not the constituents of an "international standard" for accredited qualifications. However, the Graduate Attributes which are mapped out provide a widely accepted common reference for colleges, industry and registration bodies to describe the outcomes of qualifications (Hanapi & Nordin, 2014).

The Graduate Attributes are outcomes that are brought together and supported by education level statements (Ahmad, 2009). The assessment of the Graduate

Attributes require all stakeholders and the signatories, who give confidence, that the educational objectives of programmes are being achieved (Alias & Hassan, 2013). The quality of the Singaporean and Malaysian programmes depends not only on the stated objectives and attributes to be assessed; they also depend on the programme design; resources committed to the programme; the teaching and learning process; and the assessment of students (Noor, 2011). This includes verification through students who satisfy the academic requirements for practice.

3.19.3 Australian Graduate Attributes

In Australia, discussions on transversal skills have been taking place for a number of years, across all educational sectors. The preferred term to refer to the Graduate Attributes is "transversal skills". Currently, the Graduate Attributes in TVET are referred to as 'employability skills'. There are three sets of inter-related skills: the Core Skills for Work. These encompass employability skills on an individual's ability to meet workplace demands, while technical or discipline-specific skills are detailed in training packages and in the school and higher education curricula. The core language, literacy and numeracy skills of reading, writing, oral communication, numeracy and learning are also addressed in the Australian Core Skills Framework.

According to the Australian Qualifications Framework Council (Australian Government, 2008), the country is currently working on providing graduates with functional knowledge, skills and reflective competencies to enter the labour market. The intention for the provision of Graduate Attributes is to re-enter the workforce after absences, to train or retrain for new jobs, or to upgrade their skills (Chisholm, 2012). This process is generally directed at people aged from 15 to 64 years (Australian Government, 2008).

The Vocational Education and Training system in Australia is designed to deliver the Graduate Attributes which are referred to as workplace-specific skills and knowledge-based competencies (UNICEF, 2013). For the achievement of these Graduate Attributes, there are strong links between the colleges, the labour market, and the economy, which assist industry in meeting the graduates' training and skill needs (Carneiro, Crawford & Goodman, 2007). The key elements of the Australian national

109

training system are accounted for in the Australian Qualifications Framework (AQF), which defines all nationally recognised qualifications and provides a single framework for qualifications, from senior secondary certifications to higher doctorates (Australian Government, 2008).

3.19.4 German Graduate Attributes

Germany uses the dual system (Duales System) of education which is the largest provider of vocational education and training at upper secondary level (Greinert, 2007). After fulfilling the requirements of the dual system, most of the students take up employment as skilled workers. The German education system is considered dual because training takes place in industry and at colleges for vocational education and training. The requirement to enter to vocational education is the completion of a compulsory full-time education and training qualification (Hippach-Schneider & Wiechert, 2012).

Venues for training are offered in both private and public enterprises, in offices of the liberal professions. Training may take place only in training enterprises, in which the Graduate Attributes required by the training regulation can be imparted by training personnel (OECD, 2013). The core function of the dual system in Germany is to provide basic and specialised vocational training and to extend previously acquired general education. This process enables students to acquire comprehensive vocational competencies and functional knowledge. In addition, the system is structured to make the graduates capable of fulfilling the duties expected of them by industry (Greinert, 2007).

The German education system employs qualified lecturers to address pedagogical discourse, which entails a theoretical component of the curriculum, while trainers are skilled workers from industry (Hippach-Schneider & Wiechert, 2012). The German VET system is characterised by a large number of interfaces, namely transitions between training preparation and dual VET; between dual VET and full-time school-based education and training; between initial and continuing VET; and between VET and the higher education sector (Schmidt, 2010).

The German education system exists to train the workforce in practical skills congruent with their qualifications (Greinert, 2007). Graduates are expected to demonstrate a sense of ethics and a positive attitude. Graduates should also be able to maintain a professional working style and discipline while employed or self-employed (OECD, 2013).

3.20   CONCLUSION

The stakeholders' expectations that graduates ought to leave college possessing qualities and skills exerts pressure on the institutions of learning to establish effective working relationships with industry. The Graduate Attributes are needed for personal development and work in a life beyond the college. Colleges have accepted and responded to this expectation by individually defining their list of the desired Graduate Attributes, requiring them to have these attributes embedded in academic programmes.

However, the literature shows that the development of the Graduate Attributes has proved to be a major challenge for colleges around the globe. This is exacerbated by the fact that the curriculum content does not accurately match the contemporary trends in industry. On a positive note though, colleges in South Africa have started to engage with and involve industry in academic programmes. The Work-Integrated Learning and Work-place Based Experience have proved to bridge the gap between the outcomes of Higher Education and Training and the labour market.

The next chapter will outline the research design and methodology of the current study. The empirical methods that were employed to collect data in relation to the research questions will be explained, followed by the description of the data collection.

CHAPTER 4
RESEARCH DESIGN AND METHODOLOGY

4.1. INTRODUCTION

Firstly, in this chapter, there will be an explanation on the research methodology employed. Secondly, the methodological procedure used in this study is described and thirdly, the sample and the research design are set out. The chapter outlines the empirical methods that were employed to collect data in relation to the research questions. This is followed by the description of the data collection, the sampling of the research participants, the method of data analysis and the demarcation of the study.

4.2. PURPOSE OF EMPIRICAL RESEARCH

Creswell (2012) asserts that empirical research involves the gathering of first-hand information. Long (2014) defines it as research based on observed and measured phenomena. It is research that derives knowledge from actual experience, rather than from theory or speculation. According to Parks, Faw and Goldsmith (2011), empirical research is the most beneficial method of gathering knowledge in the field of education. The main objective of the empirical investigation was to collect data to design a framework for the advancement of lecturer capacity in developing the Graduate Attributes for a TVET college. The investigation also sought to investigate the perceptions of lecturers and students pertaining to the Graduate Attributes and their development at a college. This would include the barriers the college face in the process of the Graduate Attributes development and what the possible solutions to the asserted barriers would be.

112

4.2.1. Preparing for the Empirical Study

Prior to conducting the empirical study, the researcher analysed the literature study and designed questionnaires (see Annexure C) to test aspects occurring empirically in the literature.

4.2.2. Permission

A letter, seeking consent from the Goldfields TVET College was written to the Principal and the Executive Management (see Annexure A). Permission was granted to conduct the research at the campuses of the College (see Annexure B).

4.3.   PARTICIPATORY APPROACH

The participatory research method is focused on planning and conducting the research process with those people whose lives and meaningful actions are under study (Bergold & Thomas, 2012). This means that the aim of the investigation and the research questions developed out of the convergence of two perspectives which are science and practice. According to Cook (2012), participatory research requires a willingness on the part of participants to disclose their perceptions and perspectives of the situation, and their own opinions and experiences. Dentith, Measor and O'Malley (2012) reveal that this approach makes provision for dissenting views because they are essential to the process of knowledge production. These views promise a new and different take on the subject under study, and thereby enable the discovery of new aspects.

The participatory approach in the current study involved not only inquiry, but also action. Students and lecturers discussed their challenges, and thought about possible solutions to them, as well as actions which needed to be taken. The use of the participatory approach in this study is intended to influence decision-making processes and impact the students' lives in a TVET college setting and influence industry.

113

4.4. CASE STUDY DESIGN

Case study research has the characteristic of allowing the exploration and understanding of complex issues. It can be considered a relevant and robust method, especially when an in-depth investigation is required. The case study method enables the researcher to explore beyond the quantitative statistical results and understand the behavioural conditions through the actor's perspective. By incorporating both quantitative and qualitative data, a case study design as employed for the Goldfields TVET College, explains both the process and outcome of a phenomenon (Graduate Attributes), through complete observation, reconstruction and analysis of the cases under investigation.

The case study method enables a researcher to closely examine the data within a specific context. In most cases, the case study method selects a small geographic area or a very limited number of individuals as the subjects of study. Case studies explore and investigate contemporary real-life phenomena through a detailed contextual analysis of a limited number of events or conditions. Yin (2009) defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context.

Yin (2009) notes three categories, namely: exploratory; descriptive; and explanatory case studies. In the current study, the researcher used the descriptive case study with the intention of triangulating data from both qualitative and quantitative data sets. The descriptive case study described the Graduate Attributes phenomenon which occurs within the two data sets. The goal set by the researcher is to describe the data on the Graduate Attributes as they occur. Stake (2008) suggest that descriptive case studies may be in a narrative form. The challenge of a descriptive case study in the current study was that the researcher was supposed to begin with a descriptive theory to support the description of the phenomenon.

114

4.4.1. Advantages of case study

There are a number of advantages in using case studies. The researcher outlines three advantages that benefited the current study.

4.4.1.1. Studies the immediate context

The case study in the current study extracted and examined the data within the immediate and relevant context (Goldfields TVET College); that is, within the situation in which the activity takes place. To explore the strategies for the development of the Graduate Attributes, the researcher observed the subject within his environment.

4.4.1.2. Allows for Qualitative and Quantitative data analyses

Variations in terms of intrinsic, instrumental and collective approaches to case study allow for both the quantitative and qualitative analyses of the data (Zainal, 2007). This study of the Graduate Attributes within the context of the Goldfields TVET College required data from research participants, thus needing qualitative data from the descriptive accounts of behaviours and settings. On the other hand, the current study sought evidence from both the numerical and categorical responses of the individual subjects.

4.4.1.3. Explanation of real-life situations

The detailed qualitative accounts often produced in case studies, not only help to explore or describe the data in a real-life environment, but also help to explain the complexities of real-life situations which may not be captured through experimental or survey research. A case study of the 'Graduate Attributes strategies' used by an individual subject for instance, may give access to not only the numerical information concerning the strategies used, but also the reasons for the strategy use, and how the strategies are used in relation to other strategies.

4.4.2. Disadvantages of the case study

There are a number of disadvantages in using case studies. The researcher outlines two disadvantages that hindered the current study.

4.4.2.1.   Little base for generalisation

Despite the advantages case study design revealed in the current study, there were also disadvantages. Case studies provide very little basis for scientific generalisation since they use a small number of subjects; some are conducted with only one subject (McMillan & Schumacher, 2010). It could be difficult for the researcher to generalise the findings of the study (Goldfields TVET College) to other TVET colleges.

4.4.2.2.   Too long

The case study was too long, difficult to conduct and produced a massive amount of documentation. In particular, case studies of an ethnographic or longitudinal nature can elicit a great deal of data over a period. The danger comes when the data are not managed and organised systematically. A common criticism of the case study method is its dependency on a single case exploration, thus making it difficult to reach a generalising conclusion (Steinberg, 2015).

4.5.   MIXED METHODS

Mixed methods is a research approach in which researchers collect, analyse, and integrate both quantitative and qualitative data in a single study or in a sustained long-term programme of inquiry to address their research questions (Creswell, 2013). The involvement of the two approaches provides broader prospect for generating new knowledge, than when either of them is applied without the other (Zohrabi, 2013). Mixed methods can involve either the concurrent or sequential use of these two methods (Wiśniewska, 2011).

116

The combination of both designs in data collection provides responses from various perspectives and creates a significant validity (Vosloo, 2014). The methodologies support each other in a sense that when one does not provide the required responses, the other one closes that gap (Stake, 2008).

The mixed method approach used was the Triangulation design (convergent parallel design). The purpose of triangulation in the current study was to obtain different and yet complementary information on the phenomenon of the Graduate Attributes (Pool, Montgomery, Morar, Mweemba, Ssali, Gafos, Lees, Stadler, Crook, Nunn, Hayes & McCormack, 2010). The motive behind the usage of this design was to bring together the differing strengths and non-overlapping weaknesses of the quantitative method with those of qualitative method (Creswell & Plano Clark, 2011). The researcher will also compare and contrast quantitative descriptive results with qualitative findings to validate and expand the quantitative results with qualitative data.

4.5.1. Qualitative Approach

The researcher utilised the qualitative research method as one of the methods in this study. This method involves an intensive study of the personal experience of individuals, which cannot be confirmed by statistical investigations (Kalinowski, Lai, Fidler & Cumming, 2010). Each individual and each setting is unique and this uniqueness must be appreciated in this method of research. According to McMillan and Schumacher (2010), qualitative research is naturalistic inquiry, the use of non-interfering data and collection strategies, to discover the natural flow of events and processes and how participants interpret them (Babbie, 2014). Most qualitative research describes and analyses social actions, beliefs, thoughts and perceptions (Ritchie, Lewis, Nicholls & Ormston, 2013).

Denzin and Lincoln (2011) further define qualitative as the word that signifies that emphasis is placed on processes and meaning; not accurately scrutinising or measuring in terms of quantity, amount, magnitude or frequency. The socially assembled nature of reality is stressed. The researcher has used the qualitative research method because the qualitative research's purpose is more concerned with an understanding of the social phenomenon from the participants' perspectives, as

117

aforementioned (Denzin & Lincoln, 2011). With this research method, the researcher was able to explore a wide array of dimensions of the social world, including the texture of everyday life (Kalinowski et al., 2010).

Qualitative interviews have been categorised in a variety of ways, with many contemporary texts loosely differentiating qualitative interviews as unstructured, semi-structured and structured (Stuckey, 2013). Researchers sometimes employ the term 'qualitative interview' to encapsulate these two types of interviews (Bryman, 2012). In this study, the researcher employed semi-structured interviews. Semi-structured questions were drafted in such a way as to allow for probing when necessary (see Annexure P).

4.5.2. Quantitative Approach

Quantitative research is the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect (Rubin & Babbie, 2016). Quantitative research places more emphasis on the objective measurements and the statistical, mathematical, or numerical analysis of data (Williams, 2007). These data could be collected through various strategies that include polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques (Gopisetty, 2016). The quantitative method is the systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques.

Quantitative research involves the counting and measuring of events. It is the performance of a statistical analysis of a body of numerical data (Cresswell, 2012). The assumption behind the positivist paradigm is that there is an objective truth existing in the world that can be measured and explained scientifically (Gopisetty, 2016). The main concerns of the quantitative paradigm are that measurement is reliable, valid, and generalisable in its clear prediction of cause and effect.

Rubin and Babbie (2016) state that quantitative research employs strategies of inquiry, such as experimental research and surveys, and collects data on predetermined instruments that yield statistical data. The findings from quantitative

118

research in the study were predictive, explanatory, and validated. Quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment, in order to support or refute alternate knowledge claims. Thus, quantitative research techniques are used to gather data/information from different reliable sources, which deal with numbers, statistics, charts, graphs and tables (Williams, 2007) (see Annexure C).

4.6. POPULATION AND SAMPLING

4.6.1. Population

According to Babbie (2014), the research population is generally a large collection of individuals or objects that are the main focus of a scientific query. Cresswell (2012) also asserts that population refers to a group of individuals sharing similar characteristics which the researcher wants to study and examine. Similarly, McMillan and Schumacher (2010) regard the research population as a well-defined group of individuals from which the research results will be generalised.

The target population for this research was the lecturers and students, attached to the Goldfields TVET College in the district of Lejweleputswa in the Free State Province of South Africa The researcher selected the students who were enrolled in all faculties at a college (National Vocational Certificate and Programme 191: NATED and Learnerships). The NCV course has three levels with the duration of a year for each: level 2: 1 Academic Year; level 3: 1 Academic Year; level 4: 1 Academic Year. NATED Business Programmes have a duration of 18 months, after which the students go for Experiential Training for another 18 months, and thereafter obtain a diploma. For NATED Engineering, each (N) level is a trimester, and the course stretches from N1 to N6. The students also undergo Experiential Training for 18 months and, subsequently, a diploma is conferred. Learnerships have different durations depending on the complexity of the skill to be obtained. The researcher chose to select students who have experienced college study for at least 6 months. The rationale behind the decision was that the students in these levels are not new

from school as they have already spent more than one semester or trimester or a year as students at the College. This also means that they are much more familiar with college life than those who are new from school.

4.6.2. Sampling

Sampling is a process of systematically selecting cases for inclusion in exploratory research (Suresh, Thomas & Suresh, 2011). This involves a strategy for choosing a group. According to Etikan, Musa and Alkassim (2016), a sample is a portion of a population or a total quantity of the things or cases which are the subject of the research. In addition to this assertion, Omair (2014) argues that a sample has to be of the requisite size in order to have the required degree of accuracy in the results, as well as being able to identify any significant difference or association that may be present in the study population.

For the purpose of this study, the sampling method that the researcher used was a mixture of purposive and stratified sampling.

In stratified sampling, all the people in the sampling frame are divided into "strata" (groups or categories). Within each stratum, a simple random sample or systematic sample is selected (Thomas, 2009).

In this research, the target population was the students and staff of the Goldfields TVET College. This research demarcates the population within the education district of Lejweleputswa. The researcher chose the stratified sampling, within which the students and staff were divided into the groups of academic faculties. The lecturers were chosen purposefully using purposive sampling, which resulted in 25 lecturers as participants (see Annexure E). For the student sampling, the stratified sampling divided the student population into faculty groups.

After having used the stratified sampling, the researcher embarked on systematic sampling, with the procedure of students participating in focus group interviews. With this sampling procedure that assures that each element in the population has an equal chance of being selected, the researcher had 5 students from each of the college faculties at the end of the sampling. The total number of selected individuals was 25 (see Annexure D). For the questionnaires (see Annexure C), 2000 students participated in the study.

The participants in the study were made aware of the nature of the research and the procedure to be followed to obtain information (see Annexure H, Annexure J, Annexure L & Annexure Q). The researcher also explained the purpose of the study and emphasised that the participants could choose not to be involved. After explaining the purpose of the research project and the importance of their contribution toward gathering information, the prospective participants were asked whether they were motivated to become involved in the research project. In response, the lecturers (see Annexure M & Annexure R) and students (see Annexure I & Annexure K) indicated their willingness to participate by signing the consent forms.

The next section presents the distribution of the questionnaires to all the study programmes at the college. It reflects the number of questionnaires that were distributed per study programme. The distribution was done proportionally to the quantity of the students in a specific study programme.

Table 4.1   Questionnaire distribution and return rate from study programmes

Study Programme	Distributed Questionnaires	Returned Questionnaires	Unreturned Questionnaires	Return Rate (in percentages)
NC(V) Engineering	200	149	51	74.5%
NC(V) Business	200	176	24	88%
NATED Engineering	620	532	88	85.8%
NATED Business	879	694	185	79%
Learnerships	101	95	6	94%

121

Table 4.1 shows the proportional distribution of the questionnaires to the study programmes at the College (see Annexure C). It indicates the initial distribution of two thousand questionnaires, of which 1646 (82.3%) were returned. The total number of unreturned questionnaires was 354(17.7%). The researcher had anticipated doing the analysis of the quantitative data from the 2000 questionnaires. The researcher redistributed the questionnaires to the study programmes and requested the lecturers to ensure that the students return the questionnaires.

The next section presents the redistribution of the questionnaires to all the study programmes at the College (Table 4.2). It reflects the number of questionnaires that were redistributed per study programme. The distribution was done according to the shortage experienced during the initial distribution and return.

Table 4.2 Questionnaire redistribution and return rate from study programmes

Study Programme	Distributed Questionnaires	Returned Questionnaires	Unreturned Questionnaires	Return Rate (in percentages)
NC(V) Engineering	51	51	0	100%
NC(V) Business	24	24	0	100%
NATED Engineering	88	88	0	100%
NATED Business	185	185	0	100%
Learnerships	6	6	0	100%

This section presents the total number of questionnaires after the redistribution. Table 4.2 shows the redistribution of the questionnaires to the study programmes at the College. The redistribution of questionnaires was based on the shortage experienced during the initial proportional distribution. The process of filling in was monitored and all the redistributed questionnaires were returned (100%). The next section gives the total number of returned questionnaires after the second attempt.

122

Table 4.3   Total number of Questionnaires of the second distribution

Study Programme	Distributed Questionnaires	Returned Questionnaires	Unreturned Questionnaires	Return Rate (in percentages)
NC(V) Engineering	200	149	51	74.5%
NC(V) Business	200	176	24	88%
NATED Engineering	620	532	88	85.8%
NATED Business	879	694	185	79%
Learnerships	101	95	6	94%

Table 4.3 shows the questionnaires received after the second distribution. With the second distribution, the researcher's anticipated number was reached. The total number of returned questionnaires was 2000 (100%).

Table 4.4   Sample size(s) for a given population/universe (n) (Sekaran in Kivido, 2006)

N	S	N	S	N	S	N	S
10	10	140	103	420	201	1800	317
15	14	150	108	440	205	1900	320
20	19	160	113	460	210	2000	322
25	24	170	118	480	214	2200	327
30	28	180	123	500	217	2400	331
35	32	190	127	550	226	2600	335
40	36	200	132	600	234	2800	338
45	40	210	136	650	242	3000	341
50	44	220	140	700	248	3500	346
55	48	230	144	750	254	4000	351
60	52	240	148	800	260	4500	354
65	56	250	152	850	265	5000	357
70	59	260	155	900	269	6000	361
75	63	270	159	950	274	7000	364
80	66	280	162	1000	278	8000	367
85	70	290	165	1100	285	9000	368

90	73	300	169	1200	291	10000	370
95	76	320	175	1300	297	15000	375
100	80	340	181	1400	302	20000	377
110	86	360	186	1500	306	30000	379
120	92	380	191	1600	310	40000	380
130	97	400	196	1700	313	50000	381

Table 4.4 shows the sample sizes suitable for given populations. The researcher considered the sample sizes for the research population as revealed in the table, when sampling the College population of just over 9000 students. The suitable sample size for students who would fill in the questionnaires should be 368 students,according to table 4.4 However, the researcher decided to take 2000 students as a suitable size to fill in the questionnaires for the current study. This implies that the total number of 2000 questionnaires were completed and collected from participants, giving a 100% response rate. In this case, a very high degree of validity was ensured.

While the researcher took six times more sample sizes than required for sampling, the quantity brought with it some disadvantages. The first obvious one was that the quantitative data were difficult and took too long to extract from the questionnaires. It compelled the researcher to spend seven times more time than would have been the case on the required sample of 368. Furthermore, the Mathematics lecturer had to be brought on board just to recount and verify the numbers from the assertions of the researcher. After the recount and the verification by the Mathematics lecturer, two computer literate persons were requested to type all the information extracted from the questionnaires into Microsoft Excel documents. After a protracted process, it was only then that the analysis could commence.

4.7. ROLE OF THE RESEARCHER

One of the chief criticisms levelled against qualitative research lies in the area of subjectivity. Such criticism is usually made because of the role that the researcher plays in collecting data. According to this, the research data collected are more

susceptible to bias, due to the subjective interpretations of the situation (Pannucci & Wilkins, 2010).

A second main criticism levelled against the qualitative approach is that it lacks reliability. The argument is that qualitative measures do not have statistical analysis to confirm the significance of their findings, patterns or trends. Researchers, according to critics, cannot ensure that their findings are real and not merely the effect of chance (Hennik *et al.,* 2011). However, qualitative methods including the role that the researcher yield insights that are more likely to be accurate for a group under study (Arzubiaga, Artiles, King & Harris-Murri, 2008).

Ratner (2002) argues that qualitative methodology recognises that the subjectivity of the researcher is intimately involved in scientific research. Unlike quantitative research, where subjectivity is regarded as a hindrance in data processing, qualitative research views subjectivity as a valuable research instrument (Greenbank, 2003). This, in turn, implies that the viewpoint, experience, definition or interpretation of the researcher cannot be ignored. It is therefore crucial to indicate the role and position of the researcher, as these elements may possibly have an impact on the research (Denzin & Lincoln, 2005). This could even confound the results.

The researcher is a member of the College Management team based in Welkom, in the Free State Province. He has taught for several years and served in the portfolios of many community and college-based committees through which experience and insight have been gained in this field of study. Although the researcher disclosed his own subjectivity, in this study it was not difficult for him to distance his own views during the interview sessions, as well as during the sessions. Owing to the researcher's experience in the counselling profession, he had an intimate understanding of the participants' problems and concerns. It placed him in an ideal position to understand why the participants were open and willing to provide information on very sensitive and even intimate issues.

The researcher's experience in student wellness, especially in the new South African dispensation, as well as the fact that stress gives rise to many students not

125

performing well, led to the investigation of the perceptions of students concerning the Graduate Attributes.

4.8. DATA COLLECTION STRATEGIES

Creswell (2012) affirms that data collection is the process by which the researcher acquires subjects and collects the information needed to answer the research question. The researcher is at liberty to use various data collection methods to gather information, such as questionnaires, scales, interviews, observation and/or projective techniques. In the case of quantitative research, the methods that were used include questionnaires, scales and projective techniques. For the purpose of this study, a questionnaire method was used as the quantitative research instrument (see Annexure C), while for the qualitative data, the focus group interviews (see Annexure D & Annexure E) and the lecturers workshop (see Annexure F & Annexure G) was used, in order to determine the perceptions of participants on the phenomenon of the Graduate Attributes.

4.8.1. The Quantitative Research Instruments

The researcher embarked on an empirical investigation employing a quantitative method of study. In the quantitative phase of this research study, the researcher employed structured questionnaires (see Annexure C) to determine the perceptions and experiences of students on the development of the Graduate Attributes, and issues and challenges they thought confront lecturers at a college.

4.8.1.1. Questionnaire (see Annexure C)

According to Oladeji (2012), the questionnaire may be seen as a range of specific questions on a particular topic to be answered by a respondent. Questionnaires are research instruments by means of which respondents are asked to respond to the same set of questions in a predetermined order. In the following paragraphs the researcher outlines the advantages and the disadvantages of the questionnaire, the

design of the questionnaire, and the guidelines for writing effective questions in the questionnaire.

The reason for using a questionnaire in this particular study was to accommodate as many students as possible in the study, which would allow the researcher to generalise the findings of the study. The use of the questionnaire also ensured the anonymity of students and provided them with a high degree of freedom when completing it. Another reason for using the questionnaire was that the study covered a relatively large audience and could be administered in the absence of the researcher.

The use of a questionnaire in the current study was to explore the perceptions of students pertaining to the phenomenon of the Graduate Attributes at the Goldfields TVET College. The questionnaire explored what the students thought the Graduate Attributes were, and what the methods would be for developing the desired attributes for the college students.

While the questionnaire explored the perceptions of many students with regard to the phenomenon in question, it posed problems for the researcher during its administration. Not all students responded timeously to the questionnaire, which resulted in the researcher not starting at the anticipated time with the analysis. The other challenge pertaining to the administration of the questionnaire was that some students did not return them at all. This compelled the researcher to re-print and redistribute the questionnaires to the students, resulting in the delays and consumption of additional time.

4.8.1.2.   Advantages and Disadvantages of the Questionnaire

The section below gives an overview of the advantages and disadvantages associated with the questionnaire as research instrument.

127

4.8.1.2.1. Advantages of a Questionnaire

As the most widely used primary data-gathering technique, Bird (2009) indicates the following advantages of questionnaires:

- Suitable for a relatively large audience in a structured standardised question response;
- Ideal for an analytical approach exploring relationships between variables;
- Low cost in terms of both time and money;
- The inflow of data is rapid and from many participants;
- Participants can complete the questionnaire at a time and place that suits them;
- Data analysis of structured closed questions is relatively simple, and questions can be coded quickly;
- Participants' anonymity can be assured; and
- Participants enjoy a high degree of freedom in completing the questionnaire.

In relation to the current study, the researcher could approach a large number of participants because they were in one setting (a case study design was followed for this study). The questionnaires distributed to the students did not have to be posted. A number of lecturers and support staff assisted the researcher with the distributing the questionnaires to the students. The staff of the college was supportive in distributing the questionnaires.

4.8.1.2.2. Disadvantages of a Questionnaire

McMillan and Schumacher (2010) highlight following disadvantages of questionnaires:

- There might be a high rate of non-response, and the timely distribution of the questionnaires can be difficult;
- Complex questionnaires requiring in-depth thought will also show a low response rate;
- Sometimes the handed-out questionnaires are returned late or not at all;

128

- Respondents sometimes complete the questionnaire with a laissez-faire attitude, which influences the validity and reliability of responses;

- Items and instructions in some sections of the questionnaire can be unclear and inaccurate; and

- Participants may refuse to respond to items in the questionnaire that they consider to be of a sensitive nature.

Thomas (2009) is convinced that in quantitative research, a researcher may be immersed in an overwhelming amount of data by looking for patterns in lives, actions and the words of people. In this case, the researcher is able to accumulate and manipulate the large amount of data which could be collected from a large sample. In the case of this research, there are two sets of data, namely: data from the educator questionnaire, as well as data from the questionnaires of the students.

In contrast to the above, Stake (2008) warns that quantitative methods collect a much narrower information and superficial dataset. Results are limited as they provide numerical descriptions in statistical form rather than detailed narratives, and generally provide fewer elaborate accounts of human perception. Moreover, the author indicates that these statistics can be humanly insignificant, therefore yielding insignificant results. Nevertheless, the researcher believed that in spite of the mentioned disadvantages, quantitative research methods seem appropriate in addressing the research objectives at hand. The next section describes the methods of data collection employed in this study.

For the current study, the distribution of the questionnaires also posed some challenges. The questionnaires that were initially distributed were not all returned. That required the researcher to reprint a new set of questionnaires according to the identified shortage. The questionnaires were not all submitted on time, which is what compelled the researcher to spend more time collecting the remaining questionnaires.

4.8.1. The Qualitative Research Instruments

4.8.2.1. Focus group interviews (see Annexure D and Annexure E)

A focus group is a form of qualitative research interview in which people belonging to the same setting, are grouped together to ascertain their perceptions, opinions, beliefs and attitudes towards a product, service, concept, advertisement, idea, or packaging (McMillan & Schumacher, 2010). Participants in this type of research are, therefore, selected on the criteria that they would have something to say on the topic, are within the age-range, have similar socio-characteristics and would be comfortable talking to the interviewer and one another (Oladeji (2012).

The researcher used semi-structured interviews as one of the selected data collection methods. While a structured interview has formalised, limited set questions, a semi-structured interview is flexible, allowing new questions to be brought up during the interview, as a result of what the interviewee says (Namey, Guest, Thairu & Johnson, 2008). The rationale for using the semi-structured interview approach is that the asking of structured questions can be followed by clarifying open or unstructured questions. The open questions should facilitate an explanation and understanding of the responses to the structured questions. Thus, a combination of objectivity and depth can be obtained. As in the present study, the interviewer in a semi-structured interview generally has a framework of themes to be explored.

The interviews were conducted with students (see Annexure D) and staff members (see Annexure E) of the identified college. The aim was to capture the richness and uniqueness of each individual's perception that emanated from the natural settings of the participants' environment. Although these interviews were guided by a list of questions to be asked, the interviews took the form of a free conversation and the interviewees were encouraged to talk without restraint.

The interviews were audio-taped and transcribed with the permission of the interviewees. This was done to capture the participants' words to ensure first-hand information. In total, one Executive Manager (1 Deputy Principal) (see Annexure N) and 25 students were interviewed (see Annexure D & Annexure J). These interviews

130

were conducted both individually and in a group, respectively. The interviewees were male and female students obtained by means of stratified sampling, in which simple random sampling was followed to obtain their quantity.

The interview process began with the researcher establishing rapport with the interviewees. The questions were asked in English and the participants were to respond in English or at least in the language in which they felt most comfortable to express their real feelings or meanings. In so doing, the researcher allowed the participants the full range of expression and feelings in their open native language when reflecting on their own experiences. A few students seemed to be more comfortable with South Sotho when responding to questions more personally sensitive in nature. They were allowed to switch over from English when it was convenient for them to do so. The researcher of the present study is familiar with the languages that are spoken in the region within which the research was conducted, thus making it easy for the researcher to continue with the study.

4.8.2.1.1. Focus group interview questions for students (see Annexure D)

The following questions were asked during the focus group interviews with the students (see Annexure P):

- What is meant by the Graduate Attributes and what should they entail at TVET college level?
- What do you think should be done to develop the Graduate Attributes?
- Whose responsibility should it be to develop the Graduate Attributes at a college?
- According to you as students, what do you think are the barriers against the development of the Graduate Attributes?
- According to you as students, what do you think are the possible solutions to the barriers mentioned?
- Is there anything else that you would like to add that we might have forgotten in our discussion of the Graduate Attributes?

131

The focus group interviews of the students took place on different dates and times (see Annexure D & Annexure J). The researcher's intention with the focus group interviews was to understand the perceptions of the students pertaining to the phenomenon of the Graduate Attributes. These interviews extracted data on how students assumed the Graduate Attributes could be developed and who should be responsible for the process of development.

It should be noted, however, that some students were more talkative than others, thus limiting the information, as only those who freely expressed their concerns about the Graduate Attributes, contributed. During the focus group interviews for the students, some were assertive in their opinions of the issues, according to how they understood them. On the other hand, some students would answer just to gratify the researcher, even though there was lack of certainty about their comprehending the matter.

4.8.2.1.2. Focus group interviews: questions for lecturers (see Annexure E)

The following questions were asked during the focus group interviews with the lecturers (see Annexure P):

- What is meant by the Graduate Attributes and what should they entail at TVET college level?
- What is your opinion of the Graduate Attributes in relation to the subjects you teach?
- Do lecturers have the required competencies, skills and experience base to develop the Graduate Attributes for their subjects?
- Which roles and responsibilities should college management fulfil in supporting the development of the Graduate Attributes?
- How can lecturers be supported with the development of the Graduate Attributes at TVET college level?

As was the case in the focus group interviews with the students (see Annexure D & Annexure J), the focus group interviews with the lecturers took place on different dates and times (see Annexure E & Annexure Q). The researcher's intention with the focus group interviews was to understand, from a much higher level, the perceptions of the lecturers pertaining to the phenomenon of the Graduate Attributes. These interviews extracted data on lecturer capacity and qualification for the development of the Graduate Attributes and who they assumed should be responsible for the process of the attributes development. These interviews were meant to check the implications for the lecturers' competencies at a TVET college. It was noted, however, that some lecturers participated fully in the discussion of the issues related to the development of the Graduate Attributes at a TVET college, while others did not contribute meaningfully.

4.8.2.2. Lecturers' Workshop (Information Sharing Session)

The Information Sharing Session (Lecturers' Workshop) provided a platform for the academic experts to share information and expertise with college officials, potentially contributing towards the reshaping of the pedagogic discourse (see Annexure F, Annexure G & Annexure L). The lecturers were given invitations to participate in the workshop (see Annexure F). The invited lecturers signed the consent forms as a sign of willingness to participate (see Annexure M). The lecturers from various academic departments came together to scrutinise the phenomenon of the Graduate Attributes. The lecturers were from various levels of responsibility, including Lecturers, Senior Lecturers, Heads of Department and the Deputy Principal for Student Support Services. Stimulating presentations were done and the lecturers were given an opportunity to engage in a discussion of the matters arising (see biographical details of these participants in table 5.11).

The Information session seminar was tape-recorded with the intention to later capture the exact words of the lecturers. The Information seminar was also transcribed onto a Microsoft word document. The document would then be used for the analysis.

4.8.2.3. Workshop questions for lecturers (see Annexure F)

- What is the role of TVET colleges in South Africa?
- What should be the role of TVET colleges in developing the Graduate Attributes?
- How are the Graduate Attributes embedded in the subjects you teach?
- Do lecturers have the required competencies, skills and experience base to develop the Graduate Attributes for their subjects?
- What roles and responsibilities should college management fulfil in supporting the development of the Graduate Attributes?
- How can lecturers be supported with the development of the Graduate Attributes at TVET college level?

4.8.2.4. Individual interview (see Annexure N & Annexure O)

An individual interview was held with one member of the Executive Management of the concerned college. The intention of the interview was to check the role of college managers in the advancement of lecturer capacity. The interview was intended to check if there were systems in place for the development of the Graduate Attributes at a college. It was difficult for the researcher to get hold of all the managers due to the academic commitments they have within and outside the college.

The individual member of the Executive Management of the College was given a letter of request to participate in the interview (see Annexure N). In response, the Executive Manager agreed by signing a consent letter (see Annexure O).

The following questions were asked during the individual interview with the manager:

- What is your general overview of the college as part of the TVET sector?
- What is your perception of lecturer qualifications for the delivery of TVET?
- Are there strategies or systems in place to monitor the development of the Graduate Attributes at the college?
- How do you monitor lecturer performance?

134

- Which support mechanisms do you put in place to support the lecturers in their academic endeavours?

4.9. PILOT STUDY

A pilot study or feasibility study is a small experiment designed to test logistics and gather information prior to a more extended study. This was done in the current study to improve the quality and the efficiency of a larger study. According to the Collins English Dictionary (2014), a pilot study is done on a small scale to see whether something is successful enough to apply on a larger scale. Cohen, Manion and Morrison (2011) refer to a pilot study as a feasibility study which is a small version or a trial run done in preparation for the major study. The general aim of the pilot study in the current study was to replicate the full scale study. A pilot study is the main influential factor to the successful implementation and completion of any research study.

Bergold (2007) stated that a pilot study can be used to reveal deficiencies in the design of a procedure, which can then be addressed before the full-scale experiment. For the current study, a pilot study was used to make certain of the following qualities and procedures in a research study:

- Whether the researcher is sufficiently skilled in the procedure;
- Whether the sampling frame and techniques are effective;
- The correctness/operational appropriateness of design;
- Identification of practical problems that might emerge; and
- Whether the research protocol is realistic and workable.

For the purpose of this research project, the first component of the pilot study was conducted in the form of a focus group interview with a group of TVET students. The intention with the focus group interview was to check the appropriateness of the questions and to ensure that the students were able to respond promptly. After the pilot study the researcher revised some questions, the phrasing of which proved too

135

difficult for the students. The questions were also given to the English lecturers to check, and the recommendations were done in terms of the necessary adjustments. In addition, the researcher needed to listen to the participants in the pilot study in advance of the full-scale study, in order to provide conditions needed for free and open discussions.

For the second component, the researcher decided to conduct a pilot study of the questionnaire in order to minimise the chances of a nonresponse to the questionnaire. The researcher therefore decided to pilot a draft questionnaire for the students. In relation to this, the researcher identified the following aspects in piloting the draft questionnaire:

- Instructions given to respondents.
- Style and choice of words.
- Formality or informality of the questionnaire in terms of tone and presentation.
- Length of the questionnaire.
- Sequence of questions.
- Relevance of answers to questions.
- Scales and question format used.

The questionnaire explored what the students thought the Graduate Attributes were, and what the methods would be for developing the desired attributes for the college students.

4.10. TECHNIQUES USED FOR DATA ANALYSIS

The results of the qualitative and quantitative analyses were compared for similarities and differences through triangulation. After a final consensus, the findings were reached from two methods and were subjected to the participants' validation. The participants' validation in this research project entailed going back to the participants with the results and refining them in the light of their initial responses. The following

principles were followed in the analysis and interpretation of the quantitative and qualitative data collected from the research study.

4.10.1. Data analysis techniques for the qualitative data

According to Cohen *et al.* (2011), the analysis of qualitative data entails organising, summarising, explaining and making sense of the data collected in terms of the definitions and responses provided, as well as acknowledging patterns and variations. Qualitative data can be interpreted in many ways. Fick (2009) posits that the main area of focus for qualitative research is to describe what is happening, and that the description should be detailed and contribute to an understanding of the setting being studied. Moreover, Mackenzie and Knipe (2006) reveal that qualitative analysis should provide a thorough description of what is happening and the way participants' perceptions and interpretations of reality are understood. This assertion is endorsed by Coll and Kalnins (2009) who claim that the purpose of a qualitative study is to produce findings that describe the phenomena.

Consistent with the above sentiments, is the suggestion of Bergold (2007) who avers that a research study employing multiple perspectives of the phenomena needs to include epistemological groundwork. By this, it is implied that the researcher should move forwards and backwards from the verbatim transcriptions to the theoretical orientations underpinning the study. The logic behind this ontological grounding is that the researcher should lead the reader to an understanding of the meaning of the experience being studied. As such, data analyses should bring order and meaning to the mass of collected data (Cohen *et al.* (2011). The following analyses of data were therefore used in this study:

4.10.1.1. Thematic analysis

Thematic analysis is the act of transforming data with the aim of extracting useful information and facilitating conclusions (Hammersley, 2015). The transcripts of the recordings of interviews were carefully scrutinised and analysed. Thematic analysis

137

was done to analyse the data as it entailed identifying, coding and categorising the primary patterns in the recorded data (Saldana, 2009). This was done by following the qualitative data analysis steps as affirmed by Braun and Clarke (2006).

- Organising – Filing, creating a computer database and breaking large units into small units.
- Perusal – Getting an overall sense of the data and jotting down preliminary interpretations.
- Classification – Grouping the data into categories or themes and finding meanings in the data.
- Perusal – Getting an overall sense of the data and jotting down preliminary interpretations. Classification – Grouping the data into categories or themes and finding meanings in the data.
- Synthesis – Offering hypothesis or propositions, constructing tables, diagrams and hierarchies.

4.10.1.2. Qualitative coding

By this analysis, McMillan and Schumacher (2010) imply that data collected are divided into small units and categorised into the possible meanings they infer. (Cohen *et al.* (2011) note that coding involves the examination of data to identify patterns, themes or categories that can emerge from these data. However, Hammersley (2015) warns that such data coding offers superficial descriptions of the facts of the phenomena which may not be well interrogated. This technique was applied to the responses collected from the students, mainly through the focus group, and found to be a very useful technique in analysing the students' responses and determining themes that represented different perceptions.

4.10.1.3. Triangulation

Nick (2007) defines triangulation data analysis as the employment of different paradigm positions from various angles towards a measured position on the phenomena studies. On the other hand, (Cohen *et al.* (2011) define it as the use of more than one method of data collection in a single study and comparing the results obtained through these multiple methods. They argue that this technique not only increases the validity of the qualitative findings, but also adds and increases thoroughness, richness and a depth of understanding to the research study.

In the current study, questionnaires were used in conjunction with focus group interviews. Likewise, the triangulation of data implies that the interpretation of data is sourced from various points to build a complete picture of the story. Triangulation was used in this study to make comparisons with the findings from the questionnaires and the focus group interviews. The researcher interpreted the students' responses that were provided on the questionnaires, as well as the focus group interviews, to identify persistent and common themes conveyed by the students.

4.10.2. Data analysis techniques for the quantitative data

The data collected were analysed using descriptive and inferential statistics. Descriptive statistics is a form of statistics concerned with organising and summarising the data at hand, to render it more comprehensible through the use of univariate and bivariate analysis (Creswell, 2012). This was used to interpret and analyse the ratings provided by the student participants to each statement presented to them, as well as in each broad category.

4.10.2.1. Descriptive statistics

139

According to Vetter (2017), the main goal of descriptive statistics is to describe, summarise, explain and make sense of a given data set. Nick (2007) notes that the most commonly used techniques of descriptive statistics are the arithmetic mean, the median, the standard deviation and the interquartile range. Measures of central tendency are those that are used to represent a set of data distribution and are the most popular measure of numerical data. Johnson and Christensen (2014) define a measure of central tendency as the single numerical value which is considered to be the most typical of the values of a quantitative variable. Similarly, McMillan & Schumacher (2010) indicate that measures of central tendency are single values that are meant to be representatives which can neatly characterise the entire group. While this technique involves various types of averages for different situations and purposes, the most popularly used is the arithmetic mean, which is the sum of the variables divided by its total number in non-grouped data.

Creswell (2012) defines inferential statistics as those that allow scientists to draw a conclusion about some property of the population of numbers from which the sample came. Inferential statistics is a form of mathematical measurement referring to the strength of the relationship between independent and dependant variables. Inferential statistics deals with the error of bias or random error in the analysed data. The more variability in the scores, the less important the strength of the relationship; the less variability in the scores, the more important the strength of the relationship becomes.

4.10.2.2. Dependent and independent variables

According to Hansen (2006) dependent and independent variables exist in research studies where the researcher intends to examine the effects of teaching and learning in the development of the Graduate Attributes. This is also consistent with Stake (2008) who note that dependent and independent variables are part of ex post facto experiments in which the researcher seeks to discover possible causes for a phenomenon under investigation.

Babbie (2014) defines a dependent variable as an attribute or variable whose value, nature or conduct depends on the independent variable. *Savin-Baden and Major (2013)* on the other hand, define it as the variable that the independent variable is presumed to affect. The dependent variable depends on what the independent variable does on it; the dependent variable of this study is the students' perceptions of the Graduate Attributes at a college. It was assumed by the researcher that the students' perceptions depend on the approach to the teaching and learning of the Graduate Attributes adopted by the lecturers and the co-curricular and extra-curricular activities.

On the contrary, independent variables are those attributes that influence, cause, change or determine a dependent variable. According to Holloway & Wheeler (2010), the independent variable is the variable which the researcher has chosen to examine, in order to evaluate its potential effects on the other variables in the study. Babbie (2014) notes that the value of the independent variable is taken as given and is usually not problematic. The independent variable of this study is the approach to classroom instruction adopted by the lecturer. It is assumed that this can determine the students' perception of their learning environment. A cause and effect relationship can be established between the students' perception of the learning environment and the teaching strategy used by the lecturer in that specific subject.

4.11. VERIFICATION OF THE QUALITATIVE STUDY

4.11.1. Introduction

Wise (2011) states that while all research must have "truth value", "applicability", "consistency", and "neutrality" in order to be considered worthwhile, the nature of knowledge within the rationalistic (or quantitative) paradigm is different from the knowledge in the naturalistic (qualitative) paradigm. Consequently, each paradigm requires paradigm-specific criteria for addressing "rigour" (the term most often used

in the rationalistic paradigm) or "trustworthiness", their parallel term for qualitative "rigour".

Researchers should pay proper attention to the concepts of objectivity, reliability and validity to evaluate and judge the research study conducted (Emmel, 2013). According to (*de* Casterlé, Gastmans, Bryon & Denier, 2012), these concepts are mostly used in connection with measurement. Creswell (2012) further remarks that the reliability and validity of the measurement instruments influence the extent to which something can be learnt about the phenomenon being studied. However, reliability and validity appear more appropriate in quantitative research studies (Holloway & Wheeler, 2010).

4.11.2.   Rigour in a qualitative research study

Without rigour, research is worthless, becomes fiction, and loses its utility. Thus, a great deal of attention is applied to reliability and validity in all research methods. Challenges to rigour in qualitative inquiry interestingly paralleled the blossoming of statistical packages and the development of computing systems in quantitative research.

A qualitative research study diverts from using reliability and validity to test the appropriateness of the study conducted. The qualitative research study is more concerned with representing the experiences of the participants. As confirmed by Babbie (2014), descriptions of people, places and events are, after all, the cornerstone of qualitative research. Good qualitative research should truthfully capture the lived worlds of the phenomenon/phenomena being studied (Emmel, 2013). *Savin-Baden and Major (2013)* propose certain criteria for evaluating the trustworthiness of a qualitative study. The criteria entail the following: credibility, transferability, dependability and conformability (*de* Casterlé *et al.,* 2012).

142

Table 4.5   Strategies for ensuring trustworthiness in qualitative research

Criterion	Strategy
Truth value	Credibility
Applicability	Transferability
Consistency	Dependability
Neutrality	Conformability

4.11.3. Credibility

Credibility refers to the objective and subjective components of the believability of a source or message (Cresswell, 2012). O'Leary (2007) refers to credibility as the ability of a research process to generate findings that elicit belief and trust. He (2007) further asserts that in research, the goal is to generate new knowledge; knowledge that other people will hopefully learn from and even base decisions on; therefore, it has to be credible. Whittemore, Chase, and Mandle (2001) affirm that credibility refers to the conscious effort to establish confidence in an accurate interpretation of the meaning of the data.

4.11.4. Transferability

Transferability is a process performed by *readers* of research. Barnes, Conrad, Demont-Heinrich, Graziano, Kowalski, Neufeld, Zamora and Palmquist (2005) note the specifics of the research situation and compare them to the specifics of an environment or situation with which they (the subjects), are familiar. If there are enough similarities between the two situations, readers may be able to infer that the results of the research would be the same or similar to their own situations. In other words, they "transfer" the results of a study to another context (Barnes *et al.,* 2005). Hansen (2006) opines that the results from a qualitative research study are transferable when they are understandable and recognised by others.

143

4.11.5. Dependability

Shenton (2004) affirms that dependability is the researcher's account of the changes inherent in any setting, as well as the changes to the research design as learning unfolds. The aim of dependability is to establish whether credible findings will be produced. It is a criterion that establishes how dependable the results are. Hansen (2006) suggested that dependability is related to issues, such as the suitability of methods, as well as the transparency of methods and analysis.

4.11.6. Conformability

The aim of engaging conformability is to enable others to judge the result and the findings of the research study as reasonable by looking at the data (Brains, Willnat, Manheim & Rich, 2011). Conformability deals with whether another researcher outside the study could independently confirm the findings (Wise, 2011). Proponents of qualitative research believe that researcher subjectivity is the strength of qualitative research, as it allows the researcher to build rapport with and empathy for participants. This is achieved by the researcher immersing him- or herself in the setting to gain an in-depth understanding of the participants' worldview. Hansen (2006) further asserted that conformability in research endeavours to establish whether the researchers have tried to avoid distorting the reality they are describing.

4.12. ETHICAL ISSUES

4.12.1. What are ethical issues?

Young (2017) provides several reasons why it is important to adhere to ethical norms in research.

- Norms **promote the aims of research**, such as knowledge, truth, and avoidance of error.
- Since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical

standards promote the **values that are essential to collaborative work**, such as trust, accountability, mutual respect, and fairness.

- Many of the ethical norms help to ensure that researchers can be held **accountable to the public**.

- Ethical norms in research also help to build **public support** for research.

- Many of the norms of research promote a variety of other important **moral and social values**, such as social responsibility, human rights, animal welfare, compliance with the law, and health and safety.

According to Slomka, Quill, des Vignes-Kendrick & Lloyd, 2008), ethics are guidelines or a set of principles for good professional practices which serve to advise and steer researchers as they conduct a study. Young (2017) concurs with this when they state that ethical codes are written or widely accepted prescriptions of proper behaviour and morality that act as guidelines to the researcher when conducting a study. Ethics form a set of moral principles that would apply to correct conduct towards the study and the participants.

4.12.2. Ethical principles and guidelines

4.12.2.1. Getting permission

The researcher obtained permission to conduct the empirical research from Goldfields TVET college involved (see Annexure A). Permission to conduct the research study was granted by the College Principal and Senior Management of the college (see Annexure B). In addition, at the beginning of every interview session, the participants' consent was obtained and a withdrawal opportunity was given (see Annexure I, Annexure K, Annexure M, Annexure O & Annexure R).

4.12.2.2. Informed Consent

Informed consent is a process in which a person learns key facts about a clinical trial, including the potential risks and benefits, before deciding whether or not to participate in a study (Noble, Donovan, Turner, Metcalfe, Lane and Rowlands, 2009). Nnebue (2010) affirms that informed consent continues throughout the trial. It is a legal procedure to ensure that a participant or client knows all of the risks and costs involved in an intervention or study. In order for informed consent to be considered valid, the client must be competent and the consent should be given voluntarily. The World Medical Association Declaration of Helsinki (2001) assert that research participants should be given opportunities to ask questions about the study to help them decide if they wished to take part in the research or not. Denzin and Lincoln (2005) assert that participants have the right to be informed about the nature and consequences of the experiment in which they are involved.

Before being recruited into a study, potential participants should be given information about the study and the possible implications of their participation (World Medical Association Declaration of Helsinki, 2001). This information may be presented verbally or in a written format. In the current study, consents were signed from the prospective participants before the researcher started with research (see Annexure I, Annexure K, Annexure M, Annexure O & Annexure R).

4.12.2.3. Voluntary participation

A basic principle of research is that people should not be coerced into participation (Polonsky & Waller, 2005). The research participants should be informed that participation in the study is voluntary and that failure to participate in the study or the withdrawal of consent will not result in any penalty or loss of benefits to which the subjects are otherwise entitled. Voluntary participation was ensured by the consent the participants had to sing before the research sessions started (see Annexure I, Annexure K, Annexure M, and Annexure O & Annexure R).

146

4.12.2.4. Free from harm

This ethical principle requires that participants be protected from all kinds of harm. Qualitative research exposes the participants to various types of harm including physical, psychological or even legal harm (Fraenkel & Wallen, 2009). Hennik, Hutter and Bailey (2011) state that although physical harm in a qualitative study is rare, participants may be exposed to stressful, embarrassing, anxiety-producing or unpleasant situations. Therefore, it is the responsibility of the researcher to protect the participants from any discomfort, loss of self-esteem or emotional stress resulting from their participating in the study (Hansen, 2006).

4.12.2.5. Confidentiality, anonymity and privacy

4.12.2.5.1. Confidentiality

Jamison (2007) states that confidentiality can be defined as an explicit or implied guarantee by a researcher to a respondent in social science research, in which the respondent is confident that any information provided to the researcher cannot be attributed back to that respondent. Spatz and Kardas (2008) state that confidentiality is about a requirement to keep the research data and individual participants private. Furthermore, the assurance of confidentiality carries with it the additional implication that non-researchers cannot discover a respondent's identity. Thus, confidentiality is an active attempt by researchers to remove any trace of respondent identities from the records. Confidentiality is commonly viewed as akin to the principle of privacy (Davi & Buchanan, 2016).

Confidentiality was ensured in the current study. The participants were asked not identify themselves. The questionnaires did not require the participant's name or identity. Similarly, the participants were not asked to identify or introduce themselves before or during the interviews.

4.12.2.5.2. Anonymity

Kennedy (2008) states that anonymity is the quality or state of being unknown or unacknowledged. Boynton (2005) states that anonymity means that the researcher does not know the identities of the participants in the study. When researchers consider the issue of the anonymity of research participants, concern may most likely focus on how it can be maintained, particularly when under pressure from authorities to divulge identities (de Vos *et al.,* 2011). It refers to data collected from respondents who are completely unknown to anyone associated with the survey (Kennedy, 2008).

The participants were kept anonymous in the current study. The information pertaining to their identities was not requested. The researcher gave participants different identities like FGIJ J1 and FGIC C3 to know who was giving particular information. The identities cannot be associated with participants, except for in the current research.

4.12.2.5.3. Privacy

Privacy refers to the right of individuals to limit access by others to aspects of their person that can include thoughts, identifying information, and even information contained in bodily tissues and fluids (Spatz & Kardas, 2008). **Privacy** is the control over the extent, timing, and circumstances of sharing oneself (physically, behaviourally, or intellectually) with others. The evaluation of privacy also involves consideration of how the researcher accesses information from or about potential participants. Hennik *et al.* (2011) mention that privacy is defined in terms of a person having control over the extent, timing, and circumstances of sharing oneself (physically, behaviourally, or intellectually) with others.

The ideas and perspectives of participants about the phenomenon of graduate attributes were not given to anybody. The information revealed by participants was not linked to them in any way.

4.12.2.5.4.   Deception

Denzin and Lincoln (2008) define deception as deliberately misleading participants about any aspect of the research study. It is unethical to lie about the real focus, with the intention of deceiving the participants. Gay and Airasian (2003) state that it is the responsibility of the researcher to maintain ethical standards throughout the study. In the event of deception being likely to occur, a debriefing process needs to be implemented. According to Spatz and Kardas (2008), debriefing is about informing the participants about the nature, results and conclusions of the research in which they participated, as well as correcting any misconceptions.

In the current study, the participants were informed about how the research was intended to rollout. The role that each participant was expected to play was indicated to them so that they could make informed decisions about participating in the study.

4.13. CONCLUSION

In this chapter a description of the research methodology was given with regard to this study. It was justified how the sample or participants for the study were chosen, and the method in which the data-capturing instrument was utilised. The theoretical framework underpinning the current study informed the research design. The data collection tools were employed, based on the research design and the applicability of the variables and research questions. In the next chapter the data analysis and the interpretation of the findings are presented.

CHAPTER 5

PRESENTATION, ANALYSIS AND DISCUSSION OF DATA

5.1. INTRODUCTION

This chapter presents data from the empirical study which was conducted at the College for Technical and Vocational Education and Training (TVET) in the Free State Province of South Africa. The aim was to assess and examine the perceptions of students and lecturers regarding the development of the Graduate Attributes at a college. Furthermore, the chapter reflects on qualitative and quantitative data presentations and analysis. The quantitative data derived from the captured questionnaires were completed by two thousand (2000) students from all 5 faculties or Academic Programmes of the College. The qualitative data were derived from the ten focus group interviews, the first five focus group interviews for students and another five for the lecturers. The chapter discusses the following aspects, namely: the biographical data of student participants; the sample profile of student participants; the analysis of student questionnaires; the analysis of qualitative data emanating from the focus group interviews for both student and lecturer participants; and an analysis of the lecturers' workshop data.

5.2. PRESENTATION, ANALYSIS AND DISCUSSION OF QUANTITATIVE DATA

The quantitative data presentation in the current study is a process that brings order, structure, and meaning to the mass of collected data. It forms the bringing together of the methods and styles with which the researcher converts data to numerical forms and subjects them to statistical analyses and, subsequently, converts the data into knowledge.

5.2.1. Biographical Data of Student participants

A total number of 2000 participants (students) responded to the questions through a questionnaire. From the total number, 849 were male students and 1151 were female students (see table 5.2). While gender was not perceived to have any significant impact on the perceptions of students on the Graduate Attributes, it was

necessary to indicate the gender of participants and gender balance thereof. All these participants were selected from the 5 faculties of the College.

The College concerned, has 5 faculties from which the students were selected namely: NATED Engineering – (31%); NATED Business – (43.95%); NCV Engineering – (10%); NCV Business – (10%); and Learnerships – (5.05%). The students who filled in the questionnaire represented all the departments. The questionnaires were distributed proportionally, according to the number of students in a faculty.

The next section presents data on demographic variables of the participants. Table 5.1 presents data on the sample profile of the participants.

Table 5.1   Sample Profile of Participants

Participants' Grades Repeated												
G 1	G 2	G 3	G 4	G 5	G 6	G 7	G 8	G 9	G 10	G 11	G 12	None
16	2	3	8	7	25	14	96	234	307	492	103	693

Participants' Families				
Both Parents	Single Mother	Single Father	Guardian	Child Headed
593	976	8	285	138

Parents' Education Levels								
High School	Matric	Certificate	Diploma	Degree	Honours	Masters	PhD	Not sure
153	562	487	259	169	24	1	0	345

Table 5.1 shows the grades that were repeated by the participants from primary school to matric. The data indicated that the participants' throughput rates (progression) were high at the primary level, but lower at the secondary level as asserted by Glick and Sahn (2010). This shows that the participants progressed smoothly at primary with only 9% battling to progress, while at secondary school 57% battled to progress (Kassile, 2014).

Secondly, table 5.1 reflects on the families of the participants. It shows that the majority (79%) of student participants have parents (Schiffrin, Liss, Miles-McLean, Geary, Erchull & Tashner, 2014). Of those students who have parents, 30% are

151

cared for by both parents; 49% are cared for by single mothers; and less that a percent is cared for by single fathers.

It can be confirmed from the table 5.1 that most of the participants in the study were raised mostly by single parents. The US Census Bureau (2017) also confirmed that most single parents were mothers with very few cases in which single parents were fathers. The table also indicated that there was either a minimal relationship or no relationship at all with their fathers (Mullins, Wolfe-Christensen, Chaney, Elkin, Wiener, Hullmann, Fedele & Junghans, 2011). Furthermore, it is revealed that a larger number of mothers are involved in child development than is the case with fathers (Boothroyd & Cross, 2017). In this table, it was shown that some participants have been brought up by grandparents (Herrington, 2012) and others by uncles and aunts, as well as by their brothers and sisters (Mulhere, 2014) respectively; people constituting the extended family. In addition, it can be affirmed that extended families involved a large network of connections among people extending through varying degrees of relationships. The table further asserts that most African cultures are characterised by strong family kinship networks that function as social support systems in times of need (Kayla, 2017).

Lastly, table 5.1 shows the parents' education levels. The table shows that 8% of parents attended high schools, but either did not get to matric or did matric and could not complete it. Those student participants who did matric counted to 28%. It is further revealed that the parents who studied beyond matric and obtained certificates constituted 24%; diplomas constituted 13%. Nine percent of parents held degrees, whilst Honours Degrees to PhD level were only 1 %. Some participants (17%) indicated that they were not sure of their parents' education levels. The parents' education level can significantly influence the extent to which a student progresses in education because of the information possessed by the parents (Workman, 2015; Galindo, 2016).

The next section continues with the presentation of data on the demographic variables of the participants. Table 5.2 presents data on the gender of student participants; in this case, per programme.

Table 5.2   Gender of respondents by programme (N=2000)

PROGRAMME	MALES	FEMALES	TOTAL
NATED Engineering	335	285	620
NATED Business	302	577	879
NCV Engineering	88	112	200
NCV Business	80	120	200
Learnerships	44	57	101
Total	**849**	**1151**	**2000**

Table 5.2 shows that male students (42%) were the minority, while female students (58%) constituted the majority. The table further shows that there are still more males (52%) than females (48%) in the Engineering faculties of the College.   This observation was earlier made by Hango (2013). A different picture is seen when looking at the Business Faculties and Learnerships, as there are more females than males. For example, for Business studies 65% of the students are females, whilst 35% are males. For the Learnerships, female students (56%) are in the majority, whilst male students (44%) are in the minority. This confirms the findings by Bekhradnia (2009) and Gracia (2009) in their assertions that women are a numerical majority in higher education.

The next section consists of the continuation of the presentation of data on the demographic variables of the participants.   Table 5.3 presents the ages of respondents per programme.

Table 5.3   Age of Respondents by Programme (N=2000)

Age Category	NATED Engineering	NATED Business	NCV Engineering	NCV Business	Learnerships	Total
15 – 22	313	372	132	128	56	1001
23 – 30	252	498	56	55	42	903
31 – 38	28	4	12	17	2	63
39 – 46	27	5	0	0	1	33
47 +	0	0	0	0	0	0
Total	**620**	**879**	**200**	**200**	**101**	**2000**

Table 5.3 shows that the majority (50.05%) of the students fall in the age category of 15–22 years.   This category is followed by 45.15% of student participants, representing the category 23–30 years.   From the data, the NCV Programme (Engineering and Business) 20% of the participants and 65% respectively, represent the category of 15- 22 years.   In the NATED Programmes, participants represented the category 23-30 years.   The majority (65%) of NCV Programme participants are in the 15-22 year category; this trend reverberates with the NCV admission requirements (Gewer, 2010).   The NCV minimum admission requirement is at least grade 9, with non-detailed subject specifications.   Prospective students do not have to wait until they possess matric certificates to be admitted to a TVET college. They can be admitted after passing grade 9 (DHET: TVET Colleges' site, 2017).

The case of NATED Programmes are   different because the students in these programmes should meet the minimum admission requirement of the National Senior Certificate (grade 12), which takes at least three (3) years of further study after completing grade 9.   These students take much longer in a TVET college; thus, the majority (54%) of student participants (representing the category 23-30 years) are enrolled for the NATED Programmes at the Goldfields TVET College.

5.2.2. Graduate Attributes

The next section presents data on the Graduate Attributes.   Figure 5.1 presents data on students' perceptions of what the Graduate Attributes at the College entail.

154
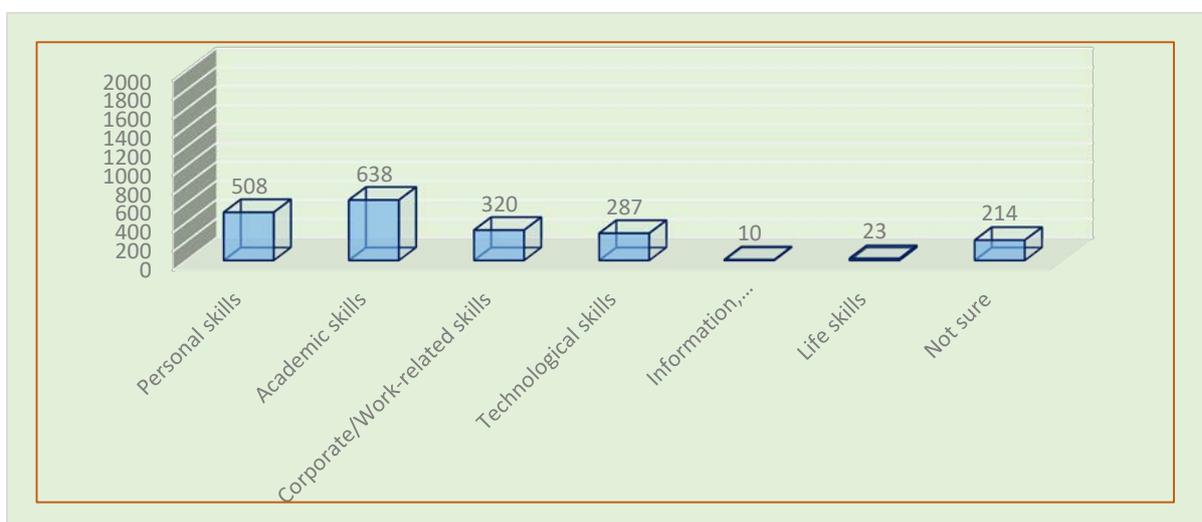
Figure 5.1 Students' Perceptions of what the Graduate Attributes entail (N=2000)

Figure 5.1 shows that the most frequent constituent of the Graduate Attributes, indicated by most (31.9%) student participants is Academic Skills. This confirms the findings by Gracia (2009) and O'Leary (2016) that the students perceive the Graduate Attributes in accordance with how they are exposed to teaching and learning. This is an indication of the fact that a college focuses on pedagogical discourse which entails teaching, learning and the effective management of the curriculum (Meda & Swart, 2017). These perceptions of the students match the fact that the core business of the college is teaching and learning, and the success of the college is influenced by the progression, throughput and certification rates (Domenech & Gomez, 2014).

Figure 5.1 further reveals an assertion by Greene and Saridakis (2008) that Personal Skills are also perceived by students as the Graduate Attributes. Personal Skills is the second most frequent category (25.4%) that participants pointed out as constituting the Graduate Attributes. This is congruent with the assertion by Osmani, Hindi, Al-Esmail and Weerakkody (2017) that the success of each individual student at a college is associated with the set of Personal Skills that they possess. According to Bunney, Sharplin and Howitt (2015), Personal Skills include, but are not limited to attentive listening skills, language proficiency and communication skills. They drive a person's ability to critique existing knowledge and put into practice acquired knowledge (Abdulwahed, Ahmad, Hasna, Ghani & Benammar, 2014). The students perceived these Personal Skills as the second best constituent of the Graduate Attributes.

The Corporate and Work-related Skills emerged from 16% of the participants and emerged third respectively. The third position of Corporate and Work-related Skills as perceived by the participants relates to the assertion by Scott, Connell, Thomson and Willison (2017), that Work-related skills are normally done as the practical component of the curriculum, and are treated long after the theoretical component of the curriculum. For the NATED Programmes, the Corporate and Work-related Skills are done after students have completed the N6 certificate after at least 18 months of

155

study (DHET: TVET Colleges, 2017). In the NCV Programmes, the students are exposed to these skills in their third year and towards the exit from the Programme (Malale & Sentsho, 2014). It is because of the curriculum design of the Programmes that the students perceived Corporate Skills as the third constituent of the Graduate Attributes. Furthermore, other participants (14.4%) favoured Technological skills as the fourth important set of the Gradate Attributes, corroborating Meda and Swart (2017), that Technological skills should be treated as a core competency in academic programmes. Others participants stated that they were not sure about what the Graduate Attributes entailed, confirming the findings by Leung and Kember (2013), that many students enter the institutions of Higher Education with naïve, epistemological beliefs and approaches incompatible with the goals of higher education.

The next section continues with the presentation of data on the Graduate Attributes. Figure 5.2 presents data on students' perceptions of the methods for the development of the Graduate Attributes.
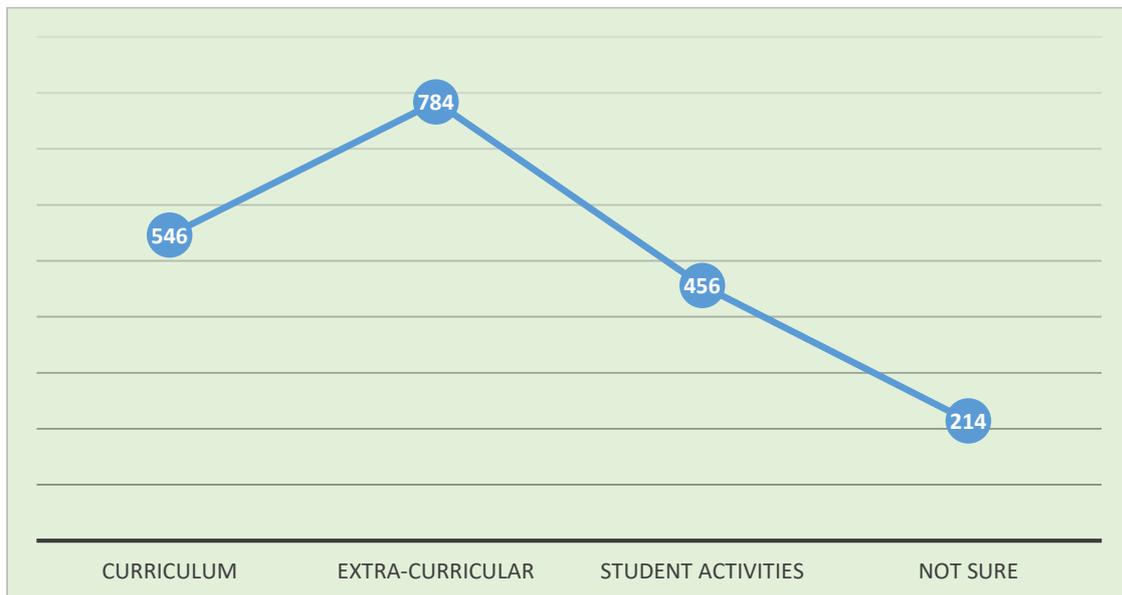
Figure 5.2 Students' Perceptions of the Graduate Attributes development at a college (N=2000)

156

Figure 5.2 shows the students' perceptions of how the Graduate Attributes could possibly be developed. More than any other method, the extra-curricular activities were favoured by many participants (39.2%) and consequently arose as the most frequent method. The extra-curricular activities occur outside classroom-based projects, functions and activities and are meant to emphasise what the students have learnt from the theoretical component of the curriculum (Kinash, Crane, Judd, Mitchell, McLean, Knight, Dowling & Schulz, 2015). These activities give students exposure to important issues not covered in the curriculum, but are equally significant to the curriculum content. According to Holmes (2017), these activities allow students to put into practice the knowledge they have acquired from the curriculum. These are the activities from which students asserted that the Graduate Attributes could be built (Hughes & Barrie, 2010).

Furthermore, figure 5.2 indicates that 27.3% of students perceived the curriculum as a method with which the Graduate Attributes could be developed. Accordingly, Wahab & Mustapha (2015) argued that the curriculum correlates directly with the pedagogical discourse to which the students are exposed in a classroom. Thus, the participants perceived the Graduate Attributes as part of the learning outcomes indicated at the end of a particular module or a given chapter. At the end of every chapter or module, the students are expected to illustrate an understanding of the discussed content or should be able to demonstrate the practicality of the content for discussion in a given chapter (Holmes, 2017). These participants who argue in favour of the curriculum as a method for the development of the Graduate Attributes, confine to classroom activities all the necessary skills, such as work readiness and competencies. Kinash *et al.* (2015) also raised the point that the classroom is the rightful place in which students should be prepared and developed for the Graduate Attributes.

However, the curriculum (27.3%) and the extra-curricular activities (39.2%), participants viewed as the Graduates Attributes developing method; very few participants (22.8%) asserted these student activities. Hinchliffe and Jolly (2011) indicated that the Graduate Attributed developing activities take place on and outside the campus. These student activities include students' projects that allow students to engage with one another on critical issues that affect their learning (Moalosi *et al.*,

157

2012). In these activities students have the opportunity to critique existing and new information, consequently thinking independently and critically (Leung & Kember, 2013).

The fewest participants (10.7%) indicated that they were not certain about how the Graduate Attributes could be developed at a college. This was as a result of the fact that they had not been exposed to issues and discussion of the Graduate Attributes. While these Graduate Attributes have been a bone of contention at institutions of learning around the world, there is still a vast number of students who are not familiar with them and the changes they effect on the graduates (Osmani *et al.*, 2017). If lecturers themselves do not have implementation strategies of this phenomenon, students will clearly have no clue about the Graduate Attributes implementation methods thereof (Green *et al.*, 2009). Furthermore, Albalooshi (2013) postulated that the Graduate Attributes could be developed differently and in a number of ways depending on how a particular institution of learning understands them and their nature.

The next section addresses the presentation of data on the Graduate Attributes. Figure 5.3 presents data on students' perceptions of whose responsibility it is to develop the Graduate Attributes.
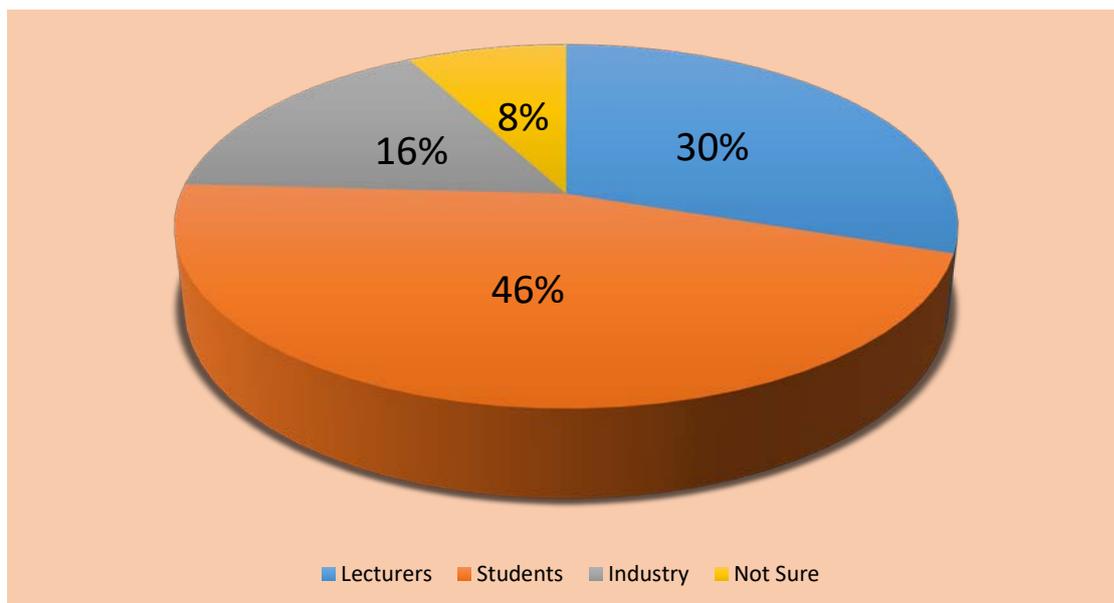
Figure 5.3 Students' Perceptions of who should be responsible for the Graduate Attributes (N=2000)

Figure 5.3 shows the students' perceptions of whose responsibility it is to develop the Graduate Attributes. It further reveals the affirmation by Wilson, Ho and Brookes (2017) that students have various perceptions on who should be charged with the development of the Graduate Attributes at the college. Among those whom participants revealed should take responsibility, were students themselves (46%). Jones, Green and Higson (2015) stated that students ought to take responsibility for their own learning and development. According to Clarke (2015), all various stakeholders of a college are in place to ensure that there is teaching and learning at a college for the benefit of students. Moreover, students should cooperate with all systems in place to support their learning. Figure 5.3 reveals that if students do not take responsibility, there would not be good academic results and consequently, the institution's failure to deliver on the development of the Graduate Attributes. Malale and Sentsho (2014) stated that students need to channel their attitudes towards the attainment of the Graduate Attributes. This perception reiterates the fact that these attributes should characterise each individual graduate, irrespective of the discipline from which the graduate acquired knowledge (Wilson *et al.*, 2017).

Figure 5.3 also shows that the some of the participants (30%) think the lecturers should develop the Graduate Attributes. This issue was raised, contrary to the assertion that the students are the institution's stakeholders who should take charge of the development of their own Graduate Attributes. These participants (30%) affirmed the assertion by Salter *et al.* (2017) that lecturers are the legitimate stakeholders for the development of the Graduate Attributes. The lecturers are perceived to be the source of information to the students and, consequently, develop the Graduate Attributes. This reaffirms Van Schalkwyk, Muller and Herman (2011), who aver that the lecturers who can synchronise the academic components could therefore produce the desired academic outcomes in the disciplines of their responsibilities. Congruent with this fact, Moalosi *et al.* (2012) asserted that the improvement or deterioration in academic accomplishments reflect lecturer competencies, commitment and quality teaching.

The last perception raised by the participants, with regard to whose responsibility it should be to develop the Graduate Attributes, was that of industry (18%). This

emerged congruent with the assertion by Schreuder and Coetzee (2011) that industry could play a pivotal role if it accepted the responsibility of developing the Gradate Attributes. Since institutions of learning are responsible for producing highly attributed graduates for industry, it should have a part to play in planning, implementing and developing the Graduate Attributes (Albashiry *et al.*, 2015).

Colleges continue to prepare their students through attributing them so that they will be highly sought after by industry (Bester, 2014). However, if industry does not have a role to play while students are at college, the results could be a mismatch between what the institutions of learning produce and what industry expects (Abdullah, 2013). The incorporation of the expectations of industry into the college curriculum would allow industry to be involved in the students' development processes (Collet, Hine & du Plessis, 2015). In this regard, industry may guide the colleges on how to prepare the graduates to be ready for the world of work (Karinka, 2016).

The next section presents data on the Graduate Attributes. Figure 5.4 presents data on the Graduate Attribute considered the most important by the students.
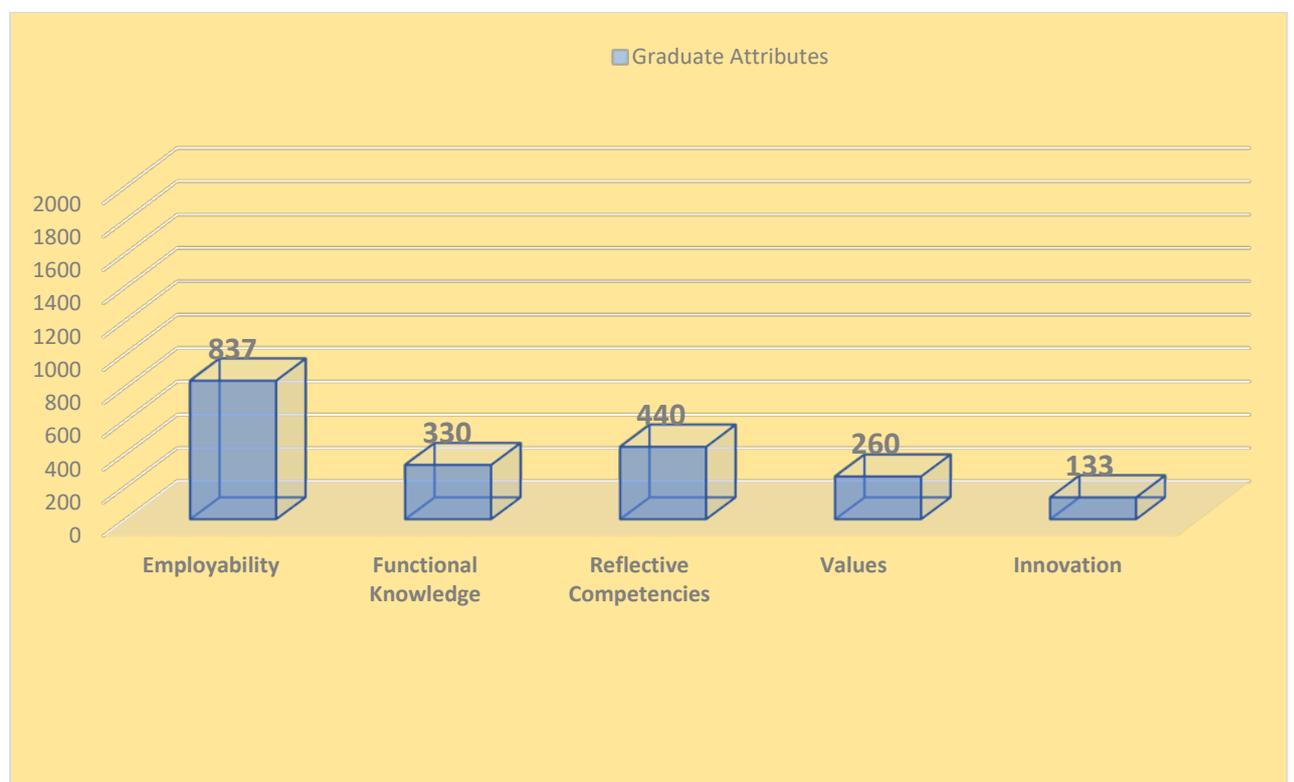
Figure 5.4 Attributes considered the most important

Figure 5.4 shows the perceptions of students on which attribute they consider the most important. The Graduate Attribute considered the most important by the participants is employability (41.85%). Employability is not necessarily limited to finding a space in the corporate world for a particular student or graduate. It goes beyond this point to imply the graduate ability to function congruent with the objectives of industry and be successful in a job (Caballero & Walker, 2010). This also means the ability to shift from one corporate responsibility to another and, as a result, remain employable throughout the graduate's lifespan (Keogh, Maguire & O'Donoghue, 2015).

Students decide to enrol for various qualifications at colleges to enhance their employment prospects; thus, they consider employability as return on investments (Small, Shacklock & Marchant, 2017). This is made even more important, given the continuously rising costs of education and many other things related to academic affairs. This attribute is congruent with Personal Professional Development Planning and it encourages students to be flexible, reflective and responsible from the colleges to the world of work (Jackson, 2012).

Figure 5.4 shows that the second most important Graduate Attribute as perceived by the students is reflective competencies (22%). This is the attribute that allows them to cope with the daily demands of industry. Once the graduates possess the reflective competencies, they are able to demonstrate the behaviours that guide them into structured objectives of industry (O'Connor & Bodicoat, 2017). Competency is a combination of practical and theoretical knowledge, used to improve graduates' ability in their professional and social contexts. The participants perceive the reflective competencies as consistently good behaviours in situations that differ. This attribute applies to the bewildering array of careers and it accommodates independent, critical and positive thinking in all contexts in which graduates engage with other people or things (Treleaven & Voola, 2008).

Functional knowledge (16.5%); values (13%); and innovation (6.65%) followed the reflective competencies respectively. For students, 36.15% asserted to the importance of these three. Functional knowledge is possessing the facts, information

161

and skills acquired through experience that leads to the understanding of a particular subject (Ghazivakili *et al.*, 2014). The participants perceive innovation and values as principles that embody the graduate's attitudes and assumptions about different things.

The next section presents the scale that was used to rate the statement used by the participants to respond to the questions in the questionnaire. Table 5.4 presents the scale to rate the statements.

Table 5.4   Scale that rated the statements

Strongly agree	Agree	Unsure	Do not agree	Strongly disagree
5	4	3	2	1

Table 5.4 shows the scale with different options that the participants used to reflect their responses to statements. These statements were provided in the questionnaire that the participants answered. Table 5.4 is applicable to statements in Tables 5.5 to 5.9

To rate each statement, the students chose one of the answers that best suited their perceptions (5 =strongly agree, 4 =agree, 3 = unsure, 2 =do not agree, 1 strongly disagree). The researcher then checked the answers according to their frequencies and subjected them to means and standard deviations.

e.g. If all students had chosen 3 and 4 (meaning that they are either unsure or that they agree to the statements), which means the most frequent (often), this would be any number between 3 and 4. The researcher then finds the sum of all the numbers and divide this by the numbers there are. The answer from the calculation is the average of all numbers, and that would be the mean.

162

Table 5.5   General Attributes

STATEMENT	NATED ENGINEERING		NATED BUSINESS		NCV ENGINEERING		NVC BUSINESS		LEARNERSHIPS	
	N=620		N=879		N=200		N=200		N=101	
	Means	SD	Means	SD	Means	SD	Means	SD	Means	SD
I have the ability to access information	3.62	1.28	3.55	0.97	3.91	0.82	3.89	0.93	3.51	1.06
I have the ability to use new information	3.29	0.97	3.62	0.94	3.43	1.03	3.81	1.00	3.21	0.93
I have the ability to handle large amounts of information	3.57	1.00	3.83	0.97	3.74	0.87	3.84	0.90	3.50	0.89
I have the ability to critique knowledge and information	3.42	1.17	3.67	0.89	3.70	0.86	3.91	0.89	3.72	0.91
I have technical and technological competencies	3.31	1.23	3.87	1.06	3.61	0.96	4.00	0.80	3.76	1.03
Overall Means	**3.44**	**1.13**	**3.71**	**0.97**	**3.68**	**0.91**	**3.89**	**0.90**	**3.54**	**0.96**

Table 5.5 shows that a large majority of the participating students assumed their general attributes to be good and that they allow them to access and use information. This is shown in the table by the **overall mean of 3.65, closer to 4, meaning "often", with the overall standard deviation of 0.97**. The scores show that there has been little difference in the references alluding to the general Graduate Attributes among the research participants. However, the majority of the participants thought that they possessed technical and technological competencies. The trends indicated by the data in Table 5.5 suggest that students are happy with the General Attributes they possess. These revelations confirm the assertion by Plomin and Deary (2015),

163

that there is a greater awareness and breadth of general attributes being reflected by the students.

Table 5.6   Academic Attributes

STATEMENT	NATED ENGINEERING		NATED BUSINESS		NCV ENGINEERING		NVC BUSINESS		LEARNERSHIPS	
	N=620		N=879		N=200		N=200		N=101	
	Means	SD	Means	SD	Means	SD	Means	SD	Means	SD
I possess subject or discipline knowledge	3.50	1.30	3.92	1.10	3.89	1.05	3.84	0.97	3.97	1.02
I have numeracy and quantitative skills	3.20	0.97	3.46	1.01	3.45	0.93	3.56	0.95	3.27	0.96
I have oral presentation and written communication skills	3.42	0.97	3.45	0.93	3.52	0.90	3.55	0.90	3.31	1.01
I have enquiry and research skills	3.43	1.16	3.47	1.16	3.45	0.92	3.50	0.89	3.58	1.03
I desire to learn and continue learning	3.52	1.10	3.89	1.07	3.63	1.04	3.55	1.00	3.83	1.07
Overall Means	**3.41**	**1.1**	**3.64**	**1.05**	**3.59**	**0.97**	**3.6**	**0.94**	**3.59**	**1.02**

Table 5.6 shows the participants' experiences of the academic attributes and knowledge application at a college. The table reflects students' sense of curriculum flexibility and openness to industry and its influences. This has been asserted by the **overall mean of 3.57, closer to 4, meaning "often", with an overall standard deviation of 1.02** from the various programmes at the college (n=2000). The findings by Duncan (2010) also revealed that students have an awareness of different contextual issues in industry and acknowledge the importance of responsiveness to the various needs of a range of stakeholders. The lack of integration between theory and practice, as indicated in the previous category, is less prevalent.   The

experiences in this category illustrate the interrelatedness of the creative and technical abilities to design and produce a product to meet a given situation. Although, according to the participants, the development of the Graduate Attributes is aimed mainly at the efforts of the individual student, the participants also demonstrate the courage to accommodate external influences in their design approach and to develop products that appeal to a wider audience. Table 5.6 also reveals that the participants assume that the development of a professional identity is influenced by a limited exposure to the economic realities of the workplace, although more authenticity appears to be prevalent in the curriculum.

Table 5.7 Workplace Attributes and Knowledge Application

STATEMENT	NATED ENGINEERING		NATED BUSINESS		NCV ENGINEERING		NVC BUSINESS		LEARNERSHIPS	
	N=620		N=879		N=200		N=200		N=101	
	Means	SD	Means	SD	Means	SD	Means	SD	Means	SD
I can apply knowledge to new situations	4.11	0.96	4.41	0.82	4.14	1.01	4.09	1.03	4.25	0.98
I can plan and execute tasks independently	3.91	1.19	4.12	1.01	4.21	0.89	4.14	0.96	4.20	0.91
I have an understanding of changing workplace practices	3.14	0.96	3.42	0.89	3.39	0.90	3.47	0.87	3.18	0.97
I can relate specific issues to a wider organisational context	3.35	0.93	3.55	0.99	3.43	0.90	3.47	0.88	3.42	0.98
I can follow and construct a logical argument	3.35	1.13	3.76	0.95	3.42	0.93	3.39	0.88	3.79	1.01
Overall Means	**3.57**	**1.03**	**3.85**	**0.93**	**3.72**	**0.93**	**3.71**	**0.92**	**3.77**	**0.97**

Table 5.7 shows the participants' experiences of the workplace attributes and knowledge application in industry. The empirical study has revealed a mixed picture on graduates and their position in the labour market. The table reveals more positive accounts of graduates' labour market outcomes, which tend to support the notion of Higher Education as a positive investment that leads to favourable returns. The table shows the **overall mean of 3.72 and the overall standard deviation of 0.96**. Plomin and Deary (2015) also reported quite high levels of satisfaction among graduates on their perceived utility of their formal and informal academic experiences. Denson and Zhang (2010) stated that graduates in different occupations draw upon particular graduate skill-sets, be those of occupation-specific expertise, managerial decision-making skills, and interactive, communication-based competencies.

Table 5.8 Personal Attributes

STATEMENT	NATED ENGINEERING		NATED BUSINESS		NCV ENGINEERING		NVC BUSINESS		LEARNERSHIPS	
	N=620		N=879		N=200		N=200		N=101	
	Means	SD	Means	SD	Means	SD	Means	SD	Means	SD
I am decisive and persuasive	3.62	1.37	3.86	1.18	4.06	0.98	3.99	1.04	3.88	1.02
I am punctual and can stick to time-frames	3.11	1.02	3.52	1.03	3.30	1.02	3.48	1.06	3.02	0.94
I am self-disciplined and reliable	3.65	1.09	3.82	1.02	3.59	0.97	3.74	0.97	3.38	0.98
I have the ability to deal with different cultural practices	3.73	1.14	3.92	1.02	3.51	1.14	3.6	1.14	3.60	1.03
I have the ability to	3.69	1.12	3.83	1.06	3.71	0.91	3.81	0.92	3.86	1.08

166

inspire people									
Overall Mean	**3.56**	**1.15**	**3.79**	**1.06**	**3.65**	**1.00**	**3.72**	**1.03**	**3.55**	**1.01**

Table 5.8 shows the Personal Attributes the participants think they possess. It appears from the table that the graduates are equipped with the ability to communicate with a variety of people from different departmental groups, with different cultures within their own organisation. In addition to this, table 5.8 reveals that the participants show a willingness to deal with multinational and often global teams or clients who are involved in their workspace or social environment. This is reflected by the table's **overall mean of 3.65 closer to 4, meaning "often" and the overall standard deviation of 1.05**. This result resembles the findings by Tomlinson (2012) that the graduates can adequately deal with cultural complexities that arise due to different cultures, which may have different values and beliefs. The participants also indicated the assertion by Karinka, 2016) that graduates have the ability to take extreme care in composing all types of communication to deliver their message in a simple, clear, professional and timely manner. In this context, cultural awareness and communication are strongly related skills.

Table 5.9   Entrepreneurship Attributes

STATEMENT	NATED ENGINEERING		NATED BUSINESS		NCV ENGINEERING		NVC BUSINESS		LEARNERSHIPS	
	N=620		N=879		N=200		N=200		N=101	
	Means	SD	Means	SD	Means	SD	Means	SD	Means	SD
I have adequate economic knowledge about local and global affairs	3.59	1.31	3.80	1.17	3.94	1.15	3.95	1.04	3.98	1.07
I can deal with business realities and its difficulties	3.21	0.98	3.61	0.95	3.22	0.83	3.25	0.80	3.16	0.98

167

I am flexible, adaptable and open-minded	3.41	1.22	3.57	1.02	3.67	0.98	3.67	0.98	3.65	1.07
I possess critical and analytical skills	3.63	1.04	3.49	1.11	3.46	0.93	3.46	0.92	3.43	1.04
I am innovative and creative	3.52	1.37	3.79	1.17	3.34	1.01	3.26	1.04	3.98	1.07
Overall Means	**3.47**	**1.18**	**3.65**	**1.08**	**3.53**	**0.98**	**3.52**	**0.96**	**3.64**	**1.05**

Table 5.9 shows the Entrepreneurial Attributes the participants believed they possessed. The participants demonstrated a sound awareness of entrepreneurial attributes. They readily cited their possession of the well-known characteristics of an entrepreneur. More than half considered themselves business minded in corporate organisations or in their own businesses. Table 5.9 reflects the **overall mean of 3.56 closer to 4, meaning "often", with an overall standard deviation of 1.05**

Most participants perceived themselves to possess entrepreneurial skills since they indicated their flexibility, adaptability and open-mindedness. The table also confirms the assertion by Plomin and Deary (2015), that adequate economic knowledge about local and global affairs is a necessary tool for a successful entrepreneur. The majority of students thought they had entrepreneurial skills. Duncan (2010) asserted that graduates who view themselves as entrepreneurs are the individuals who are very aware of ethical dilemmas and able to find practical resolutions to them by balancing competing values in a way that respect both ethical values and business needs. This often involves creative problem-solving and the ability to transcend dichotomous thinking.

5.3. PRESENTATION, ANALYSIS AND DISCUSSION OF QUALITATIVE DATA

The qualitative data analysis in the current study is a process and procedure in which the collected data are transformed into explanations, understandings and interpretation of the people and situations that are being investigated. This qualitative data analysis was based on the phenomenon of the Graduate Attributes.

QUESTION	THEME	KEY ISSUES EMERGING FROM THEME
What is your understanding of the concept "Graduate Attributes"?	Employability, Functional Knowledge and Reflective Competencies Innovative Integrity, Discipline	• Work Readiness • Industry Congruence • Acquiring Corporate Information • WBE & WIL • Knowledgeable • Scholarship and Continuous Development • Information and Communication • Expertise • Technical & Artistic Skills • Curriculum understanding and implementation (Practice) • Professionalism and Ethical standards • Intellectual Engagement • Dignity and Status • Morals and Respect • Loyalty and Kindness • Mind-set and Personal Conduct • Independent and Analytical Thinking • Initiative (Entrepreneurship or Career Advancement
In which ways do you think the college could	Legislative and curricular issues	• Policy development • Curriculum re-evaluation/re-alignment • Work and Learning Integration

169

develop these Graduate Attributes?		• Co-curricular and Extra-curricular Programmes
Whose responsibility should it be to ensure that they are developed and how should they do it?	Various stakeholders	• Lecturers • Management • College Council • Industry • Students
What do you think the barriers are to development of the Graduate Attributes at a college?	Budgetary constraints and institutional incapacity	• Legislative Matters • Budgetary Issues • Incapacity • College-Industry Mismatch
In your perception as a student, what do you think are the possible solutions to the barriers indicated?	Capacity building	• Awareness Programmes • Budget Allocation • Capacity Building

FOCUS GROUP INTERVIEW: A Assigned Group Code: FGIA	STUDENT: 1	A1
	STUDENT: 2	A2
	STUDENT: 3	A3
	STUDENT: 4	A4
	STUDENT: 5	A5
FOCUS GROUP INTERVIEW: B Assigned Group Code: FGIB	STUDENT: 6	B1
	STUDENT: 7	B2
	STUDENT: 8	B3
	STUDENT: 9	B4
	STUDENT: 10	B5
FOCUS GROUP INTERVIEW:	STUDENT: 11	C1

C	STUDENT: 12	C2
	STUDENT: 13	C3
Assigned Group Code:	STUDENT: 14	C4
FGIC	STUDENT: 15	C5
FOCUS GROUP INTERVIEW: **D**	STUDENT: 16	D1
	STUDENT: 17	D2
Assigned Group Code:	STUDENT: 18	D3
FGID	STUDENT: 19	D4
	STUDENT: 20	D5
FOCUS GROUP INTERVIEW: **E**	STUDENT: 21	E1
	STUDENT: 22	E2
Assigned Group Code:	STUDENT: 23	E3
FGIE	STUDENT: 24	E4
	STUDENT: 25	E5

The next sections entail analyses of responses from the participants in relation to the guiding questions of the focus groups. The analyses will be dealt with according to the main categories and subcategories as they emerged during the focus group interviews. The analyses will be justified further by quoting participants verbatim.

5.3.1. Interpretations emanating from Question 1

The first question that was posed during the focus group interview was: ***What understanding do you have about the concept "Graduate Attributes"?***

171

Table 5.10 Main categories and subcategories indicating the students' understanding of the concept Graduate Attributes.

MAIN THEMES	SUB-THEMES
Employability	Work Readiness
	Industry Congruence
	Acquiring Corporate Information
	WBE & WIL
Functional Knowledge	Knowledgeable
	Scholarship and Continuous Development
	Information and Communication
	Expertise
Reflective Competencies	Technical & Artistic Skills
	Curriculum understanding and Implementation (Practice)
	Professionalism and Ethical standards
	Intellectual Engagement
Integrity and Discipline	Dignity and Status
	Morals and Respect
	Loyalty and Kindness
	Mindset and Personal Conduct
Innovative	Independent and Analytical Thinking
	Initiative (Entrepreneurship or Career Advancement

172

The table above presents the main themes and related subthemes, identified from the transcriptions that relate to the research question.

5.3.1.1. Main theme 1: Employability

A description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants indicated that employability is what constitutes the Graduate Attributes.

- **Work Readiness**

Participants indicated that they viewed the Graduate Attributes as the state of Work Readiness (**FGIC C2, FGIC C4** and **FGIB B1**). Participants (**FGIC C2** and **FGIC C4**) have as well revealed that they viewed work readiness as a range of competencies thought to match the demands of the workplace (Keogh, Maguire & O'Donoghue, 2015). The participant **FGIB B1** indicated that work readiness entails practical work and the opportunity given to the students to put into practice all the information they have acquired from the theoretical component of the curriculum.

FGIC C2: *"………. the Graduate Attributes include practical work that the students do at the college to understand what is taking place at the corporate world. The students are doing these things in the workshops ….."*

FGIC C2 and **FGIB B1** revealed that the Graduate Attributes are a state of work readiness, as well as when the graduates are better prepared for the unknown challenges of the corporate world. Work readiness is believed by the participants (**FGID D3** and **FGID D4**) to be indicative of graduate potential in terms of long-term job performance and career advancement (Caballero & Walker, 2010).

Participants (**FGIB B1, FGID D3** and **FGID D4**) further stated that Graduate Attributes entail work readiness. According to the participant **FGID D4**, work readiness is acquired at the institutions of learning to ensure that graduates

acquire the requisite skills and attributes to help them integrate into the industry and world of work more easily. In the same way, **FGIB B1** suggested that this would also allow graduates to move from the world of education to the world of work with essential and specialised skills that will improve their employment, as well as their self-employment prospects (Taylor & Govender, 2013).

FGIB B1: *"When the students are trained to demonstrate what they understand from whatever has been taught, that practices prepare their Graduate Attributes."*

Participants (**FGIC C2, FGIC C4, FGIB B1** and **FGID D3**) also showed that they start viewing the Graduate Attributes mainly from the perspective of employability. As time passes, their understanding broadens and views it from the empirical approach, in order to see how it fits in other spheres of human existence.

- **Industrial Congruence**

Participants (**FGID D3, FGIC C4, FGIB B1** and **FGIA A1**) indicated that Employability also depends deeply on matching the industry. According participants (**FGID D3** and **FGIC C4**) the graduates are much more employable when they match the needs of the industry. Participant **FGIB B2** indicated that graduates must possess what the industry needs from them (Karinka, 2016).

Furthermore, the participants (**FGIB B1** and **FGIA A1**) indicated that industry could play a crucial role in assisting the institutions of learning to promote students' employability, consequently developing the Graduate Attributes. **FGID D3** also asserted that the involvement of the industry in the academic process could match the students with the world of work (Davos-Klosters, 2014).

FGIA A1: *"Once the communication flows from the labour market or industry to the students, that will keep the student abreast of what is happening at the industry."*

- **Knowledgeable and Acquiring Corporate Information**

The participants (**FGIE E1, FGID D5** and **FGIC C4**) indicated that employability is associated with the extent to which graduates are sought after by employers (Tomlinson, 2012). The participants **FGIE E1** and **FGID D5** further asserted that growth in the stock of human capital is essential for economic growth (Johansson, 2015). They have further indicated that Higher Education and Training institutions should be steered to place greater emphasis on the employability of graduates (Collet, Hine & du Plessis, 2015).

FGIE E1: *"….. they are the skills or ability that a student must have when they graduate. The abilities a graduate must demonstrate in order to be employed."*

In furtherance of the assertion that the Graduate Attributes are in possession of knowledge and the acquisition of corporate information, participants (**FGIC C4** and **FGIE E1**) indicated that academic discourse at the college entails graduate qualities. It was raised by **FGIC C4** that the more a person studies, the more information is acquired and consequently shapes the individual's life professionally.

FGIC C4: "The more you study, the more you realise how little you know, and that is the more you acquire information. The more information you acquire, the more it shapes your life."

This reveals that the participants viewed employability as having a set of skills, knowledge, understanding and personal attributes which make a person more likely to choose and secure occupations in which they will be satisfied and successful (Finch, Hamilton, Baldwin & Zehner, 2013).

- **WBE and WIL**

These participants (**FGID D5, FGIC C4, FGIB B2** and **FGIB B1**) included practicum with other things that constitute graduate employability. Furthermore, the interview respondents **FGIB B2** and **FGIB B1** emphasised that technical and vocational education are deliberate interventions to bring about teaching, learning and a theory-practice compounded curriculum which would make people adequately productive in designated areas of economic activity (Novelli & Sayed, 2016).

FGIB B2: *".….The first one will be allowing the students to put into practice what is being taught. If there could be sessions or practical that allow students to participate meaningfully……."*

The participants (**FGIB BI** and **FGIB B2**) further asserted that the Work-Integrated Learning and Workplace-Based Experience is important in building the Graduate Attributes.

FGIB B1: *"When the students are trained to demonstrate what they understand from whatever has been taught, that practices prepare their Graduate Attributes."*

The participants concluded that the college has the responsibility of concentrating on the actual needs of industry and designing flexible programmes that serve the needs of production (Pellegrino & Hilton, 2012). They also concluded that this could be achieved through designing practices and learning experiences that best serve the labour market (Garraway, Bronkhorst & Wickham, 2015).

In corroboration with what participants said, participant **FGIB B2** raised that WBE and WIL expose students to what is needed by industry.

FGIB B2: *".…. WBE will assist because it takes students to many companies and they learn practically. The WBE exposes students to what the employers need from the students."*

176

The participants asserted that today's workplace utilises contemporary technology that requires graduates to adapt quickly from the old technology to the new technology. This requires skills and knowledge that are often higher than, and fundamentally different from those required for higher education (Daggett, 2010).

5.3.1.2. Main theme 2: Functional Knowledge

A further description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants also indicated that knowledge constitutes the Graduate Attributes.

- **Knowledgeable**

It emerged that participants (**FGID D3, FGIB B3** and **FGIC C4**) believed that graduates should possess the knowledge, skills and values that would subsequently, allow them to function better in the corporate world and in communities in general (Hill, Walkington & France, 2016). That knowledge would capacitate them to cope with workplace environmental exigencies and enhance their dynamic employment opportunities (Spronken-Smith, Bond, McLean, Frielick, Smith, Jenkins & Marshall, 2015).

FGIB B3: *"When they receive their qualifications from the college, they must have a particular knowledge and expertise in their field of study. In fact, I mean they must be able to conduct themselves in a way that generally impresses."*

- **Scholarship and Continuous Development**

The participants (**FGIC D3, FGID D2** and **FGIC C4**) believed that graduates must have a lifetime enthusiasm to acquire information both within and outside the scope of their discipline (Mwaikokesya, Osborne & Houston, 2014). This acquired information will assist the graduate to do well in their communities and transform them into agents of social good (Normand & Anderson, 2017).

177

FGIC C4: *"….. GA are related to being a good student and a good citizen, and as a result, students live up to life-long learning because it is the manner of acquiring information. For a person to remain good, they must have information of living good."*

The participants **FGIB B4** and **FGID D3** also perceived life-long learning as an instrument to change attitudes, thinking and behaviours. While graduates continue to acquire information, they shape their own life for the better. In consequence of this, graduates should take full responsibility for their actions and assist other community members to live up to reasonable standards (Moalosi, Oladiran & Uziak, 2012).

- **Expertise and Information Communication**

The participants (**FGIC D3, FGID D2** and **FGIC C4**) indicated that graduates ought to have a sufficient amount of knowledge and information to be considered well attributed (Pellegrino & Hilton, 2012). The Graduate Attributes cannot be implemented optimally unless the graduate possesses knowledge in all spheres of human existence. The participants agreed that a graduate must possess various expertise in whatever discipline he/she has chosen. They have also shown that this expertise demonstrates that the graduate has knowledge (Grundmann, 2017). In this assertion, participant **FGIC C1** said:

FGIC C1: *"I think it is the combination of all skills and qualities and knowledge that students are given during their time of study. It is both of expertise in their studies and understandings of life in general."*

5.3.1.3. Main Category 3: Reflective Competencies

A description of what the participants identified in their perceptions of Graduate Attributes is given below. The participants indicated that the Reflective Competencies are also the Graduate Attributes.

- **Technical and Artistic Skills**

The participants (**FGIC C2, FGIC C5, FGIB B4** and **FGID D3**) reflected on the fact that the technical and artistic skills are the reflective competencies. Technical skills are acquired from the curriculum and practicum to which students are exposed, and that the continuous practice of technical skills will result in artistic skills (Shields & Johnson, 2008).

FGIC C2: *"These Graduate Attributes include practising the latest technology, as it changes rapidly over time. So, when the students have been exposed to many things that will ensure that they fit well in the labour market, they are well capacitated with the Graduate Attributes."*

It emerged from the discussions that participants **(FGIC C1, FGIC C2, FGIC C3 FGIC C4** and **FGIC C5**) want to possess technical skills and technological competencies before they receive the qualification for which they had registered (Shields & Johnson, 2008). They also indicated that the college should not lose contact with what is taking place in industry, because technology is changing rapidly (Mukuni & Price, 2013). The teaching apparatuses at the college should resemble those of industry.

- **Curriculum understanding and Implementation (Practice)**

The participants (**FGIE E5, FGIB B4** and **FGIE E2**) emphasised the importance of understanding the curriculum and putting into practice what has been understood from the curriculum (McIntosh, 2013). It was further stated that education should be implemented in the social interactions of students, as well as in communities at large. In furtherance of this fact, it was stated that students should not only acquire information, but they should also put it into practice (Tomlinson, 2012). This was not limited only to technical skills but that graduate knowledge should find expression in behaviours.

FGIE E2 *"Graduates Attributes are skills that students benefit from what they study."*

In addition to what was asserted by **FGIE E2** in the above statement, **FGIE E5** also had a similar view.

179

FGIE E5: *"….. it is the combination of all skills and qualities and knowledge that students are given during their time of study. It is both of expertise in their studies and understandings of life in general."*

The students stated that the practical component of the curriculum should be given the first and highest priority above the theoretical component. They also stated that in some cases, when the students did not understand what had been said in class, the practical done in the workshops is able to compensate for that and students understand in consequence (Novelli & Sayed, 2016).

- **Intellectual Engagement, Professionalism and Ethical Standards**

It emerged from the discussion that the students include professionalism and ethical standards in the set of the Graduate Attributes. The students **(FGIA A5, FGIA A4, FGIB B3** and **FGIA A1)** indicated that the graduates should be able to demonstrate a high level of professionalism at work and abide by the standards of the professional body (Slomka *et al.,* 2008). It was further indicated that colleges should be a sector that produce well-skilled individuals who respond promptly to the technical and professional manpower demand of a country (Adeyemi, 2008).

The students (**FGIA A1** and **FGIA A5**) asserted that graduates must be characterised by intelligence. They also indicated that the graduates should engage information and critique it intellectually (Plomin & Deary, 2015). They argued that the level of intelligence is influenced by a person's ability to reason, to apply one's mind and a skill to solve problems (Duncan, 2010).

FGIA A1: *"….. those attributes are skills that students develop during their time with at the college……"*

In addition to what was asserted by **FGIA A1** in the above statement, **FGIE E5** also revealed the same sentiments.

FGIA A1: *"They may include a number of things like intelligence, which is the ability to reason of course and a level of understanding and positive approaches in life."*

In furtherance of their perspective on intellectual engagement, the students asserted that intelligence should be an innate characteristic of a graduate (Trzaskowski, Yang, Visscher & Plomin, 2014). They argued that intelligence should not be limited only in the area of expertise, but should overlap in how graduates acquire, retain and process information from other disciplines (Plomin & Deary, 2015).

5.3.1.4. Main Category 4: Integrity and Discipline

A continuation of the description of what the participants identified in their perceptions of Graduate Attributes is given below. The participants indicated that Integrity and Discipline are also Graduate Attributes.

- **Dignity, Morals, Loyalty and Persona Conduct**

The participants (**FGIC C3, FGIB B5, FGIB B3** and **FGID D2**) indicated that dignity is a distinguishing hallmark between graduates and ordinary citizens of communities. The participants further asserted that dignity finds expression in their behaviour and makes them unique among other community members (Song, 2015). They concluded in their discussion that dignity is coupled with morals and integrity.

It was indicated by the participants that the well attributed graduates should be characterised by respect and morals, whatever the prevailing circumstances (Hughes, 2017). The participants also agreed that graduates should be able to demonstrate these qualities in all spheres of their lives and in all settings in the country (Parandeh, Khaghanizade, Mohammadi & Mokhtari-Nouri, 2016).

FGIC C3: *"The attitude of an educated member of the community should find expression in behaviours. I think that is what the Graduate Attributes are about morals, dignity and integrity."*

181

Similarly to the statement made by **FGIC C3**, comparable sentiments were expressed by **FGID D2**.

FGIC C3: *"The Graduate Attributes training means that the students have to be trained in moral principles, how to conduct oneself, showing respect and so on."*

It was argued by the participants that well-attributed graduates should conduct themselves in a calm, polite, respectful and dignified manner (Shahriari, Mohammadi, Abbaszadeh & Bahrami, 2013). They further argued that these attributes find expression in how graduates conduct themselves.

The participants put emphases on graduates' ability and willingness to do good in societal settings. They indicated that graduates should not do good to project a particular image about themselves, but they should be eager to do so even if there is no credit for their good actions (Parandeh *et al.*, 2016). They included the fact that manners form the graduate from his/her arrival in various study disciplines to the conferral of his/her qualifications and beyond (Hughes, 2017). It was also emphasised that the institutions of learning should play a pivotal role in as far as these behavioural conducts are concerned (Hanifi, Parvizi & Jolaee, 2012).

FGIB B5: *"They include the intelligence, kindness and loyalty and so on. Good behaviours may be seen as part of these Graduate Attributes. The students should behave in a good manner while studying and beyond the institution of learning."*

The participants reiterated the idea that mind-set determines the perceptions and perspectives about life. As asserted by Hanifi et al. (2012), the participants indicated that mind-set could shape thoughts and actions in either good or bad ways. They argued that education assists in developing positive mind-sets which reflect life in its entirety. They argued that educated people perceive life much more positively than the uneducated. Furthermore, the participants indicated that educated people

have a much better outlook and, in consequence, lead more responsible lives (Song, 2015).

The participants repeatedly emphasised that well-attributed graduates should conduct themselves in a calm, polite, respectful and dignified manner. They, over and over again, argued that these attributes find expression in how graduates conduct themselves (Shahriari, *et al.*, 2013).

FGIB B3: *"When they receive their qualifications from the college, they must have a particular knowledge and expertise in their field of study. In fact, I mean they must be able to conduct themselves in a way that generally impresses."*

5.3.1.5. Main Category 5: Innovation

A continuation of the description of what the participants identified in their perceptions of Graduate Attributes is given below. The participants indicated that Innovation is also part of the Graduate Attributes.

- **Independent and Analytical Thinking**

It was indicated by the participants (**FGIC C4, FGID D1, FGIB B3** and **FGID D2**) that well-attributed graduates should be able to apply their minds in different settings of life, even in the areas far outside their discipline (Ghazivakili, Norouzi Nia, Panahi, Karimi, Gholsorkhi & Ahmadi, 2014). Graduates must be able to analyse information and think critically about it. This means it is important for students to acquire information from various settings outside their expertise, retain the information that they have acquired, and consequently process that information (Meyari, Kashani, Gharib & Beiglarkhani, 2009). They indicated that this process constitutes independent and analytical thinking.

183

Participant **FGIC C4** who explicitly highlighted independent and critical thinking, indicated that there is congruence between continuous study and analytical thinking.

FGIC C4: *"Studying gives a person a positive and independent thinking, a positive way of seeing and doing things. Studying is powerful. It also influences the human life in a good way. The more you study the more you realise how little you know, and that is the more you acquire information. The more information you acquire, the more it shapes your life."*

Furthermore, the participants agreed that both independent thinking and analytical thinking concur with positive thinking (Nasrabadi, Mousavi & Kave-Farsan, 2012). The person who analyses information and knowledge thinks positively. They argued that the independent and analytical thinkers live a positive life as a result of how they process information (Ghazivakili, *et al.*, 2014).

5.3.2. Interpretations emanating from Question 2

The second question that was posed during the focus group interview was: ***In which ways do you think the college could develop these Graduate Attributes?***

Question	Theme	Issues emanating from the theme
In which ways do you think the college could develop these Graduate Attributes?	Legislative and curricular issues	• Policy development • Curriculum re-evaluation/re-alignment • Work and Learning Integration • Co-curricular and Extra-curricular Programmes

184

A description of what the participants viewed as the ways in which the college could develop the Graduate Attributes is given below. The participants indicated four main areas, namely: Policy Development; Curriculum Re-evaluation; Work and learning Integration; Co-curricular and Extra-curricular Programmes.

- **Policy Development**

The participants (**FGID D1, FGIC C1, FGIC C5** and **FGIB B1**) indicated that policy development at a college is a very important step towards the successful implementation of the Graduate Attributes. They indicated that the college develops the policies for issues that cannot be subjected to personal thinking and emotions, such as examinations and class attendance (Lemke & Harris-Wai, 2015). They asserted that these policies are in place to regulate and control various activities at a college in a very consistent manner (Hill *et al.*, 2016. The participants (**FGIC C1** and **FGIC C5**) raised the fact that once the policy is in place, the college management is held accountable for its implementation. For as long as the policy is not in place, stakeholders may be reluctant to execute certain responsibilities (Terry & Bonhomme, 2013). Policies could also sharpen the monitoring processes of the Graduate Attributes at a college. Monitoring means that all departments will have to be checked on a monthly basis that the implementation of the Graduate Attributes is not only done, but is done correctly. Policies also ensure that staff and managers align their work with the strategic objectives of the college, as well as their being accountable for them (Graham, Mancher, Wolman, Greenfield & Steinberg, 2011).

FGIC C5: *"….. everything at the college is a policy matter. Everything that the college considers important, there is a policy for that. Like for example, examination; there is a policy for examination. Class attendance; there is a policy for class attendance."*

In addition to the statement by **FGIC C5** about the necessity of policy development, **FCIC C1** also indicated that once the policy is in place things will follow suit.

185

FGIC C1: *"Once the policy is in place the things will ultimately fall into their places. But I also think that although I agree with my fellow student here, the policies should be discussed among the students of the college."*

The participants indicated that the presence of a policy would make things possible and much easier. However, the policy development processes should include all stakeholders, particularly students as recipients of academic services (Terry & Bonhomme, 2013). They indicated (**FGIC C1, FGIC C5** and **FGIB B1**) that policies should not be forced on the students but that they must also be involved in the development processes so that they have a say. The students could also assist the management in mapping the students' desires much more accurately, so that whatever Graduate Attributes are instilled in college students, they are exactly what is needed by the very same students. There must be platforms that allow students to express their concerns pertaining to college policies. The involvement of stakeholders does not only bring them on board and keep them abreast of policies, it also empowers them (Lemke & Harris-Wai, 2015).

- **Curriculum Re-evaluation/Re-alignment**

The participants (**FGIB B1, FGIB B2, FGIB B4** and **FGIC C1**) explained that one of the way in which the college could develop the Graduate Attributes is through curriculum re-evaluation or curriculum re-alignment (Dodoo & Kuupole, 2017). This means that the curriculum is revised and restructured in such a way that it reflects exactly what is taking place and what is required by industry (Unger, 2014). Curriculum re-alignment would attempt to bridge the gap between what colleges produce and what industry expects (Garraway *et al.*, 2015). The participants (**FGIB B2** and **FGIB B4**) agreed that the college should devise means to help students put into practice what they have been taught. This could be done in the form a sessions in which students are required to demonstrate certain expertise or skills, thus building good relationships with people who could assist in aligning the curriculum with the job market (Davos-Klosters, 2014). The college should consider the re-

186

evaluation of the curriculum upon the identification of the difference in what is being taught with what is actually happening in the workplace (Unger, 2014).

Furthermore, the participants (**FGIB B1** and **FGIC C1**) indicated the importance of industry in mapping the curriculum. They argued that if the curriculum allowed students to interact with employers for a much longer time, it could develop the Graduate Attributes. Interaction with industry should be facilitated by the lecturers through a flexible timetable that allows this continuous interaction (Garraway *et al.*, 2015). The presence of lecturers in the student practicum would enable the lecturers to refer students back to the curriculum where concepts were not understood. This means that the lecturers would have enough time to align the workplace with the curriculum content.

FGIB B3: *"Sometimes the theory differs with the practical component you see at work place, and their lecturers are not there to explain that difference. So I see the development of the good working relationships with the companies as what the college needs for the Graduate Attributes."*

- **Work-Learning Integration and extra-curricular programmes**

It emerged during the discussions in the focus group interviews that participants view work-integrated learning as a critical feature in developing the Graduate Attributes (Rowe & Zegwaard, 2017). It is through Work and Learning Integration that the graduates are able to observe and align what is taking place in industry with what is being taught (Hall, Pascoe & Charity, 2017).

It also emerged from the discussion with the participants (**FGIB B5** and **FGID D4**) that the co-curricular and extra-curricular programme should be enhanced to achieve optimum Graduate Attributes.

187

FGIB B5: *"The other possibility for developing the Graduate Attributes is through what we call the co-curricular activities that are related to the college content when it comes to curriculum."*

The participants (**FGIB B2, FGIB B4** and **FGIC C1**) indicated that one way in which the Graduate Attributes could be developed is through extramural activities that also support the curriculum (Kinash, Crane, Judd, Mitchell, McLean, Knight, Dowling & Schulz, 2015). These activities offer the students the opportunity to interact with one another about knowledge (Conrad, 2008). They also raised the importance of tutorials that are rendered by registered students of the college.

5.3.3. Interpretations emanating from Question 3

Question	Theme	Issues emanating from the theme
Whose responsibility should it be to ensure that they are developed and how should they do it?	Various stakeholders	- Lecturers - Management - College Council - Industry - Students

The third question that was posed during the focus group interview was: ***Whose responsibility should it be to ensure that they are developed and how should they do it?***

A description of who the participants thought was responsible for the development of Graduates Attributes at a college is given below. The participants indicated five main role players, namely: Lecturers; Management; College Council; Industry; and Students.

- **Stakeholder involvement (Lecturers, Management, College Council, Industry, Students)**

188

It was revealed during the discussions by the focus group interview of participants that it is the responsibility of the lecturers to develop the Graduate Attributes at the college (Thompson, 2007). The participants (**FGID D1** and **FGIC C1**) also emphasised that the lecturers are the means of communication concerning learning (Salter, Douglas & Kember, 2017). They rely heavily on the lecturers to gain information and to be made ready for any form of livelihood after their time at the institution (Moalosi *et al.*, 2012).

In concurrence with the above, the participants (**FGIC C4** and **FGIC C5**) indicated that students ought to play a particular role in the development of Graduate Attributes. They indicated that the first role of the students should be to take their studies seriously and devote themselves to the perfection of their own development (Holton, 2017). It was also asserted that the college should put in place all necessary measures to ensure that students are exposed to a conducive learning environment (Kopanidis & Shaw, 2017).

It was, furthermore, asserted that the management and the college council should work together in terms of policy development to develop the Graduate Attributes (Rowe & Zegwaard, 2017). The participants (**FGIC C5** and **FGIB B1**) revealed that while the college council ratifies the applicable policies, the management takes the responsibility of overseeing the implementation of the policies. It was revealed that industry should be part of the Graduate Attributes development. The responsibility of industry should be to avail places for Workplace-Based experience and Work-Integrated Learning for the benefit of both lecturers and students (Rowe & Zegwaard, 2017). This exercise would simultaneously address the mismatch between the outcomes of education and the expectation of industry (Small, Shacklock & Marchant, 2017).

5.3.4. Interpretations emanating from Question 4

Question	Theme	Issues emanating from the theme
What do you think are the barriers to the development of the Graduate Attributes at a college?	Budgetary constraints and institutional incapacity	• Legislative Matters • Budgetary Issues • Incapacity • College-Industry Mismatch

The fourth question that was posed during the focus group interview was: ***What do you think are the barriers to the development of the Graduate Attributes at a college?***

- **Legislative Matters**

The participants (**FGID D1** and **FGIB B5**) indicated that the legislative matters are one of the barriers that exist within the college preventing the development of the Graduate Attributes. They referred particularly to the policy development processes for the Graduate Attributes (Hill *et al.,* 2017). They indicated that the college is regulated by the statutes that entail the policies. It emerged from **FGID D3** that there are currently neither guidelines nor regulations for teaching and developing the Graduate Attributes at the college (Green et al., 2009). The participants (**FGID D1** and **FGIB B5**) raised this as one the barriers for the development of the Graduate Attributes at the college.

FGIB B5: *"So if you look closely, things like Graduate Attributes are not policy matters in the college. There is no policy in place for development of Graduate Attributes."*

- **Budgetary Issues**

The participants (**FGIA A3, FGIA A5, FCID D2** and **FCIE E3**) indicated that the budgetary issues are also a barrier that exist within the college when it comes to developing the Graduate Attributes (Crookston & Hooks, 2012). They indicated that the college does not have a specific budget that is put aside for the purpose of developing the Graduate Attributes. The absence of a budget in these areas means that there is no funding for them. This leads to the absence of the activities that could help the development of the desired Graduate Attributes.

With reference to the matter of the budgetary constraints of the college, participant **FGIA A5** revealed that the college does not have a budget for the programme of the Graduate Attributes.

FGIA A5: "Well Sir, I do not know if there is a budget that has been put aside for activities related to the development of Graduate Attributes. But I think budget is an issue at our college. I have not seen anything that is budgeted for which is part of activities relating to the issue of our discussion."

Similar to the assertion by **FGIA A5**, a recommendation emerged from **FGIA A3** that students ought to contribute to fund activities that the college cannot afford.

FGIA A3: *"On the issue of budget, the possible solution would be the additional amount of tuition fees that would be used to accommodate the Graduate Attributes. It can still be optional for those who want to benefit in these qualities, and those who think that they would do just fine without them can be exempted this amount."*

- **Incapacity**

The participants (**FGID D5, FGIC C4, FGIB B2** and **FGIB B1**) raised incapacity as a barrier to the development of the Graduate Attributes (Žeravíková, 2013). They (**FGIC C4** and **FGIB B1**) explained that management incapacity is seen by the mismanagement of activities during the implementation thereof (Barrie, 2012). It was

191

also raised that the disagreements and the array of perspectives by the lecturers indicate such management incapacity (Arnolds, Stofile & Lillah, 2013).

The other incapacity that was raised by the participants (**FGID D5** and **FGIB B2**) was from the lecturers. The participants raised concerns about the teaching methods and specific subject didactics (Papier, 2009). The lecturers use too many different teaching methods which confuse students who move from one class to another (Brand, 2007). It was, furthermore, asserted that lecturers teach content that is not linked to what industry requires. **FGIC C4** moreover, raised the issue that there is no link between what the lecturers teach and what industry requires (Dall'Alba, 2009). At some point, participants felt that lecturers do not have any idea of what exactly is taking place in the corporate world.

- **College-Industry Mismatch**

The participants (**FGIA A4, FGIA A5** and **FGIC C4**) argued that there is a huge mismatch between the college curriculum and industry (Bester, 2014). They (**FGIA A5** and **FGIC C4**) also indicated that what is being taught at the college is still far from meeting industry's needs (Small *et al.*, 2017). The other participant (**FGIA A4**) also argued that meeting industry's needs should be the legitimate purpose of the college, as it exists to provide students with skills and knowledge that should make them employable (Hall *et al.*, 2017).

5.3.5. Interpretations emanating from Question 5

Question	Theme	Issues emanating from the theme
In your perception as a student, what do you think are the possible solutions to the barriers indicated?	Capacity building	- Awareness Programmes - Budget Allocation - Capacity Building

192

The fifth question that was posed during the focus group interview was:

In your perception as a student, what do you think are the possible solutions to the barriers indicated?

A description of what the participants thought were the possible solutions to the existing barriers towards the development of the Graduates Attributes at a college is given below. The participants indicated three main solutions, namely: Awareness Programmes; Budget Allocation; and Capacity Building.

- **Awareness Programmes**

The participants (**FGIA A2, FGIB B4** and **FGID D2**) raised the implementation of the awareness programmes as one of the solutions to the barriers (Glaser & Warick, 2016). They indicated that this implementation should be the initiative of the Department of Higher Education and Training (DHET: White Paper, 2013). The participants (**FGIA A2** and **FGIB B4**) argued that is the sole responsibility of the Department to produce highly attributed graduates who will be able to cope with the demands of industry (Griesel & Parker, 2009).

FGIA A2: *"I want to say that the Department of Higher Education and Training can assist if the colleges raise an awareness and the necessity of the Graduate Attributes. Of course, the Department wants to have a good name of producing students who are work-ready."*

As asserted by Kroboth (2016), participants (**FGIB B4** and **FGID D2**) viewed the awareness programmes as platforms that allow communication, seminars and information-sharing sessions that stimulate analytical thinking. The discussions in these gatherings could develop confidence among students (Stumpf, Papier, McBride & Needham, 2012). They also indicated that students could develop skills, such as communication and listening which are also part of the Graduate Attributes as asserted by Maclean and Pavlova (2013).

- **Budget Allocation**

The participants (**FGIA A3, FGIA A5, FCID D2** and **FCIE E3**) raised the problem of funding for the Graduate Attributes development and suggested a budget allocation as a solution. They (**FGIA A3, FGIA A5** and **FCID D2**) revealed that it was the responsibility of the management of the college to ensure that funds are allocated to the development of the Graduate Attributes.

Corroborating the assertion of Crookston and Hooks (2012), the participants (**FGIA A3** and **FGIA A5**) acknowledged that the college does not have sufficient funds to accommodate the Graduate Attributes programme into the budget. They thus, suggested that management could add little amount of money on registration to the students' tuition fees, which can be used for the Gradate Attributes initiative (Treleaven & Voola, 2008).

FGIA A3: *"….. the possible solution would be the additional amount of tuition fees that would be used to accommodate the Graduate Attributes. It can still be optional for those who want to benefit from these qualities, and those who think that they would do just fine without them can be exempted from this amount."*

- **Capacity Building**

It emerged from the discussions that the students (**FGIC C4, FGIB B2** and **FGIB B1**) perceived capacity building as a possible solution (Žeravíková, 2013). The capacity building to which they referred included both lecturers and management. They (**FGIB B2** and **FGIB B1**) suggested additional training in the form of a qualification that would improve their knowledge and understanding (Musau & Abere, 2015). Participant **FGIC C4** suggested that the lecturers should focus on training that concerns classroom management and curriculum delivery (Ciechanowska, 2010), while for management, it would be managerial skills and governance (Potgieter & Coetzee, 2010).

194

5.4. EMPIRICAL RESULTS (LECTURERS)

FOCUS GROUP INTERVIEW: **G** Assigned Group Code: FGIG	LECTURER: 1	G1
	LECTURER: 2	G2
	LECTURER: 3	G3
	LECTURER: 4	G4
	LECTURER: 5	G5
FOCUS GROUP INTERVIEW: **H** Assigned Group Code: FGIH	LECTURER: 6	H1
	LECTURER: 7	H2
	LECTURER: 8	H3
	LECTURER: 9	H4
	LECTURER: 10	H5
FOCUS GROUP INTERVIEW: **I** Assigned Group Code: FGII	LECTURER: 11	I1
	LECTURER: 12	I2
	LECTURER: 13	I3
	LECTURER: 14	I4
	LECTURER: 15	I5
FOCUS GROUP INTERVIEW: **J** Assigned Group Code: FGIJ	LECTURER: 16	J1
	LECTURER: 17	J2
	LECTURER: 18	J3
	LECTURER: 19	J4
	LECTURER: 20	J5
FOCUS GROUP INTERVIEW: **K** Assigned Group Code: FGIE	LECTURER: 21	K1
	LECTURER: 22	K2
	LECTURER: 23	K3
	LECTURER: 24	K4
	LECTURER: 25	K5

195

The next section presents the data from the focus group interviews with lecturers on the Graduate Attributes. The section starts with the biographical data of lecturers who participated in the focus group interviews. Table 5.11 presents the biography of focus group interviews lecturers.

Table 5.11   The biography of Focus Group Interview Participants at Goldfields TVET College

Focus Group Interview	Gender	Capacity and Designation	Highest Qualification	Taught Subject(s)	Age Group	Teaching Experience (Years)
G1	Male	Lecturer: Engineering Studies (NATED)	B.Tech	Electrical workmanship	36-45	8
G2	Female	Lecturer: Business Studies (NATED)	Diploma	Economics	26-35	3
G3	Female	Senior Lecturer: Business Studies (NATED)	B.Com	Sales Management	36-45	12
G4	Female	Lecturer: Business Studies (NATED)	B.Admin PGCE	Public Management	36-45	11
G5	Male	Lecturer: Business Studies (NATED)	B.Com	Accounting	26-35	9
H1	Female	Lecturer: Business Studies (NATED)	B.Tech	Business Communication	46-55	3
H2	Female	Lecturer: Business Studies (NATED)	Diploma	Economics	36-45	8
H3	Male	Senior Lecturer: Business Studies (NCV)	B.Admin	Personnel Management	26-35	12
H4	Female	Lecturer: Business Studies (NCV)	B.Ed.	Maths Literacy	46-55	5
H5	Female	Lecturer: Business Studies (NCV)	M.Tech	English	36-45	13
I1	Male	Lecturer: Business Studies (NCV)	Diploma	Human relations	36-45	9
I2	Female	Lecturer: Business Studies (NCV)	B.Tech	Child Development	26-35	12
I3	Female	Lecturer: Business Studies (NCV)	N6	Hospitality Management	46-55	11
I4	Male	Occupational Programmes (Learrnerships)	B.Ed.	N/A	36-45	10
I5	Male	Senior Lecturer: Engineering Studies (NATED)	B.Ed	Human Relations	26-35	6
J1	Female	Lecturer: Engineering Studies (NATED)	N6 + Trade	Mathematics	46-55	4
J2	Male	Lecturer: Engineering Studies (NATED)	N6	Electronics	36-45	8
J3	Female	Lecturer: Engineering Studies (NATED)	Diploma	Engineering Mathematics	36-45	7
J4	Male	Lecturer: Engineering Studies (NCV)	N6	Engineering Science	46-55	5
J5	Female	Lecturer: Engineering Studies (NCV)	Diploma	Life Orientation	36-45	3
K1	Female	Senior Lecturer: Engineering Studies (NCV)	B.Tech	Entrepreneurship	46-55	11
K2	Male	Lecturer: Engineering Studies (NCV)	Diploma	Computer Programming	36-45	4
K3	Female	Lecturer: Engineering Studies (NCV)	N6	Electrical Workmanship	55+	16
K4	Male	Lecturer: Engineering Studies (NCV)	B.Tech	English	26-35	5
K5	Female	Lecturer: Engineering Studies (NCV)	Diploma PGCE	Life Orientation	36-45	11

Table 5.11 shows the biographical information for the focus group interviews participants attached to the Goldfields TVET College. The table also indicates that some lectures appear not to hold the relevant qualifications for teaching in the TVET

sector. Those who possess teaching qualifications, hold the teaching qualification that is not relevant for the TVET sector.

The data further indicate a bewildering range of teaching experiences, academic and professional qualifications, ages as well as the age categories of lecturers. On the nature and variety of qualifications possessed by the lectures, Bath et al. (2007) argued that these qualifications lead to the difficulty in conceptualising and ultimately embedding the Graduate Attributes in the curriculum of a TVET college.

The following table presents the main categories, and related subcategories, identified from the transcriptions that relate to the research questions.

Table 5.12   Main categories and subcategories indicating the students' understanding of the concept Graduate Attributes.

MAIN CATEGORIES	SUBCATEGORIES
Behavioural Patterns	Self-conduct
	Kindness and Loyalty
	Personality
Knowledge	Skills
	Knowledge Application
	Expertise and Information
Competencies	Knowledge Application
	Intelligence
	Congruence with Industry

The following sections entail analyses of responses from the participants in relation to the guiding questions of the focus groups. Analysis will be dealt with according to the main categories and subcategories as they emerged during the focus group interviews. Analysis will be justified further by quoting participants verbatim.

198

5.4.1. Interpretations emanating from Question 1

The first question that was posed during the focus group interview was: ***What are your perceptions of the use of the Graduate Attributes for a TVET college?***

5.4.1.1 Main Category 1: Behavioral Patterns

A description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants indicated that Behavioral Patterns are what constitute the Graduate Attributes.

- **Self-conduct**

Participants (**FGII I2, FGII I3, FGIG G1** and **FGIH H2**) indicated that they viewed the Graduate Attributes as the manner in which graduates should conduct themselves in a variety of settings (Trapp et al., 2011). They (**FGII I2** and **FGIG G1**) indicated that these settings include society, work, family and many other organisations in the communities (McCabe, 2010).

FGII I3: *"….. when a graduate demonstrates a high level of skill and competencies, it is an outcome of their ability to convert what they have been taught to what they should do in their professional lives."*

In addition to the perspective raised by **FGII I3**, the issue of self-conduct and behaviour was raised by **FGII I2**.

FGII I2: *"….. the Graduate Attributes have to with personalities and behaviours; these behaviours must be congruent with industry. Sometimes, if a person is good in behaviours and everything, but does not possess the required skills and competencies, they will not be good for industry."*

Furthermore, the lecturers (**FGII I3, FGIG G1** and **FGIH H2**) indicated that the Graduate Attributes are the well-regulated behaviours, demonstrated by graduates upon the receipt of their qualification at their institutions of learning (Moalusi *et al.*, 2015). These behaviours are applicable to the workplace and make graduates highly sought after by employers, among many other members of society (Bester,

2014).

- **Kindness and loyalty**

Participants (**FGIH H1, FGIH H4** and **FGIH H5**) indicated that they viewed kindness and loyalty as the Graduate Attributes the students should possess. They (**FGIH H1** and **FGIH H4**) further revealed that the Graduates Attributes prepare the students as agents for social good in the unknown future (Thomas, 2013). By virtue of possessing the Graduate Attributes, students will consequently show kindness to other members of the community (Potgieter & Coetzee, 2013). **FGIH H5** said that kindness is coupled with loyalty and graduates will show these qualities in many spheres of everyday life (Normand & Anderson, 2017).

FGIH H5: *"They include the intelligence, kindness and loyalty and so on. Good behaviours may be seen as part of these Graduate Attributes we are talking about."*

- **Personality**

Participants (**FGII I3, FGIK K1** and **FGIJ J2**) asserted that personality reshapes the human character. They thus argued that personality is a Graduate Attribute that enables the graduate to demonstrate the qualities that they possess. Personality does not only enhance the qualities graduates have, but also maintains these qualities in students for a lifetime (Nagarajan & Edwards, 2014).

FGII I3: *"So these Graduate Attributes are the personalities and behaviours that the college should strive to instill within the bosom of all students so that upon the conferral of the qualifications for which they had been here……."*

5.4.1.2.   Main category 2: Knowledge

A further description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants also indicated that knowledge constitutes the Graduate Attributes.

- **Skills**

As asserted by Rowe & Melvyn (2012), the empirical study reveals that the participants perceived skills as part of the Graduate Attributes. They (**FGIH H3, FGIH5, FGIJ 2, FGII I5** and **FGIK K2)** indicated that these skills include listening and communication skills, and technological skills, as well as many other skills that are required for aligning oneself with changes in different contexts (Rowe, 2012).

FGIH H3: *"The Graduate Attributes are those things that the students are expected to have when they graduate, including information, analytical skills and independence."*

- **Knowledge Application**

Knowledge Application as a quality and a skill occurred frequently in the discussion of the Graduate Attributes with the participants. The lectures (**FGIG G1, FGII I5, FGIH H1** and **FGIH H2**) explained that students are at the college for knowledge, and that knowledge should be applied by the students in industry (Albashiry *et al.*, 2015). Knowledge that is not applied is not worthwhile. **FGIH H1** and **FGIH H2** asserted that students should be able to put into practice the knowledge that they have acquired to unleash themselves from people who might otherwise not have been part of the institution of learning (Bowman, 2010).

FGIH H1: *"When the students are trained to demonstrate what they understand from whatever has been taught, those practices prepare their Graduate Attributes."*

It was also revealed by participant **FGII I3** that if a person applies knowledge at home and in the community at large, there is a more likely achievement of good behaviours expected by an individual who has been exposed to teaching and learning at a much higher level than the ordinary citizen (Green *et al.*, 2009).

FGII I3: *"I think that the Graduate Attributes are the ability to apply knowledge…… The way a graduate will conduct himself or herself is a result of how they apply knowledge they have acquired at the college."*

- **Expertise and Information**

The empirical study further reveals that the participants (**FGII I2, FGII I3** and **FGII I4**) perceived Expertise and Information as the Graduate Attributes. Participant **FGII I4** indicated that these two include the ability to function and to cope with the industrial environmental exigencies (Amankwah & Swanzy, 2011). Furthermore, participant **FGII I3** said that expertise and information also mean that graduates will be familiar with the issues that affect the performance of industry and the economy (Lowden *et al.*, 2011).

FGII I3: *"The Graduate Attributes are those things that the students are expected to have when they graduate, including information, analytical skills and independence."*

5.4.1.3. Main category 3: Competencies

A further description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants also indicated that intelligence constitutes the Graduate Attributes.

- **Intelligence**

The participants (**FGIH H3, FGIH H5, FGIH H4** and **FGIG G3**) included intelligence in the qualities they thought constitute the Graduate Attributes. They indicated (**FGIH H4** and **FGIG G3**) that it is the ability to reason and to apply one's mind in many unpredictable areas of life.

FGIH H5: *"They include intelligence, kindness and loyalty and so on. Good behaviours may be seen as part of these Graduate Attributes we are talking about."*

- **Congruence with Industry**

The participants (**FGIH H 1** and **FGIK K2**) included qualities that are highly sought after by employers as part of the Graduate Attributes (Bester, 2014). **FGIH H2** indicated that graduates should be fully conversant with what is done in industry and familiarise themselves with that while they are still studying (Albashiry *et al.*, 2015).

FGIH H2: *"That means the Graduate Attributes must be the industry-related set of behaviours. If they are done like that, it means they will incorporate within them competencies and skills that are highly sought after by the employers."*

5.4.2. Interpretations emanating from Question 2

Question	Theme	Issues emanating from the theme
What are or should be the specific Graduate Attributes for your Department or Programme in general?	Qualities	• Technical Expertise • Cooperation and Teamwork • Flexibility

The second question that was posed during the focus group interview was: ***What are or should be the specific Graduate Attributes for your Department or Programme in general?***

Regarding the question of specific Graduate Attributes in various departments, the participants (**FGIK K2, FGIK K3, FGIG G4** and **FGIH H2**) revealed that much of the discussion is premised on an assumption that the Graduate Attributes are generic. Similar to what was asserted by Millar (2012), participants **FGIK K2** and **FGIK K3** argued that it was not possible to compile a list of Generic Attributes that can be associated with every graduate at the college. They claimed that the Graduate Attributes are specialised qualities that will be possessed by graduates according to what they were exposed to at the college (Beck & Young, 2005). Moreover, participant **FGIG G4** and **FGIH H2** said that there were qualities that all graduates should possess, despite discipline or the curriculum content to which they have been exposed. However, **FGIG G4** believed that this would have implications for teaching and learning, and could lead to the need for curriculum renewal (Maton & Moore, 2010).

The shift towards generic competencies and attributes links to the autonomous views of teaching and learning (Boughey, 2012). Such approaches have been criticised (Wheelan, 2007) for undermining the very intentions they purport to have. This calls

204

for a rethink of the notion that the Graduate Attributes are generic. If the Graduate Attributes require a specific context for them to be meaningful, then surely it is not sensible to codify this context-specific type of knowledge in the form of generic attributes (Jones, 2013). Attempts to find a fit between generic attributes and the knowledge areas in which students are studying, are often so imprecise that these generic attributes are rendered meaningless (Millar, 2012).

5.4.2.1. Main Theme 1: Qualities

A description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants indicated that Behavioural Patterns are what constitute the Graduate Attributes.

- **Technical Expertise**

The participants (**FGII I2, FGII I3, FGIG G1** and **FGIH H2**) opined that their various departments' Graduate Attributes include technical expertise. **FGIG G1** and **FGIH H2** indicated that there are systems and facilities in place at the college to capacitate the students with the necessary technical skills (Meda & Swart, 2017). It emerged from participant **FGII I3** that, in any field, there is a technical level of work that requires specialised knowledge and skill. It was also revealed by **FGIG G1** that technical expertise is learnt through education, experience, or both (Amankwah & Swanzy, 2011). Depending on the field and level of skill, different types of education and perhaps certification are required.

FGII I4: *"I know that since we are the Department of Engineering, our core production should be the technical expertise. The college has to ensure that all students who are in the Engineering Department exit the college possessing the reflective technical competencies."*

- **Cooperation and Teamwork**

Among many things that are required within the academic fraternity of the college, the participants (**FGIK K2, FGIK K3, FGIG G4** and **FGIH H2**) agreed that cooperation and teamwork skill should be taught across all academic departments. The combined efforts of a team that works well together accomplishes more than the total

efforts of all the members if they were each working alone (Bravo, Lucia-Palacios & Martin, 2016). This is because many of the functions of business are improved by the creative interaction of people cooperating with one another (Zavale, 2017). **FGIG G4** and **FGIH H1** raised the fact that individuals can learn from one another, consult with one another about problems and come to agreements about the best ways to reach goals (Kamin, Cartledge & Simkin, 2010).

FGIH H1: *"The Learnerships Department instils into them the cooperation and teamwork skills so that they function better with others."*

Since graduates will not be working as individuals but in teams at their workplace, the participants indicated that graduates should be able to communicate effectively and process information in a manner that benefits the entire team (Boughey, 2012).

- **Flexibility**

It also emerged that flexibility is viewed by the lecturer participants (**FGII I3, FGII I4** and **FGII I5**) as one of the Graduate Attributes that should be taken seriously by all academic departments. They argued that flexibility means that students will be able to adapt to the newly introduced technologies and working environments (Clarke, 2015). Participant **FGII I4** revealed that graduates should be able to move along with the changes and be able to function with little difficulty within their new working environment (Holton, 2017).

FGII I4: "These go hand in hand with the modern technologies and the flexibility to adapt to the now and then changes in such technologies. I am referring to the ability to adapt to such day-to-day changes because one thing in technology that is functional today might not be the same tomorrow."

According to participants **FGII I3** and **FGII I5**, it is worthwhile having flexible graduates in an organisation. They asserted that graduates who are flexible are more highly valued by industry than those who cannot adapt to change. **FGII I3** said that flexibility on the job includes the willingness and ability to readily respond to changing circumstances and expectations (McNeil, Scicluna, Boyle, Grimm, Gibson & Jones, 2012). According to **FGII I5**, flexible graduates are capacitated to modify

206

their approaches to varying tasks and circumstances (AEI, 2010). For industry to have flexible graduates means that the workforce is willing to step outside their job description and do much more (Jones & Killick, 2013).

5.4.3.   Interpretations emanating from Question 3

Question	Theme	Issues emanating from the theme
Who do you think plays or should play a major role in developing these Graduate Attributes for students at the College?	Stakeholders	- Industry - College (Lecturers & Students)

The third question that was posed during the focus group interview was: *Who do you think plays or should play a major role in developing these Graduate Attributes for students at the College?*

5.4.3.1.   Main Theme 1: Stakeholders (students, lecturers and industry)

A description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants indicated that Behavioural Patterns are what constitute the Graduate Attributes.

207

The participants (**FGIK K2, FGIK K3, FGIG G4, FGII I5** and **FGIH H2**) indicted that to know who the stakeholders are, colleges need to be seen as the organisations and systems for development. They also indicated that the knowledge and understanding of college systems and operations would subsequently lead to the knowledge of who the stakeholders should be. The involvement of these stakeholders can greatly assist senior academic staff and managers to synchronise the institutions of learning with contemporary industrial developments (Green *et al.*, 2009).

- **Industry**

The participants perceived industry and college (lecturers and students) as the potential key players in the development of the Graduate Attributes (**FGIK K2, FGIK K3** and **FGIG G4**). They indicated that the dominant discourses on graduates' employability have tended to centre on the economic role of graduates and the capacity of a college to equip them for the labour market (Usman & Tasmin, 2015). This involves industry as one of the stakeholders for the development of the Graduate Attributes (Schreuder & Coetzee, 2011). The participants **(FGIG G4, FGII I5** and **FGIH H2)** raised the issue that industry could play a prominent role in the development of the Graduate Attributes by providing opportunities for students to engage in internships before seeking employment (Clarke, 2015). **FGII I5** argued that this exercise by industry would ensure that students become familiarised with the corporate world. Upon the conferral of their qualification, they would then be ready for the world of work (Paadi, 2014).

FGII I5: *"It is the external partners that ensure that the students receive their stipends. They also secure the working places for when the students have completed the theoretical part of their studies. They even go to the extent of going to monitor their progress and developments at sites."*

- **College (Lecturers and Students)**

It was revealed during the discussions by the focus group interview participants that it is the responsibility of the lecturers to develop the Graduate Attributes at the college (Thompson, 2007). The participants (**FGIG G2, FGIK K1, FGIK K3, FGII I4** and **FGIH H2**) also emphasised that lecturers are the means of communication with reference

to learning (Salter, Douglas & Kember, 2017). **FGII I4** indicated that the students rely heavily on the lecturers to gain information and to be made ready for employment, after their time at their institution (Moalosi *et al.*, 2012).

FGII I4: *"I think it should be the responsibility of our lecturers to develop these Graduate Attributes. Given the fact that the lectures are strategically put to ensure the teaching and learning through curriculum implementation, this automatically becomes their solemn responsibility."*

Concurrent to the above, the participants **FGIK K1** and **FGIK K3** indicated that students ought to play a particular role in the development of the Graduate Attributes. They indicated that the first role of the students should be to take their studies seriously and devote themselves to the perfection of their own development (Holton, 2017). It was also asserted by **FGIG G2** that colleges put in place all necessary measures to ensure that the students are exposed to a conducive learning environment (Kopanidis & Shaw, 2017).

5.4.4. Interpretations emanating from Question 4

Question	Theme	Issues emanating from the theme
Do you think that certain Graduate Attributes are included in your Academic Programme?	Different Attributes	• Lack of synergy

The fourth question that was posed during the focus group interview was: ***Do you think that certain Graduate Attributes are included in your Academic Programme?***

Generally, the participants (**FGIH H1, FGIH H4** and **FGIK K4**) argued that there was little synergy between the formal curriculum, the Graduate Attributes and the manner in which the Graduate Attributes were embedded (Oliver, 2013). This relates to the

209

previous interpretation, where students experienced a tension between the competing demands of the curriculum and the implementation of the Graduate Attributes processes (Green *et al.*, 2009). In the data emerging from the focus group interviews, participants **FGIH H1** and **FGIH H4** expressed the view that these two processes needed to be well coordinated and subsequently integrated (Barrie, 2012). There were differing opinions though, from participants (**FGIK K1, FGIK K3, FGIH H1** and **FGIH H4**) on how this integration should happen (Haigh & Clifford, 2010). Participants **FGIK K1** and **FGIK K3** felt that aspects of the Graduate Attributes, such as the more personal attributes, were better suited to the curriculum (Van Schalkwyk, Muller & Herman, 2011). On the contrary, participants **FGIH H1** and **FGIH H4** argued that others, such as the more academic attributes, were better suited to the formal curriculum (Wheelan, 2007).

Another view from participants **FGIG G4** and **FGIH H2** revealed that the Graduate Attributes are entailed to the nature and structure of the vocational programmes curriculum (Usman & Tasmin, 2015), but not to other programmes, such as Learnerships. It was further specified by **FGIJ J2** that the Graduate Attributes are contained by the formal curricula (Olivier, 2013); thus, there exists no harmony between the Learnerships Department and specified Graduate Attributes. Therefore, the participants felt that many of the Graduate Attributes were more suited to the formal curriculum (Strydom, Jacobs & Kirsten, 2012).

Regarding the issue of embedding Graduate Attributes in the curriculum, there were also a wide range of viewpoints. The academic staff (**FGIJ J2, FGIJ J5, FGIK K3, FGII I4** and **FGIH H2**) members expressed the view that the different Graduate Attributes were contained by different academic programmes, implying that the Graduate Attributes needed to be dealt with beyond the curriculum components (Moalosi *et al.*, 2012). **FGIJ J2** and **FGIJ J5** as academics, indicated that they would be involved in the teaching of the Graduate Attributes only if these attributes were connected to their own disciplines (Hill et al., 2016).

5.4.5. Interpretations emanating from Question 5

Question	Theme	Issues emanating from the theme
How do you want the Head of Department and the College Management in general, to support the lecturers in developing the Graduate Attributes?	Lecturer Development	• Lecturer involvement in curriculum design • Establishment of college-industry relations • Training

The fifth question that was posed during the focus group interview was: ***How do you want the Head of Department and the College Management in general, to support the lecturers in developing the Graduate Attributes?***

5.4.5.1. Main Theme 1: Lecturer Development

A description of what the participants identified as their perceptions of the Graduate Attributes is given below. The participants indicated that Behavioural Patterns are what constitute the Graduate Attributes.

- **Lecturer involvement in curriculum design**

The participants (**FGIG G4, FGIJ J1, FGIJ J53, FGIH H3** and **FGIH H5**) argued that the most important person in the curriculum implementation process at the college is a lecturer (Litchfield, Frawley & Nettleton, 2010). **FGIJ J53** and **FGIH H3** stated that given their level of expertise, knowledge and competencies, teachers are subject specialists and are consequently central to any curriculum development effort (Žeravíková, 2013). It was also revealed by **FGII I4** that good lecturers better support the learning process of all types of students (Strydom *et al.*, 2012).

211

FGII I4: *"I think the college management can liaise with the curriculum developers through the Department of Higher Education and Training, so that the colleges have an opportunity to raise their perspective with regard to the development of the curriculum. This will make the lecturer even more confident because they will be the process owners of the curriculum development."*

- **Establishment of college-industry relations**

Furthermore, the participants (**FGIK K2, FGIG G1, FGIH H1, FGIH H3** and **FGII I3**) indicated that the college needs to establish effective working relations with industry so as to broaden the boundaries within which lecturers could be exposed to industrial trends (de la Harpe & David, 2012). **FGII I3** believed that once this relationship is established, the lecturers will be able to access industry in numbers, and they would also be able to keep up with the changes and developments in industry as they present the curriculum to students (Arrowsmith, Bagoly-Simó, Finchum, Oda & Pawson, 2011).

FGII I3: *"The lecturer still needs training in terms of the latest technological developments of industry. While the technology changes rapidly out there, the college lecturers are stuck with the Vocational programme curriculum that has not even revised since it was introduced."*

- **Training**

The participants (**FGIG G2, FGIK K1, FGIK K3, FGII I4** and **FGIH H2**) also contributed to the issue of the expansion of learning opportunities for the lecturers (Buchanan, 2011). **FGII I4** and **FGIH H2** indicated that there was a dire need for lecturers to expand their knowledge and expertise as they are expected to be on par with the fact that they are subject specialists (Ali, 2015).

FGIH H2: *"First of all, funding could help us to further our studies so that we plant back into the college upon the completions of our studies. Even if it is not formal university qualifications, but workshops and seminars and trainings."*

212

The focus group lecturers revealed that integration of Graduate Attributes into TVET curriculum direct the manner in which the students enter the industry. The curriculum discussion for Graduate Attributes development assisted the in understanding of the challenges related to curriculum re-evaluation for the TVET colleges in the context of South African. They indicated that the TVET curriculum should address the public accountability within an increasingly differentiated South African higher education system. Curriculum re-evaluation would help the lecturers to have much more integration of Graduate Attributes into the vocational programmes.

Concerning the concept of Graduate Attributes, the group described them as Employability, Integrity and Discipline, Functional Knowledge, Reflective Competencies, Entrepreneurship. Moreover, they asserted that teaching of these attributes should revolve around leadership, lifelong learning and civic responsibility. All these attributes commit the TVET Colleges to the education, development, transformation and success of all students. In concert with the TVET sector's mission to help the Graduates grow intellectually, they should also foster the students' holistic development. This would ensure that upon the conferral of the qualifications for which they graduates shall have spent time with the institutions, they lead very responsible lives.

5.5. REFLECTIVE OVERVIEW OF WORKSHOP ENGAGEMENT WITH TVET LECTURERS (Information-sharing seminar)

5.5.1. Introduction

The lecturers and Senior Lecturers of the Goldfields TVET College participated in the academic workshop, hosted by the Unit for Student Support Services. This workshop was in the form of an Information Sharing session and focused on lecturers' capacity in the development of the Graduate Attributes at a college. The workshop was held over a period of two days. The first day consisted of information sharing on the national, continental and global trends of the TVET colleges and the development of the Graduate Attributes thereof. On the second day, participants critiqued the existing body of knowledge, engaged with one another and shared knowledge on the issues of the Graduate Attributes.

The workshop created an opportunity to reflect on what the Graduate Attributes are and how their integration into TVET colleges' vocational programmes could be facilitated. This included ways in which critical citizenship could also be cultivated through curriculum renewal. The process included lecturer presentations on subject contents that have already been renewed through the integration of the Graduate Attributes, which formed a theme at the workshop (Stewart, 2015). Essentially, the main aim of the workshop was for lecturers, attached to the Goldfields TVET, to reflect on the potential of integrating the Graduate Attributes into the curriculum, pedagogy and assessment of their modules and how learning technologies could support this transformational renewal of the curriculum.

It should be noted that the researcher's promotor acted as the moderator of the workshop.

Table 5.13 The biography of Workshop Participants at Goldfields TVET College

Workshop Participant (wsp)	Gender	Capacity and Designation	Highest Qualification	Taught Subject(s)	Number of Years in the TVET Sector	Number of Years Teaching Your Subject
WSP 1	Male	HOD: Business Studies (NATED)	B.A.Ed.	N/A	24	N/A
WSP 2	Female	Senior Lecturer: Business Studies (NATED)	B.Com PGCE	Accounting	15	15
WSP 3	Female	Senior Lecturer: Business Studies (NATED)	Diploma, PGCE	Sales Management	4	10
WSP 4	Male	Lecturer: Business Studies (NATED)	B.Admin	Public Management	11	12
WSP 5	Male	Lecturer: Business Studies (NATED)	Diploma	Accounting	6	6
WSP 6	Female	Lecturer: Business Studies (NATED)	B.Tech	Business Communication	3	3
WSP 7	Female	Lecturer: Business Studies (NATED)	Diploma	Economics	5	8
WSP 8	Male	Senior Lecturer: Business Studies (NCV)	B.Com ACE	Personnel Management	16	12
WSP 9	Female	Lecturer: Business Studies (NCV)	B.Ed.	Maths Literacy	12	5
WSP 10	Female	Lecturer: Business Studies (NCV)	B.A	Life Orientation	13	13
WSP 11	Male	Lecturer: Business Studies (NCV)	B.Admin	Human relations	5	9
WSP 12	Female	Lecturer: Business Studies (NCV)	B.A.Ed	Child Development	16	20
WSP 13	Female	Lecturer: Business Studies (NCV)	N6	Hospitality Management	11	11

214

WSP 14	Male	HOD: Engineering Studies (NCV)	B.Ed.	N/A	22	N/A
WSP 15	Male	Senior Lecturer: Engineering Studies (NATED)	Diploma	Human Relations	17	17
WSP 16	Female	Lecturer: Engineering Studies (NATED)	N6 + Trade	Mathematics	4	4
WSP 17	Male	Lecturer: Engineering Studies (NATED)	N6	Electronics	18	18
WSP 18	Female	Lecturer: Engineering Studies (NATED)	N6 + Trade	Engineering Mathematics	14	7
WSP 19	Male	Lecturer: Engineering Studies (NCV)	N6	Engineering Science	8	5
WSP 20	Female	Lecturer: Engineering Studies (NCV)	Diploma	Life Orientation	9	3
WSP 21	Female	Senior Lecturer: Engineering Studies (NCV)	B.Tech	Entrepreneurship	6	6
WSP 22	Male	Lecturer: Engineering Studies (NCV)	Diploma	Computer Programming	2	5
0WSP 23	Female	Lecturer: Engineering Studies (NCV)	N6 + Trade	Electrical Workmanship	10	16
WSP 24	Female	Lecturer: Engineering Studies (NCV)	Diploma	English	13	15
WSP 25	Female	Lecturer: Engineering Studies (NCV)	Diploma PGCE	Life Orientation	11	11
WSP 26	Male	Senior Lecturer: Occupational Programmes	Diploma	Administration	1	1
WSP 27	Female	Lecturer: Occupational Programmes	N6	Hair Dressing	6	9
WSP 28	Female	Lecturer: Occupational Programmes	Diploma	Hair Dressing	4	4
WSP 29	Male	Lecturer: Occupational Programmes	N6	Administration	1	1
WSP 30	Male	Lecturer: Occupational Programmes	National Certificate	Carpentry	3	3

Table 5.13 shows the biographical information for the workshop participants attached to the Goldfields TVET College. The table also indicates that some lectures appear not to hold the relevant qualifications for teaching in the TVET sector. Those who possess teaching qualifications, hold the teaching qualification that is not relevant for the TVET sector.

The data further indicate a bewildering range of teaching experiences amongst lecturers, ranging from 1 year to 24 years. The nature and variety of qualifications possessed by the lectures also demonstrate the difficulty in conceptualising and ultimately embedding the Graduate Attributes in the curriculum of a TVET college (Bath et al., 2007).

5.5.2. The general overview of the Graduate Attributes

215

It should be commonly accepted that the Graduate Attributes are not easy to conceptualise in a college. This emerged during the discussion with the workshop participants that there are various perceptions on the implementation, teaching approaches and assessment methods used in embedding the Graduate Attributes at a TVET college (Jansen & Suhre, 2015). Workshop participants **WSP 1, WSP 14** and **WSP 26** asserted that the use of teaching methods vary within programmes at the college. To have a uniform approach and a common understanding, amongst lecturers, require a great deal of enthusiasm from them, as well as the inputs from various stakeholders' who are involved in the core business of teaching at an institution of learning (Davos-Klosters, 2014).

It also emerged from participants (**WSP 2, WSP 3, WSP 15, WSP 21** and **WSP 26**) that there had been several attempts to establish a common ground for understanding and implementing the Graduate Attributes at a college (Karinka, 2016). It was, however, asserted by participants **WSP 4, WSP 17, WSP 25** and **WSP 28** that the bewildering array of perspectives and consequent disagreements have had a significantly negative impact of on their flow (Green *et al.*, 2009). Furthermore, it was revealed by participants **WSP 25** and **WSP 28** that the Graduate Attributes are not only hampered by these disagreements at a college, but also by the fact that they are treated as add-on things that are not even monitored in the institution (Bridgstock, 2009).

WSP5, WSP18 and **WSP 20** raised the issue that the Graduate Attributes implementation was an idea planned as a co-curricular programme, since it was thought that its incorporation into a formal curriculum would be too difficult (Aithal & Suresh-Kumar, 2015). The assertion by **WSP 1** and **WSP 14** revealed that the perception that warranted the development of the Graduate Attributes as a co-curricular activity resulted in the provision of an additional separate curriculum that resembled the prescribed curriculum (Hills *et al.*, 2016). Workshop participants **WSP 18** and **WSP 22** added that co-curricular programmes were conceptualised for all students. However, it should be noted that progress in engagement about co-curricular activities could be seriously hampered by the supplementary nature of the curriculum (Cribb & Gewirtz, 2013). Furthermore, participants **WSP 1** and **WSP 14** raised the point that engagement in curricular activities is also influenced by

the nature of the prescribed curriculum which seems not to make any provision for additional activities to further enhance student learning (Dang, 2016). The majority of workshop participants agreed with **WSP 1, WSP 18** and **WSP 20**, that these are clear reasons why it is difficult to cultivate the Graduate Attributes at the college. The complexity associated with this curriculum process derails initiatives taken by the lecturing staff at times. As part of a solution to all these problems, other participants **WSP 11, WSP 17** and **WSP 24** pointed to the fact it was necessary to create time and space for in-depth dialogue about the inclusion of the Graduate Attributes in programmes. Widespread engagement across the institution about the notion of embedding the Graduate Attributes in the curriculum must be initiated by college management (Hills *et al.*, 2016).

5.5.3. The Graduate Attributes' congruence with skills development

Pertaining specifically to the phenomenon of the Graduate Attributes, the workshop participants **WSP 5, WSP 12, 19** and **25** agreed that the Graduate Attributes are critical in fostering the development of individuals in institutions of learning (Daniels & Brooker, 2014). **WSP 13** raised the fact that these sets of skills are an integral part of an individual in various environments and they can greatly influence the student's ability to cope with external environmental exigencies. The Graduate Attributes include certain qualities and skills, and are not confined to only intellectual engagement, functional knowledge, reflective competencies, discipline and entrepreneurship (Barrie, Hughes & Smith, 2009).

Workshop participants **WSP 6, WSP 7, WSP 13** and **WSP 27** agreed that the Graduate Attributes are fundamental tools towards nurturing the holistic development of students. **WSP6** and **WSP 22** further indicated that the students with these qualities and skills have the ability to acquire information, retain the acquired information, and process that information (Aithal & Suresh-Kumar, 2015). Furthermore, participant **WSP 22** asserted that the Graduate Attributes meant that students would have numeracy and proficiency skills and the ability to express individual ideas, perspectives and views clearly. Furthermore, the Graduate Attributes would enable students to tailor content confidently and concisely so that it is easily understood (Treleaven & Voola, 2008).

 WSP 5, WSP 7, WSP 10 and **WSP 15**, asserted that the concept "Graduate Attributes" refers to the skills used in industry. Participants **WSP 13, WSP18** and **WSP 19** added that the Graduate Attributes are competencies that are associated with personality in community and work performance in industry (Wedekind & Mutereko, 2016). Despite the disagreements between participants **WSP 5, WSP 7, WSP 10** and **WSP 15**. with **WSP 13, WSP18** and **WSP 19** on how they perceive the Graduate Attributes, they agreed that these skills determine the individual's competencies in a specialised discipline; thus an individual can be regarded to be competent when they possess these Graduate Attributes (Steur, Jansen & Hofman, 2012). Accordingly, most workshop participants displayed a common enthusiasm when requested by the researcher to think about the possible development of

the Graduate Attributes across all fields of study at the Goldfields TVET college. Lecturer participants **WSP 1** and **WSP 14** articulated the need for generic graduate attributes at a college, and that this process should focus on the relationship between higher education and the employment of the graduate in industry (Aithal & Suresh-Kumar, 2015). However, two of the workshop participants (**WSP 4** and **WSP16**) held a contrary view from the rest, arguing that the Graduate Attributes should have more to do with basic values, such as self-discipline and integrity, instead of only industry-related skills.

Workshop participants **WSP 7** and **WSP 9** also stated that they perceive skills and competencies to be a critical mandate for developing the Graduate Attributes. It was also asserted by **WSP 8, WSP 17** and **WSP 25** that college and industry, both put emphasis on the skills and competencies needed for the industry but also for the world of work, in general. The skills and competencies should be emphasised as professional requirements in a range of fields (Barrie *et al.*, 2009). Skills and competencies should be firmly embedded in a TVET college's academic standards and feature concurrently and alongside other aspects, such as cognition, technology and employability (Cribb & Gewirtz, 2013). However, participant **WSP 21** remarked that the college still has a long way to go before the Graduate Attributes could be conceptualised and entrenched in the curriculum of TVET colleges.

Lecturer participants **WSP 7** and **WSP 9** further revealed that skills and competencies are critical outcomes of the curriculum in all academic programmes (Barrett-Lennard, Chalmers & Longnecker, 2011). Lecturers **WSP 8, WSP 17** and **WSP 25** also confirmed that the learning outcomes are not limited to graduate skills and competencies, but the variety of many other learning outcomes depend on their soundness (Finley & Rhodes, 2013).

The lecturers **WSP 6, WSP19** and **WSP 20** postulated that these Graduate Attributes are highly sought after in industry (Wedekind & Mutereko, 2016). These skills are thus, very necessary as they influence a graduate's levels of employability (Hills *et al.*, 2016). In furtherance of assertions by lecturer attendees, **WSP 6, WSP 19** and **WSP 20,** workshop participants **WSP 4, WSP 17, WSP 25** and **WSP 28** continued to emphasise that the students who possess the Graduate Attributes, such as

communication and interpersonal skills; leadership and teamwork skills; oral and written skills; cognitive and numeric skills; research skills; problem-solving skills; and computer skills, are attractive to employers (Daniels & Brooker, 2014). Three lecturers **WSP 3, WSP 14** and **WSP 18** felt that the Graduate Attributes should be prescribed by industry, so that the college aligns its output to the needs of industry.

The general consensus among the lecturers at the workshop was that the Graduate Attributes are skills and competencies which develop over a period of time. The Graduate Attributes are the qualities and understandings a college community agrees upon and which students should develop during their time with the institution (Deissinger, 2015). Lecturer participants from the various faculties also perceive the Graduate Attributes as a set of assembled outcomes and acquired competencies (Stewart, 2015). However, two participants **WSP 5** and **WSP 29** felt that they do not anticipate these agreements and understandings in a college within the foreseeable future.

There were a number of contentious issues surrounding the embeddedness of these Graduate Attributes. Some participants **WSP5, WSP 12, WSP 19** and **WSP 29** held the assumption that these attributes are generic and thus are transferable across disciplines (Barrie *et al.*, 2009). Contrary to this assertion, participants **WSP 8, WSP 16, WSP 26** and **WSP 30** felt that the Graduate Attributes are not really generic (departmental and research) but community based (Jones, 2013) and reflective of a disciplinary culture. The second contentious issue, that participants did not agree on, was how the Graduate Attributes are conceptualised and articulated in terms of learning outcomes. The Graduate Attributes were explained differently. Some lecturers **WSP7** and **WSP 13** referred to them as generic and key skills, while participants **WSP 10** and **WSP 18** referred to them as core and transferable skills. The place of the Graduate Attributes in the curriculum is being debated and each definition has its own assumptions (Hills *et al.*, 2016). The reason for the variance in definitions is that the list of expected attributes and outcomes is not based on any theoretical underpinning; thus, the actual outcomes are debatable due to the lack of theorisation and conceptualisation (Barrie, 2012; Manathunga, Lant & Mellick, 2007). A third issue with the Graduate Attributes is that they are usually promoted through national and/or institutional policy and enacted through pedagogy. Thus, it is the

expectation of TVET colleges (such as the Goldfields), that the academic staff provide support to develop these skills. However, the top-down policy of embedding the Graduate Attributes through the curriculum has limitations (Barrie, 2006; de la Harpe & David, 2012).

5.5.4. Lecturer Perceptions of the Graduate Attributes

The next section is the presentation of data on how the lecturers perceive the Graduate Attributes. Table 5.3 presents the perceptions of participants on the Graduate Attributes.

Table 5.14 Lecturer Perceptions of the Graduate Attributes

Themes	Sub-themes
Academic skills	Communication
	Lifelong learning
	Research
Workplace skills	Team work
	Creativity
	Critical thinking
Personal skills	Leadership
	Discipline
	Civic responsibility

Table 5.5 shows the themes and the sub-themes presented by the participants on their perceptions of the Graduate Attributes. It emerges from the table that some workshop participants view the Graduate Attributes as Academic Skills (Hopkins, Raymond & Carlson, 2011), while on the contrary, some view them as Workplace Skills that should be implemented in conjunction with industry (Gibbs, Steel & Kuiper,

221

2011). Other workshop participants argued that the Graduate Attributes are Personal Skills (Osmani, Weerakkody & Hindi, 2015).

5.5.4.1.   Academic Skills

- **Communication**

Workshop participants **WSP 6, WSP 20** and **WSP 24** asserted that communication skills are the fundamental tools for developing a student holistically for their academic lifespan (Bath, Smith, Stein & Swann, 2007). In furtherance of the assertion, **WSP 24** emphasised that effective spoken communication requires having the ability to express an individual's ideas, perspectives and views clearly, confidently and concisely in speech. **WSP 20** also felt that communication is tailoring one's content in style to the audience. The promotion of free-flowing communication should be done in such a manner that the information is understood (Kourkouta & Papathanasiou, 2014).

- **Lifelong learning**

In general, most workshop participants held the view that   TVET students should acquire information for their own personal development and thus, develop enthusiasm to continue learning for lifetime (Schroeder, 2009). Lifelong learning allows students to learn the newest information and keep abreast with the latest trends in their study disciplines and life in general (Rager, 2009). Two of the workshop participants **WSP 10** and **WSP 25** raised the issue of a well-resourced library and IT services, as being   fundamental to the acquisition of lifelong learning.

- **Research**

Workshop Participants **WSP 14** and **WSP 16** asserted that research is an essential aspect for graduates for the generation of new information and knowledge (Miller, 2014). Research is the detailed study of a particular phenomenon for the purpose of

222

discovering facts (Willison & O'Regan, 2007). The research process includes formal gathering of data, information and facts for the advancement of knowledge (Willison, 2013). Currently, TVET colleges in South Africa have been mandated by the Department of Higher Education to initiate functional research and development units.   In this regard, some workshop participants felt that the scope of research in the TVET colleges ought to be broadened, so as to lead to the development of the Graduate Attributes.

5.5.4.2. Workplace skills

- **Team-work**

Participants **WSP 14** and **WSP 28** indicated that when people cooperate in carrying out one task, the outcomes are likely to be much more propitious (Bjornberg, 2014). They also stated that graduates should be able to function effectively and efficiently within a group. When graduates come together with people of either the same or different fields of study, they should yield better and improved outcomes (McEwan, Ruissen, Eys, Zumbo & Beauchamp, 2017).

- **Creativity**

WSP 12, WSP 17 and **WSP 27** hold the view that creativity is the main Graduate Attribute needed by TVET students. Creativity is the process where new things are brought into existence (Talwar, Wiek & Robinson, 2011). It brings something into realisation or it may be regarded as an awareness of things that were initially hidden from the existing body of knowledge (Wiek, Withycombe & Redman, 2011). This means that graduates should have the potential to view the world from many different angles (Sipos, Battisti & Grimm, 2008). About half of the workshop participants agreed with **WSP 12, WSP 17** and **WSP 27** on the fact that graduates should possess a creative element in order to remain functional and competitive in industry.

223

- **Critical thinking**

Most workshop participants mentioned and emphasised the need for TVET colleges to promote critical thinking skills and the importance thereof in problem-solving scenarios. Participants **WSP 26, WSP 27, WSP 28** and **WSP 29** argued that graduates need to think critically in order to raise sound and constructive arguments within and outside the scope of their disciplines (Allen, 2008). It is the ability to think creatively, rationally and clearly about anything that seems to be a complicated conundrum (Albitz, 2007). Critically thinking graduates comprehend logical connections of knowledge, thus developing the ability to turn thoughts into reality (Kourkouta & Papathanasiou, 2014).

5.5.4.3. Personal Skills

- **Leadership**

Almost all participants agreed that leadership requires of TVET graduates to take the initiative and to be at the forefront in complicated circumstances (Xue, Bradley & Liang, 2011). Workshop participants **WSP 20** and **WSP 24** indicated the value of leadership skills in the development of knowledge acquisition and levels of intrinsic motivation amongst students. TVET college graduates should fulfil a leading role in their communities and direct others to the best possible solutions to problems (Allio, 2009).

- **Discipline**

Discipline was emphasised by workshop participants **WSP 5, WSP 7, WSP 10** and **WSP 15** as a critical attribute of TVET graduates. Discipline is the ability to direct and control oneself, including thoughts, behaviours, attitudes and habits, in order to contain oneself in different and unknown life circumstances (Baumann & Krskova, 2016). The participants indicated that there was a need for a graduate to develop discipline in order to achieve an optimum balance in all spheres of his/her existence (Fuhrmann, Halme, O'Sullivan & Lindstaedt, 2011). Most of the workshop

participants held the view that many TVET students appear lacking in certain life skills, especially those that relate to self-efficacy, self-regulatory learning, organisation and time management.

- **Civic Responsibility**

Only three of the workshop participants (**WSP 13, WSP 15** and **WSP 19)** raised issues around democratic citizenship, community engagement and service to the community as important elements with regard to the development of the Graduate Attributes. These participants meant that graduates ought to lead very responsible lives, not for themselves only, but for the entire community (Nigmatov & Yarullin, 2015). They also emphasised that graduates should have a desire to assist others who might otherwise be less fortunate that they are. Civic responsibility means that graduates accept responsibility in situations that are not in any way binding to them (Liu & Dong, 2012).

5.5.5. The Graduate Attributes Developmental Challenges

This section presents the data on the challenges pertaining to the development of the Graduate Attributes at a TVET college and more specifically, at the Goldfields TVET college. All workshop participants agreed that there are many challenges faced by TVET colleges concerning the development of the Graduate Attributes.

5.5.5.1. Lack of funding

Almost all the workshop participants revealed that there are heart-wrenching stories of students who are denied access to a higher education institution because there is either a lack of space or finance to educate aspiring minds; consequently, those who are there drop out of the college or do not secure a place at all (Ogude, Kilfoil & Du Plessis, 2012). It was further revealed by participants (**WSP 4, WSP 8, WSP 11** and **WSP 16)** that the aforementioned conditions appear to prevail at their college and at many other institutions of learning as well (Pillay & Ngcobo, 2010). All these issues seem to limit the realisation of the important skills required to participate meaningfully in the economy of the country (Jackson, Lower & Rudman, 2016).

225

Furthermore, participants **WSP 4, WSP 8, WSP 11, WSP 16, WSP 18, WSP 19** and **WSP 23** felt that students continue to bear the cost of Work-Integrated Learning (WIL) and Workplace Based Experience (WBE) on top of the rising costs of higher education (Banerjee & Lamb, 2016). Participants **WSP 2, WSP 7, WSP 9, WSP 10, WSP 11** and **WSP 16** said that increased funding in higher education by the government would ease the burden and simultaneously improve the quality and the same standard of education at all institutions of learning (Alimohamed, 2011). Participant **WSP 1** also felt that the enhancement of academic capabilities includes adequate funding of colleges for the Graduate Attributes. All participants agreed that equity of opportunity and outcomes is constrained by inadequate funding for the Graduate Attributes programmes that would enhance students' conceptual knowledge, academic literacy and numeracy (Hills *et al.*, 2016). Most workshop participants also indicated that Goldfields TVET College could play a more meaningful role in assisting students with WIL and WBE by increasing funding for this initiative.

5.5.5.2. Curriculum Re-evaluation

Workshop participants **WSP 3, WSP 6, WSP 7, WSP 9, WSP 15** and **WSP 18** believed that a TVET college's introduction of vocational education and training was an initiative of undergoing a rapid and far-reaching change to re-evaluate their curriculum (Cribb & Gewirtz, 2013). However, **WSP 4, WSP 8 WSP 22** and **WSP 27** felt that the process was not supposed to be a once-off thing if the colleges need to keep up with changes in industry (Daniels & Brooker, 2014). All the workshop participants were in agreement about exposure to curriculum development activities as a form of continuous professional development. There should be an on-going re-evaluation of the curriculum, which means that the college can continually transform their access to knowledge and their curricula to reflect the new global realities (Wedekind & Mutereko, 2016).

It was asserted by participants **WSP 2, WSP 7,** and **WSP 16** that the colleges throughout South Africa are now re-examining their curriculum offerings. The participants argued that this was to adequately prepare the diverse student

226

population to cope with rapidly changing environments (Dang, 2016). Some participants felt that TVET colleges will have to reflect on these altered expectations, thus requiring TVET college leaders to recognise these changes and adapt accordingly (Tkachenko & Mosiychuk, 2014). Most participants held the view that a change in the curriculum was necessitated by various things, including the need to focus attention on skills development. TVET colleges in South Africa offer skills programmes to meet the country's developmental needs (Aithal & Suresh-Kumar, 2015).

5.5.5.3. Education quality

The poor quality of TVET colleges in South Africa in general was raised as a cause of great concern by the majority of the workshop participants. In the context of the sustained growth and diversification of higher education systems, civil society is increasingly concerned about the quality of the programmes offered to students (Asiyai, 2013). As a result, there is an increase in public assessments and international comparisons of higher education institutions (Colleges, Universities of Technologgy and Universities). The imperative for South Africa to improve employment skills calls for quality teaching within its educational institutions (Okebukola, 2010).

Most participants indicated that as college systems grow and diversify, society is increasingly concerned about the quality of the programmes. Much attention is given to public assessments and the international rankings of higher education institutions. However, these comparisons tend to overemphasise research, using research performance as a yardstick of institutional value. It should be noted that measuring teaching quality is a challenging undertaking (Peretomode, 2008).

5.5.5.4. Lack of placement opportunities

Participants **WSP 5, WSP 9, WSP 19, WSP 21, WSP 23, WSP 24** and **WSP 26** asserted that pivotal extra-curricular programmes such as WBE and WIL warrant improved TVET College and industry partnerships (De Weert, 2011:26). Moreover, participants **WSP 10, WSP 11, WSP 12** and **WSP 18** revealed that there was still an

227

overwhelming distance between the colleges and industry. All workshop participants agreed with **WSP 1** and **WSP 14** that industry involvement in practical training at TVET Colleges is important, and that the colleges need to correlate with industry for student training. These abovementioned aspects need to be addressed to enhance artisan employment (Deissinger, 2015). The simultaneous provision of practical training and theoretical training leads to increased employability of TVET College graduates (Fisher & Scott, 2011).

5.5.5.5. Unqualified lecturers in certain subjects

Amongst workshop participants, it was revealed that some of the lecturers do not have adequate professional qualifications for teaching at the Goldfields TVET College. The participants also revealed that the Department of Higher Education in South Africa is currently engaging with universities to develop qualifications for lecturers on subject and pedagogical content knowledge and didactics for TVET lecturers (Manyau, 2015). TVET college lecturers need to be exposed to the workplace to observe technological advances that can be used to update college curricula (Moalusi *et al.*, 2012). The main concern held by workshop participants was that lecturers seem not to have the required skills to teach at the colleges. Participants also revealed that some lecturers were forced to teach four subjects and this affected the quality of teaching and the pass rates. More qualified lecturing staff (TVET related teaching qualifications) at the TVET colleges need to be employed, so as to improve the quality of teaching and students' academic performance (Wallenborn & Heyneman, 2009).

5.5.5.6. Lecturers' inability to deliver the curriculum

Teaching experience was the second area of experience examined by the participants. Lecturer participants, **WSP 1** and **WSP 14** revealed that there are various routes the lecturers follow to teach at the college (Cribb & Gewirtz, 2013). **WSP 12, WSP 19** and **WSP 21** revealed that some lecturers had never taught before entering the college sector, while some entered without teaching qualifications. There was a range of permutations in the sequencing of academic, workplace and pedagogical studies, as well as teaching and work experience (Barrie *et al.*, 2009).

A number of the lecturer workshop participants reported that they had never taught before entering the TVET college sector and appear not to have gained sufficient teaching experience outside of the college. Most TVET college lecturers with teaching qualifications are recruited from the schooling sector and they do not have a TVET teaching qualification (Aithal & Suresh-Kumar, 2015).

5.5.5.7. Lack of involvement by industry

All the workshop participants revealed that industry appears not to be part of the academic processes of TVET colleges (Deissinger, 2015). This causes a lack of involvement by industry in the colleges' academic affairs. Industry is not involved in curriculum mapping and curriculum delivery (Amankwah & Swanzy, 2011). Furthermore, it also seems that TVET colleges are not doing enough from their side to take the initiative in involving organised business and industry in their academic affairs, especially in issues pertaining to Work Integrated Learning.

5.5.5.8. Mismatch of industry and curriculum

According to most of the workshop participants, the other major concerns include issues, such as the relevance of fields of study, curricula and the effectiveness of the pedagogy for the developmental needs of the southern African countries, as well as the general quality of the programmes and of graduates (Kew, 2014). Lecturer participants also articulated the need for government and TVET providers to rethink their education systems. There appear to be academic programmes that are not responsive and relevant to the needs of the communities and industry. Senior staff members, should fulfil a more constructive and leadership role in curriculum development endeavours (Bester, 2014). This brings about a mismatch between what the industry needs and what the TVET college education system produces.

5.5.6. Possible Solutions to the Graduate Attributes Development

This section presents the data on the possible solutions to the challenges pertaining to the development of the Graduate Attributes at a college. All participants agreed that it is very important that the TVET college sector find sustainable solutions, so

that there is an enhanced development of the students, lecturers and the higher education sector, thus creating a lasting linkage in the education sector. These solutions would influence stakeholders' cognisance of deep-rooted issues that have not been taken seriously, as well as the huge impact and change they will bring within the sector. Some workshop participants alluded to strategies, such as benchmarking, funding and theory-practicum convergence.

5.5.6.1. Benchmarking

Benchmarking as a possible solution was raised by participants **WSP 13, WSP 17** and **WSP 27**. They asserted that benchmarking is a process that would enable TVET colleges to make a habit of sharing ideas and good practices concerning institutional strengths and weaknesses (Ettorchi-Tardy, Levif & Michel, 2012). It was added by **WSP 27** that benchmarking would help to reach out in a more efficient way to a variety of internal and external stakeholders, therefore enabling better decisions for college developments to be made (Woodhouse, Berg, van der Putten & Houtepen, 2009). Benchmarking could help to improve a college's awareness and its profile, so that it gains a strong competitive advantage.

Benchmarking is a means of comparing one TVET college's performance with those of others (Mainz, Hjulsager, Thorup-Eriksen & Burgaard, 2009). It is a process in which the college monitors its relative performance, identifies gaps, and raises the performance bar. In this process, the college could find fresh approaches for improvements, set goals, establish priorities for change and resource allocation, and follow through with change processes based on empirical evidence. Most participants supported the idea of establishing collaborative benchmarking groups which might assist TVET colleges, such as the Goldfields TVET college, to be part of developmental approaches which could allow it to shape itself according to its needs (Ettorchi-Tardy *et al.,* 2012; Woodhouse *et al.*, 2009; Mainz *et al.*, 2009).

5.5.6.2. Funding

Generally, workshop participants alluded to the thinking around a strategy by the college to fund the programmes for the Graduate Attributes development. The

230

participants **WSP 4, WSP 8, WSP 11, WSP 16, WSP 18, WSP 19** and **WSP 23** argued that a funding model ought to emphasise the intention to grow and diversify the development of the Graduate Attributes, based on revised norms and standards (Scott-Clayton, 2015). The funding norms need to take into consideration that colleges largely provide for students from previously disadvantaged families.

Participants **WSP 18, WSP 19** and **WSP 23** further argued that the core funding for TVET activities and programmes should be made available by the DHET for staff, infrastructure and student support services in order to enable colleges to be responsive and dynamic in developing the Graduate Attributes (Barrie *et al.*, 2009). The Department of Higher Education ought to fund colleges and provide extra curricula and co-curricular activities to all students (Angrist, Autor, Hudson & Pallais, 2015). Fees from those students who do not qualify for subsidies would also make a contribution. Other participants **WSP 4, WSP 8, WSP 11, WSP 16** and **WSP 18** felt that it should be the responsibility of college management to source funding. There appears to be a number of funding schemes available, including SETA funding opportunities and employers, as well as various private funding agencies (DHET: White Paper, 2013).

5.5.6.3. Theory and practicum

Almost all workshop participants indicated that one of the main purposes of the provision of the Graduate Attributes at the college is to prepare graduates for the labour market, thus enabling them to earn sustainable livelihoods (Aithal & Suresh-Kumar, 2015). Graduates are expected to lead responsible lives and contribute their skills to a developing economy (Treleaven & Voola, 2008).

Lecturer participants **WSP 1** and **WSP 14** stated that TVET colleges aim to improve the amount and quality of workplace training through the establishment of partnerships with industry (Wedekind & Mutereko, 2016). Participants **WSP 7, WSP 12, WSP 17** and **WSP 20** felt strongly that workplace training and work-integrated learning (WIL) must be a central part of the college's pedagogical and academic discourse (Dang, 2016). The promotion of the Graduate Attributes should be

initiated and implemented by all relevant stakeholders, such as industry, the college community and community organisations (Deissinger, 2015).

The lecturer workshop participants highlighted the need for an efficient and responsive education and training system. This system requires a combination of theoretical and practical components in a single curricular approach (Bester, 2014). The theoretical component exposes students to the knowledge of general principles and laws, thus allowing them to acquire and process information (Kew, 2014). On the other hand, the practical component of the curriculum allows the students to apply knowledge and develops self-confidence in one's ability to act effectively (Fisher & Scott, 2011).

Participants **WSP 6, WSP 13, WSP 14, WSP 15, WSP 28, WSP 29** and **WSP 30** lamented that the TVET college sector exposes its students to the practical experience of the institutional workshops at TVET colleges (those that do exist), which have been created to assist with the theoretical component of the curriculum. Students should be exposed to practice related activities (Lugoma, 2017). For other academic programmes where workshops are not applicable for the practicum, participants **WSP 28, WSP 29** and **WSP 30** indicated that a simulated workplace is done.   Moreover, they felt that for the TVET College to deliver the theory and practicum compounded curriculum, the curriculum needs to be designed around close cooperation with industry (Dillon, 2008).

5.5.7. The role of assessment in the development of the Graduate Attributes

All workshop participants agreed that students should leave the college with attributes necessary for work and life; the focus being on teaching and the assessment of the Graduate Attributes (Keenan & O"Neill, 2008). This would require these attributes to be embedded in the curriculum and subsequently, their assessment (Treleaven & Voola, 2008).

There was a consensus among the all workshop participants that assessing the Graduate Attributes is essential to its successful implementation (O'Neill, 2009). The

participants **WSP 9, WSP 12** and **WSP 13** also revealed that GAs would be best assessed through activity-based techniques. The activity-based learning method allows both students and lecturers to interact and engage continuously on pertinent global affairs (Ipperciel & ElAtia, 2014). In support of what was raised by the abovementioned participants, the other participants **WSP 17, WSP 19, WSP 24** and **WSP 26** commented that the Graduate Attributes would have to be mapped out and developed through a consultative process with various stakeholders. The criteria for each Graduate Attribute should be outlined in detail and explained to stakeholders (Nghia, 2018). A proper assessment of the Graduate Attributes needs to be given serious examination, such as the curriculum content (Boud & Soler, 2016). In addition, participants **WSP 3** and **WSP 15** indicated that for formative and summative assessments of the Graduate Attributes to be successful, it would have to, first of all, emanate from the vision and the mission that the Goldfields TVET College has set for itself. All workshop participants also asserted that the college would have to base each Graduate Attribute on specific competencies that would guide the learning outcomes and assessments (Evans, 2016). In furtherance of this assertion, participants **WSP17, WSP 21, WSP 23** and **WSP 25** indicated that the college would have to involve key stakeholders in the assessment process. This view is supported by Yazdizadeh, Shahmoradi, Majdzadeh, Doaee, Bazyar and Souresrafil (2016).

One proposed solution to the development of the Graduate Attributes, to which all workshop participants asserted, was the programme-span approach to assessment (Cole & Spence, 2012). Participants **WSP 2, WSP 5** and **WSP 22** emphasised that this method of assessment would ensure that the students are assessed on the Graduate Attributes over the entire duration of the courses. This would give adequate time and opportunity to be assessed in different ways. Students should also receive on-going feedback on their progress (Holmes, 2017).

233

5.5.8. The Student Support Services

Workshop participants **WSP 3, WSP 6, WSP 18** and **WSP 23** felt that Student Support Services at TVET colleges, should be assisted by the South African Department of Higher Education in executing the Graduate Attributes. The mandate of TVET colleges should be directed towards becoming more committed to the education, development, success and transformation of all students of all ages (Fowler & Boylan, 2010). The mission of TVET colleges should be to assist students to grow intellectually. The Department of Higher Education, in essence should foster their holistic development (Ciobanu, 2013). This entails the students' psychological, emotional, academic, social, physical and spiritual wellness. The Student Support Services at TVET colleges should have programmes which are directed to critical skills, such as as leadership, lifelong learning and civic responsibility (Cerezo & McWhirter, 2012). The emphasis on these areas is done through the rollout of programmes that assist the students to develop (Arco-Tirado, Fernandez-Martin & Fernandez-Balboa, 2011). The processes involved are thus implemented according to the following objectives:

- Improve the quality of teaching and learning through communication;
- Capacitate the students with accredited programmes, as well as life skills; and
- Be Student governed and student involved.

Given the fact that the success rates of TVET college students are still generally low, despite some improvements over the past few years, puts the role of the Student Support Department at TVET colleges under scrutiny (DHET: White Paper, 2013). Support is crucial to ensuring that students are able to cope with college environmental exigencies and the demands of college life, as well as the demands of their registered academic programmes (Mega, Ronconi & De Beni, 2014).

234

Furthermore, it was revealed by workshop participants (**WSP 8, WSP 10** and **WSP 16)** that the Goldfields college Student Support Services' section already offers prompt and responsive student support services, such as academic support, social support, assisting students to get bursaries and complete their registered academic programmes. This appears to be in line with the position of support as articulated at national level in South Africa (DHET: White Paper, 2013). In addition, participants **WSP 13, WSP 19** and **WSP 23** raised the point that there was also assistance with finding workplaces for the Workplace-Based Experience and Work-Integrated Learning before and on completion of students' studies.

The lecturers who attended the workshop argued that the Graduate Attributes are more specific that generic. The interactions revealed that the Graduate Attributes are multi-dimensional in nature. The TVET sector should provide an interpretive space within which these dimensions could be explored and hence outlines a new structure for conceptualisation of the Graduate Attributes.

Pertaining to the concept of Graduate Attributes, the group expressed them as qualities that every graduate should possess. They agreed asserted that Graduate Attributes should be embedded in the curriculum, although there are still debates on their conceptualisation in the curriculum. This debate has been fuelled by various initiatives to implementation them through a broader curriculum re-evaluation. This indicated that there is still uncertainty pertaining to the conceptualisation of the Graduate Attributes into curriculum and the way to implement them in pedagogical discourse. Furthermore, the perspectives on the implementation of Graduate Attributes differ across TVET colleges, thus impacting negatively on the development of core modules which address the desirable qualities in a graduate. None of these perspectives on implementation come without particular challenges.

5.6. Conclusion

The purpose of this chapter was to present, analyse and interpret the empirical research that was done at a college for Technical and Vocational Education and Training. The main aim was to determine empirically, the perceptions of lecturers and students on the phenomenon of the Graduate Attributes.

The first of set of data that was presented was the quantitative data that emanated from the questionnaires filled in by 2000 students. From these questionnaires, the biographical data and profiles of the participants were extracted. The students' perceptions of the Graduate Attributes, what they entail and who should be responsible for their development were thoroughly scrutinised. Analysis of these data were subjected to the descriptive statistics and justified in terms of means and standard deviations.

The secondly, qualitative data were analysed. They emanated from the ten focus group interviews of students and lecturers. The first five focus group interviews were for the students and the other five were for the lecturers. The data emanation from these focus group interviews were subjected to thematic analysis and were presented in the form of the main and sub-themes. The findings were verified from the quotations from the interviews, as well as from the relevant literature.

The third set of data emanated from the workshop. Similar to the qualitative data, data emanations from the workshop were subjected to thematic analysis and were presented in the form of the main and sub-themes.

In the next chapter, I will draw conclusions and make interpretations, based on the information acquired from the results of both questionnaires and the focus group interviews. Moreover, I will also draw conclusions and make recommendations, based on the empirical data, together with the theoretical findings of the literature study.

CHAPTER 6
DISCUSSION OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

6.1. INTRODUCTION

This chapter is devoted to the discussion of the findings that emerged from the study. It also deals with the recommendations based on these findings in the current study and for the purpose of future research. The discussion of findings is done with reference to the themes that emerged from the qualitative and quantitative data sets.

The findings of the research project are presented in the subsequent paragraphs. In the presentation of the findings, the aim is on the main results that emerged from the literature review, as well as from the empirical study employed at the Goldfields College for Technical, Vocational Education and Training in the Lejweleputswa District of the Free State Province. These key findings served the purpose of answering the basic research questions formulated in Chapter 1. In addition, the limitations that impacted adversely on the study are discussed. Lastly, the chapter concludes with recommendations for future research on the advancement of lecturers' capacity in the development of the Graduate Attributes at TVET Colleges.

6.2. RESEARCH FINDINGS

I will now discuss the findings relating to some aspects of the Goldfield's students' biographical data. This will be followed further by a discussion pertaining to the stated research questions, which are:

- What is meant by the Graduate Attributes and what should they entail at TVET college level?
- What are the perceptions of students and lecturers regarding the development of the Graduate Attributes for subjects taught by the latter?
- Do lecturers have the required competencies, skills and experience base in developing the Graduate Attributes in their subjects?
- Which roles and responsibilities should college management fulfil in supporting the development of the Graduate Attributes?

- How can lecturers be supported in the development of the Graduate Attributes at TVET college level?

6.2.1. Findings from the students' biographical data

6.2.1.1. Students' ages

The findings extracted from the literature review and the empirical research indicate that students come to TVET colleges at different ages. It was also found that some students are admitted at the colleges in their teenage years, while others come to the colleges mostly in their twenties (cf. 2.14.1 and cf. table 5.3). Moreover, the findings reveal that the average age of students attending the TVET is 20 years (cf. 2.5 and cf. table 5.3). The students are expected to exit the schooling system at the age of 17. This indicates that more students only enrol at TVET colleges, three years after their anticipated time for admission at the colleges (cf. 2.14.1 and cf. 5.2.1). The student ages are seriously congruent with their maturity. When the students are more mature, the prospects for understanding the Graduate Attributes are much greater than when they are younger and immature.

6.2.1.2. Students' gender

The research findings indicate that female students dominate the South African post-school education and training landscape, outnumbering males in the technical and vocational education and training (TVET) institutions (cf. 5.2.1). The greatest gender variance was mainly identified in the NATED programmes - Report 191 (cf. table 5.2). Moreover, the findings affirm that the South African TVET system is perceived to be gender-biased, thus affecting and influencing men and women's perceptions of specific learning programmes and occupations (cf. 5.2.1). As a consequence, such perceptions contribute to the perpetuation of gender inequalities in industry and society (cf. table 5.2).

6.2.1.3. Students' academic background

The findings reveal that the students at TVET colleges have a wide variety of academic backgrounds from basic education and training. The students enter the colleges with different levels of education (cf. 5.2.1 & cf. table 5.1). For the programme of National Certificate (Vocational), the students may be admitted to the programmes of study after completing only grade 9, which is a level that is at least three years prior to matric (cf. 2.5, cf. 3.9.1 and cf. figure 3.1). Other students attend a TVET college having completed matric, which is the exit level from basic education and training (cf. 1.2). This has a significant impact on an individual student's aptitude and ability to comprehend the curriculum content (cf. 2.2.1). The students who progressed in basic schooling up to exit level have a much better prospect of academic success at the college (cf. 5.2.1 and cf. figure 5.1). Furthermore, the findings have also revealed that these students are grouped together in the same classrooms, despite the prevailing variance in their academic backgrounds and subject to the same curriculum (cf. 3.9.1 and cf. figure 3.1). This makes the work of the lecturers more difficult because as they present the curriculum content to the students, those who did not complete basic education and training tend to be left behind (5.2.1 and cf. table 5.1). It appears that when students find it difficult to merge with their peers, they become discouraged and start being absent from classes. Similarly, when the lecturers keep the pace to suit the much slower students, it becomes an unnecessary repetition to the post-matric students, and they become bored and absent themselves from classes (cf. 3.4).

In addition, the findings state that entry into college programmes does not necessarily result in favourable employment outcomes. This is due to the fact that companies, particularly in the artisan training sector, prefer higher achievers and do not fully trust the quality of college delivery (cf. 3.11).

The findings also reinforce that TVET Colleges are perceived to provide irrelevant programmes that are not highly sought after by the employers and do not lead to uptake in the labour market (cf. 3.9.1). The findings show that there are also too few institutional options in the TVET band to cater for the demand for further learning and

which provide a pathway into the labour market, thereby pushing learners to seek higher education (cf. 5.2.3 and cf. table 5.7).

6.2.1.4. Caregivers and socio-economic differences

The findings indicate the prevalence of differences in students' caregivers (cf. 5.2.1). The majority of caregivers are single mothers, with only a few cases of both parents and very rarely, cases of single fathers (cf. table 5.1). Some students are cared for by extended family members constituting their guardians. The findings also show some cases of child-headed families (cf. 5.2.1 and cf. table 5.1). Among these caregivers, there are differences in terms of their socio-economic status. There are caregivers who are employed, while others are unemployed, with few cases of pensioners (cf. 3.9.1, cf. 3.9.2 and cf. figure 3.1). The findings also reveal the different natures of employment (cf. 3.9.1 and cf. 5.2.1). There are caregivers who work as professionals, while others are employed as blue-collar workers. The caregivers with professions have much better socioeconomic standards and can afford the extra-curricular needs of their students. The caregivers with low incomes cannot afford extra-curricular needs for their students (cf. 5.3.6 and cf. 5.3.7), and this could have a negative impact on how well students' acquire information.

6.2.2. What does the concept "Graduate Attributes" mean?

6.2.2.1. The misunderstandings and disagreements on the Graduate Attributes

The Graduate Attributes, as a concept, is open to multiple interpretations (cf. 3.15 cf. 5.2.3 and cf. figure 5.4). The difficulties and disagreements among the various participants in the discussion concerning the concept, creates even more confusion and debate (cf. 2.6). There is no theoretical or conceptual base on the matter of the Graduate Attributes among academics and, consequently, among the institutions of learning (cf. 2.8 and cf. table 5.6). TVET colleges around the world have the Graduate Attributes rolled out differently, from the academic departments to the support services departments (cf. 2.7 and cf. table 5.5).

There are assumptions that fuel misunderstandings and misinterpretations for the planning and implementation phases of the Graduate Attributes (cf. 2.7 and cf. table 5.6). The main findings on these misunderstandings and misinterpretations are that the Graduate Attributes are sometimes viewed as discrete or atomic entities; thus they can be acquired and transferred singly (cf. 5.2.3 and cf. table 5.4). Moreover, there are perceptions that learning each of them is thought to be a relatively quick, once-off experience and they are acquired as complete and finished (cf. 5.3.1 and figure 5.1). The findings further assert that they are thought of as being acquired by individual students, with the learning located within individuals (cf. 3.8.2 and table 5.6). There are opinions that students can readily recognise the Graduate Attributes when they see them and that they are readily and unequivocally describable in language (cf. 5.3.6 and cf. table 5.1). Thus, it is seen as straightforward to develop a descriptive understanding of typical generic attributes and to convey this understanding to others in written form (cf. 2.6 and 5.2.3).

6.2.2.2. The similarities and agreements on the Graduate Attributes

The Graduate Attributes denote the qualities, skills and understanding a university or college community agrees its students would desirably develop during their time at the institution (cf. 2.7 and cf. 2.9). This frequently used definition of the Graduate Attributes denotes the fact that these qualities and skills consequently find expression in behaviours, attitudes, communication and knowledge application (cf. 2.7 and table 5.5). Developing the Graduate Attributes is the responsibility of everyone, on various levels: be it political, social, cultural; focused on equity and should be done in a coordinated fashion (cf. 2.8 and cf. figure 5.3). As part of the Graduate Attributes, behavioural change can be facilitated through learning experiences that enhance awareness, increase motivation and skills development. In addition, opportunities should be created to make good personal practices the easiest choice (cf. 2.9 and cf. 5.2.3).

The findings confirm the conceptual connection between the Graduate Attributes, such as scholarship, global citizenship, morals and life-long learning with academic enthusiasm (cf. 3.13 and cf. table 5.8). Accordingly, the concept 'academic enthusiasm' is viewed as the strategic utilisation of resources, engaged academic

241

activity, continuous learning and academic willingness (cf. 2.9.1 and 2.9.2). The findings relate to the notion that academic enthusiasm, such as in the case of problem-solving, critical thinking and entrepreneurship are influential on students' ability to demonstrate moral citizenship attributes and lifelong learning attributes (cf. 5.2.3 and cf. table 5.8). These Graduate Attributes are important to enhance students' academic enthusiasm (cf. 3.11 and cf. table 5.5).

It was also found that the Graduate Attributes has an overspill to other areas of students' intellectual development (cf. 2.13). The development of the graduates' scholarship attributes like information management and lateral thinking capabilities are also vital for the industry (cf. 3.10, 3.11 and figure 3.2). This results in the fact that weaknesses in the scholarship attributes can negatively affect moral citizenship and lifelong learning (cf. 2.9.1 and 2.9.2), resulting in lower academic enthusiasm for future purposes.

In the same way, critical thinking is considered as a defining property of a graduate and a fundamental aspect of many other attributes (cf. 2.7 and cf. table 5.9). The findings further indicate that well-developed critical and analytical thinking skills, and continuous learning enhance graduates' utilisation of knowledge (cf. 2.7, cf. 5.3.4 and cf. table 5.8) Furthermore, continuous learning increases graduates' success in the industry, while critical and analytical thinking skills enhance the engagement in work-related activities (cf. 2.10 and cf. table 5.9).

Lifelong learning closely relates to academic motivation (cf. 5.2.3 and table 5.8). These findings suggest that although high levels of scholarship are important in increasing students' academic enthusiasm (cf. 2.7), the findings reveal the importance of developing students' moral citizenship attributes. These attributes have been found to significantly enhance students' academic motivation and are associated with a sense of personal and social responsibility (cf. 2.13 and cf. table 5.8).

6.2.3. Characteristics of the Graduate Attributes

Concerning the characteristics of the Graduate Attributes in a TVET college environment (Goldfields TVET), it was found that the following are crucial elements for students' holistic development.

6.2.3.1 Career self-management implies one's confidence and perseverance to engage continuously in developmental activities whilst pursuing one's career goal. TVET students should be exposed to the regular gathering of information and plans for problem solving and decision making (cf. 2.8 and cf. table 5.5). Career self-management has been defined as the degree to which one regularly gathers information and plans for career problem solving and decision making. It can thus be argued that career management is the "joint responsibility" of both individuals and the organisations employing them (cf. 3.11 and cf. table 5.7).

6.2.3.2 Cultural competence involves knowing the customs of other cultures; understanding their values and beliefs; having the confidence to communicate interculturally and finding it easy to do so, as well as being able to initiate and maintain relationships with people from diverse cultural backgrounds (cf. 3.4 and cf. table 3.2). These aspects indicate that TVET graduates should be able to demonstrate behaviours, attitudes, policies, and structures that enable them to work effectively (cf. 3.13 and cf. table 5.9).

6.2.3.3 Self-efficiency is the ability to function independently of others; to make decisions; to have the confidence to accomplish goals through one's own efforts; to persist with challenges; and to enjoy the discovery of original solutions (cf. 5.2.3 and cf. table 5.6). TVET graduates should be developed in issues relating to self-efficiency which is critical for future employment (cf. 3.11 and cf. table 5.7).

6.2.3.4 Career resilience is to be able to adapt to changing circumstances by welcoming job and organisational changes; to look forward to working with new and different people; to have confidence; and to be willing to take risks (cf. 2.8, cf. 3.12 and cf. table 5.7). Career resilience amongst TVET graduates could facilitate a high degree of adaptability, flexibility, self-confidence and competence, regardless of

243

adverse career circumstances. The possibility of an unexpected job loss should not be the primary motivator for individuals to take stock of their careers (cf. 3.9.1 and cf. 5.3.3).

6.2.3.5 Sociability refers to the ability to build networks of friendship with people who can advance one's career and to use the networks to find new job opportunities (cf. 3.4 and cf. table 3.2). It involves actively seeking feedback from others to progress in one's career and being willing to take risks. The skill, tendency or property of being sociable or social, of interacting well with others is a critical attribute that TVET graduates should possess (cf. 3.13 and cf. table 5.9).

6.2.3.6 Entrepreneurial orientation is the curiosity and the continuous venturing into new business opportunities. It also includes being open to new ideas and feeling positive about the implications of changes in the workplace or studies (cf. 5.2.3 and cf. table 5.9). All graduates at TVET colleges should be skilled in entrepreneurship, irrespective of the programmes and courses they follow.

6.2.3.7 Pro-active means making things happen, instead of waiting for them to happen to one (cf. 3.4 and cf. table 3.2). One should accept the responsibility for one's decisions, setting challenging targets for oneself, and identifying opportunities before other people do. It also refers to being able to improve one's knowledge and skills to ensure career progress.

6.2.3.8 Literacy refers to the adaptive use of emotions and the quality of people's ability to read and write, and understand and manage their own and other's emotions (cf. 2.8 and cf. table 5.5). This is a crucial skill for TVET graduates to demonstrate, upon the completion of their qualification.

6.2.4. What should the Graduate Attributes at TVET colleges entail?

The Graduate Attributes need to build on the statutes and academic policies of the TVET college sector. Supportive environments should be created for the development of these Graduate Attributes (cf. 3.7.1 and cf. table 3.2). The development of the Graduate Attributes should be re-orientated towards

professional development and employability (cf. 5.5.2 and cf. table 5.5). The strategies for the Graduate Attributes include advocacy, enablement and mediation. Partnerships and alliances between all stakeholders are important ways to create sustainable actions (cf. 3.11, cf. 5.3.6 and figure 3.2). Capacity building around policy development is crucial to the Graduate Attributes (cf. 3.7.1 and cf. table 3.2). Academic literacy, among all the institutions of learning, is one of the most important concepts to be developed in the promotion of the Graduate Attributes (cf. 5.2.3 and cf. table 5.8). Holistically speaking, there are major inequalities among the students in terms of academic backgrounds. Some students attend TVET colleges after they have completed all levels of basic education, while others come with only grade 9 (three levels before completion of basic education) (cf. 2.5, cf. 3.9.1 and cf. figure 3.1). This has a significant impact on the delivery and understanding of the vocational curriculum and the Graduate Attributes. The ideal is to create sustainable equity among all students at TVET college level (cf. 3.14.1 and cf. 5.5.3). Since the Graduate Attributes are closely associated with taking responsibility for one's own skills and competencies, and positively influencing the student groups at a college, the Graduate Attributes should materialise through capacity building and the empowerment of the students (cf. 5.4.3 and cf. figure 3.2).

6.2.5. What should be the role of TVET colleges in developing the Graduate Attributes?

The findings affirm that the key roles of TVET colleges are to be centres of learning and development and allow provision for creativity and innovation (cf. 3.3 and cf. 5.3.4). The TVET colleges should become the settings within which skills and competencies can be acquired. Moreover, the findings reveal that the colleges should be the resources available to the community, and centres for entrepreneurship development (cf. 2.7 and cf. table 5.9).

In the administration of TVET colleges (Goldfields included), it was found that the Graduate Attributes are usually part of the Academic and the Student Support Services Departments with an implementation overlap between these two (cf. 3.12). Within these clusters, various sub-areas of specialisation exist. These range from curriculum engagement and student placements to student activities (cf. 3.1 and

245

3.12). It can be stated that TVET colleges, in a sense, are operating in their own unique manner, compared to schools and universities. The key roles of colleges are two-fold: primarily it is about teaching, and secondly about practical knowledge (cf. 3.3 and cf. table 5.5). The integration of the Graduate Attributes in the curriculum seems to be perceived by colleges as creating graduate skills awareness amongst the various sectors of employment (cf. 3.2 and cf. table 5.9). Put differently, business, the private sector and other sectors in the business environment can be positively influenced by the fact that they have the opportunity to employ students from the college who were trained from the Graduate Attributes perspective (cf. 3.11.1 and figure 3.2). On the other hand, as is the case with universities, TVET colleges can and should be viewed as spaces within which a major contribution towards the enrichment and development of the community can be done. Findings also reveal the financial constraints as one the factors that is negatively impacting on the promotion of the Graduate Attributes in the activities of colleges. Because of this barrier, colleges are forced to do more with less, which leads to ineffective programmes (cf. 3.6 and cf. 5.3.6). Furthermore, the colleges need to improve the services they render to the students through the Student Support Services (cf. 5.5.4.4).

6.2.6. In what ways could the Graduate Attributes be developed?

Concerning the ways in which the TVET college sector (including Goldfields TVET college) could develop these Graduate Attributes, the following emerged:

6.2.6.1. Experiential training and work-integrated learning

The findings have emphasised that industry, graduates and lecturers value work-integrated teaching and learning such as workplace-based experience, placements and internships as effective methods for the promotion of the Graduate Attributes (cf. 5.3.1 and table 3.2). Curriculum and work combination opportunities, such as placements and internships, offer an effective applied method of inculcating skills and competencies in graduates, thus making them highly productive (cf. 3.3 and cf. 5.2.3). These programmes establish and maintain collaboration and partnerships between the TVET college and industry, and build greater understanding between the two.

The necessity of placements and internships is recognised and supported by all stakeholders and they further assert that the students who have done work-based learning have more success finding graduate level jobs (cf. 2.3 and cf. 5.5.2.2).

The finding reveals that the collaboration between the TVET college and industry contributes to enhancing students' ability to secure employment and to function effectively in their corporate responsibilities (cf. 3.10 & cf. figure 3.2). This collaboration is seen as valuable because it facilitates graduates' access to work-based learning and similar opportunities. It further allows graduates work-based experiences to be documented, thus becoming a source of information on the skills and attributes directly needed by industry (cf. 3.10 and cf. 3.11).

It has also been revealed by the findings that TVET colleges and industry need to broaden the students' prospects to access work-based learning (cf. 5.3.1). In furtherance of this, TVET colleges need to adopt employability as the one of the academic objectives and make work-based learning compulsory within the duration of their academic programmes. These experiential training opportunities need serious planning and time for reflection, as well as their incorporation into academic discourse, if they are to be an effective way of providing TVET students with relevant workplace competencies, functional knowledge and trends in industry (cf. 5.3.5). These programmes require effective, sustained and equitable partnerships between TVET colleges and industry (cf. 2.8, cf. figure 3.2 and table 3.2). These programmes are viewed as valuable, as they facilitate students' access to work-related learning activities from colleges to industry.

6.2.6.2. Embedding support for the Graduate Attributes across TVET

It has been found that the South African Department of Higher Education and Training and the Technical and Vocational Education and Training college sector need to work towards enhancing careers services and to promote employability in a much more effective and efficient manner in all TVET academic programmes (cf. paragraph 3.10, cf. 3.11 and cf. table 5.2). The findings indicate that employability measures are likely to have a greater and more sustained impact on graduate

employability. These measures have to be embedded into the pedagogical practices for continuous monitoring and evaluation (cf. 2.8 and cf. 5.5.4.1).

The South African Department of Higher Education and Training and the Technical and Vocational Education and Training colleges have to consider ways of reflecting on and promoting the employability skills and attributes in funding mechanisms (cf. 3.13 and cf. table 3.2). The funding models have not placed the Graduate Attributes at the centre of the TVET vision and strategic planning, and this seems certain to have influenced how these attributes are perceived. Therefore, the funding streams need to encourage a supportive culture of the Graduate Attributes (cf. 3.6 and cf. 5.7.4.2).

Developing graduate employability skills and attributes should be included in DHET and TVET strategic and operational planning (cf. 3.7.1 and cf. table 3.2). The TVET college sector needs to reflect the promotion of the Graduate Attributes in their mission and vision, academic discourse and course frameworks. The Graduate Attributes need to be supported and reflected in policies that are translated into action across all TVET levels (cf. 3.14.1 and cf. 3.14.4).

The findings further reveal that while TVET colleges' careers services promote the employability of students, the scope and depth of such efforts varies greatly across faculties (cf. 2.3.2). The main influence is the tendencies and attitudes of the staff in addressing employability skills and attributes in their courses. Staff should be encouraged to recognise that these objectives are compatible with promoting academic capacity. Appropriate incentives for TVET staff have to be considered to advocate change in promoting the Graduate Attributes in all faculties (cf. 3.8.2.1, cf. 3.8.2.4 and cf. table 5.10).

6.2.6.3. Program alignment to the economy

TVET colleges have to take into account graduates' employment needs. This should simultaneously recognise the skills and competencies needed in industry and consequently reflect them in the curriculum (cf. 5.3.5). The structure of the TVET qualifications and what they expose the students to, should correspond with what industry expects. Concurrently, the quality of the academic programmes, content, focus and their integrity should not deteriorate (cf. 2.4.1).

The Department of Higher Education and Training and Technical and Vocational Education and Training colleges have to ensure congruence with qualifications and competencies (cf. 3.13 and cf. table 5.7). This will elicit prompt responses from the economic sectors of the country. The TVET and industry partnerships need to be established and strengthened (cf. 5.7.4.3 and cf. figure 3.2), affording industry a much more active role in TVET employability strategies and policies (cf. 2.4.1 and cf. 2.4.2).

There is relatively little involvement of industry in the design and delivery of TVET programmes.   Industry could be involved in the provision of guest lectures, workshops, seminars, skills sessions and tutorials (cf. 3.13 and cf. 5.5.3.4). Furthermore, industry could support and fund extra-curricular and co-curricular activities to help students gain the required attributes (cf. 2.9.1 and cf. 5.7.4.2). In addition, industry could also play a supervisory role for work projects and give continuous feedback to students. However, there is no evidence of industry being involved in promoting skills and competencies among students. The findings reveal that the involvement of employers in course and curriculum design is desirable and appropriate (cf. 2.9.1 and cf. 5.7.4.2). Industry should also feature on advisory boards and committees that are convened to advise on courses, employability and governance (cf. 3.10, cf. 3.11 and cf. table 5.4).

6.2.6.4. TVET quality improvement

From the findings it emerged that curriculum re-evaluation can potentially contribute in various ways to bring about improved employability, productivity and the success rates of TVET college graduates (cf. 2.7 and cf. table 5.4). The findings also point towards a mismatch between the cognitive demands posed by NC(V) programmes and the low levels of academic preparedness of school leavers, which negatively influence the success rates of TVET students (cf. 5.6.3.1).

What further stands out is a need to improve lecturers' qualifications and competencies to deal with the current and future challenges of the curriculum (cf. paragraph 3.7 and cf. 3.8). The central challenge underpinning much of the feedback regarding TVET colleges is the confusing state of its purpose and scope. These elements of college leadership currently seem too wide and complex and need to be realigned to create a unique identity (cf. 5.2.3 and cf. table 5.10). Another important finding is that the influence of new legislation on the TVET college sector, which was meant to be substantial since the beginning of the democratic South Africa (cf. 3.14.4) but it has, so far, not been forthcoming.

Another important finding is the necessity for the involvement of the Graduate Attributes in the TVET curriculum review process (cf. 3.5.5 and cf. 5.6). This seems to be a critical factor for enhancing the responsiveness of the graduate to industry needs (cf. 3.7). Findings from the empirical part of the study also indicate a lack of skills training capacity both for students and lecturers. Equally important is the need for staff development (Goldfields TVET lecturing staff) in the Graduates Attributes, as well as curriculum matters (cf. 3.7; 3.8 and cf. table 5.12).

Among the many challenges revealed by the findings is the insufficient knowledge level of TVET college lecturers (cf. 3.7 and 3.8). There also seems to be an urgent need to assess the current capacity of knowledge and skills of all college staff, if the sector wishes to remedy the current state of affairs (cf. table 5.11). This need confirms that all staff with teaching responsibilities in vocational education should adopt a life-long learning approach in order to be able to adapt to and lead amidst changing contexts and conditions (cf. 3.7, 3.8 and cf. table 5.12).

6.2.7. Whose responsibility should it be to develop the Graduate Attributes?

Concerning whose responsibility it is to develop the Graduate Attributes, the following emerged:

6.2.7.1. Students/Graduates

The involvement of students in the employability discourse is critical as the recipients of the Graduate Attributes required for industry (cf. 5.3.6). As the subjects for development, students' views are vital for shaping the structure of the Graduate Attributes. Their views are necessary to ascertain whether employability attributes are similar to or different from the ones needed by industry (cf. 5.5.1 and cf. figure 5.1).

The findings affirm that in the crowded and competitive corporate world, students and graduates are aware of the role that their academic qualifications in shaping employment prospects is declining. The students are increasingly recognising that they need to add value by acquiring employability attributes to earn a competitive edge in the corporate world (cf. 5.3.6).

In addition, students realise the necessity of the Graduate Attributes developed through the TVET curriculum (cf. 5.2.3). Most students place great importance on employability qualities. The findings indicate that students express confidence that qualifications enhance the prospects of employment and adequate job performance (cf. 2.8). The general perception of students is that the skills and attributes acquired at TVET colleges are those that are highly sought after by industry (cf. 3.8 and cf. 5.2.3). Furthermore, it is critical to determine whether or not the views of the students are congruent with those of the employers (cf. 5.3.1).

6.2.7.2. Lecturers

Lecturers are important stakeholders involved in the development of the Graduate Attributes at a TVET college (cf. 5.3.6). Their views as subject specialists influence the structure of the Graduate Attributes. The findings indicate that lecturers' views are that employers expect the TVET colleges to provide graduates with employability attributes; specifically, critical thinking, communication and competencies (cf. 3.7 and cf. table 5.7). The lecturers in this study expressed the opinion that graduates in TVET colleges have poorer standards of written communication than those at universities (cf. 5.7.2 and cf. table 5.10). However, the lecturers further asserted that the highest level of employability attributes with which graduates leave a TVET college, are communication skills, information management, and teamwork (cf. 3.8 and cf. table 5.7).

6.2.7.3. Industry

Findings reveal that specific roles in the workplace require a combination of different transferable skills (cf. 2.8). Those Graduate Attributes include working in teams, solving problems, and managing oneself. While industry values graduates from TVET colleges, they find a great mismatch in the TVET outcomes and the trends in industry (cf. 5.3.1 and cf. 5.7.3.8).

It is apparent that there is a significant gap between attributes that are perceived to be important by industry and those perceived by the colleges (cf. 3.3 and cf. figure 3.2). This is affirms that the graduate employability competencies enhanced by the TVET colleges are, in many ways, incongruent with the requirements of the contemporary corporate world (cf. 3.10 and cf. table 5.7). Given the difference in the desired Graduate Attributes, it is appropriate to conclude that industry requires attributes that are relevant to its context. Therefore, there is a need to determine the perceptions of all stakeholders, so that concerted efforts can be made to synchronise graduate skills which are important for all contexts (cf. 3.11 and table 3.2).

6.3. SYNTHESIS OF FINDINGS (TRIANGULATION BETWEEN THE QUANTITATIVE AND QUALITATIVE DATA)

A synthesis of the findings between the literature study, and the quantitative and qualitative data will now follow.

6.3.1.   The Development of the Graduate Attributes

It can be concluded that without relevant and focused policies on the development of the Graduate Attributes, all planning, organisation and implementation thereof, may be seen as futile and ineffective (cf. 3.7.1 and table 3.2). Policies for the promotion of the Graduate Attributes could direct and focus all envisaged activities (cf. 3.7.1 and table 3.2). The determinants of the attributes earmarked for graduates in the environment of higher learning should be central to any activity which may concern them (cf. 2.11). Without actively acknowledging the determinants of the Graduate Attributes as a nucleus in the organisation, management or governance of the university or college, no real achievement and accomplishment of teaching and learning will be possible (cf. 2.9.1 and cf. 2.9.2).

Based on decades of research concerning the Graduate Attributes in and through TVET colleges, it can be argued that these institutions have the responsibility of creating an environment where people can experience these Graduate Attributes in whatever situation or activity in which they might participate (cf. 2.6 and 2.7). As national resources, these institutions of higher learning are strategically positioned in society to play their role in the vocational education and learning of young people (cf. 3.4 and table 3.1). In a sense, society expects this contribution from them.

It can be concluded that the Student Support Services section at TVET colleges should create special opportunities to engage with students on their holistic development and on corporate issues (cf. 26, cf. 2.9.1 and cf. 3.4.1). This opportunity is unique to universities and colleges and should be employed to the fullest (cf. 26, cf. 2.9.1 and cf. 3.4.1).

253

6.3.2.   The Graduate Attributes at TVET college level

Based on the finding that the concept "Graduate Attributes" is open to various interpretations, it can be said that all communication and debate about it should foremost be searching for a common understanding, before engaging in strategic planning and the allocation of resources (cf. 3.7.1 and table 3.2). These should be a collective understanding of the concept and the promotion thereof (cf. 5.2.3).

Moreover, it appears that the more competent students are, at a TVET college, the better their achievements will be in their careers (cf. 5.6 and cf. table 5.7). This will mean that the TVET college sector should become a growth point within the community and society, where the positive corporate choice can actually become the easier choice (cf. 2.5.1 and cf. 2.5.2). The Graduate Attributes-promoting college, if appropriately set up, can form the basis for competencies in the corporate world or industry (cf. 3.10 and cf. table 3.2). The Graduate Attributes at the colleges ought to be built on the very same framework used by industry in many countries across the globe (cf. 3.11 and cf. figure 3.2). This state of affairs creates enormous employment opportunities for the youth at colleges.

Although a lot has been done, it can be further stated that the Graduate Attributes in South Africa still appear to be conceptualised at the basic stage of development. The political will to create environments where students study and are enabled to gain more control over their own skills and competencies, remains latent (cf. 5.6 and cf. table 5.7). The Graduate Attributes in the domain of the college should develop a holistic approach in engagements with students, with definite aspects that should be part of the colleges' curricula frameworks and teaching approaches (cf. 2.5.1 and cf. 2.5.2). These include aspects, such as employability, functional knowledge, reflective competencies, and innovation (cf. 3.11 and cf. figure 3.2).

TVET college life represents another stage in the development of young people. As such, it necessitates a thorough understanding of the needs of the students and consequently, to plan appropriately (cf. 2.14.1 and cf. table 5.3). The ideal is to provide a range of activities that can satisfy the Graduate Attributes, promoting the

needs of students at college level. Broadly speaking, these activities should include curriculum understanding, practical and work-related programmes (cf. 5.3.1 and cf. 5.7.3.8). These activities should also ensure that graduates match the needs of industry from the very first day at work. However, a lack of proper funding for the promotion of the Graduate Attributes at college is one of the major contributing factors to the related barriers as experienced by students (cf. 2.9.1 and cf. 5.7.4.2).

In furtherance of the above, it can be concluded that TVET college life should provide graduates, as future leaders and managers, with significant opportunities, if understood correctly by all, to play a critical role in the acquisition of the necessary knowledge and skills, so as to increase control over and to improve themselves.

6.3.3. Perceptions of students on the Graduate Attributes

Students at a college for Technical and Vocational Education and Training are mostly in their early twenties and they hold specific perceptions and understandings about the Graduate Attributes (cf. 5.3.1 and cf. table 5.4). The ages of these students, in essence, should relate to a level of maturity, which influences how students react to the development of the Graduate Attributes (cf. 2.14.1 and cf. table 5.3). Based on their perceptions about the concept "Graduate Attributes", it appears as though students' construction of the Attributes is based on a well-informed and detailed understanding of the various aspects thereof (cf. 2.14.1 and cf. 5.2.1). The mere fact that their perception is integrated to encompass all dimensions of humanity or personality, was very meaningful in terms of the state of affairs amongst students at a TVET college, such as the Goldsfields TVET.

Students at the TVET colleges seem to be knowledgeable about the Graduate Attributes (cf. 5.3.5 and figure 5.1). Their perceptions are based on actual activities that are taking place on campuses. These Graduate Attributes require the development of activities which should be very specific and based on real needs amongst the students (cf. 5.3.6 and cf. 5.3.7). The students at the colleges appear to be informed and knowledgeable about the possible barriers to the Graduate Attributes (cf. 5.3.5 and figure 5.1). They are clearly familiar with the industrial, as

255

well as the personal barriers to appropriating the Graduate Attributes (cf. 3.11 and table 3.2).

In summation it can also be argued that students' perceptions illustrate the interplay between the various constraints to the development of the Graduate Attributes on the various campuses, especially as experienced in the case of the Goldfields TVET (cf. 2.7 and cf. 5.2.3). This clearly demonstrates that the thinking skills of the students are on a level that are conducive to the promotion of the Attributes at TVET level. The views that students hold about possible solutions to the barriers of the Graduate Attributes, is appropriate and well-informed. The mere fact that they see the importance of the involvement of various stakeholders in the development of the Graduate Attributes is commendable (cf. 2.8 and cf. table 3.2. This illustrates that the basic understanding of the Graduate Attributes as a collective effort, appears to be already conceived and internalised by students (cf. 5.5.1 and cf. figure 5.1).

6.4. RECOMMENDATIONS

The section below presents the main recommendations of the study.

6.4.1. Graduate Attributes should be promoted at TVET college level

Colleges for Technical and Vocational Education and Training are large organisations in which people learn and work, socialise and make use of a wide range of services (cf. 2.10 and cf. table 3.2). These institutions provide a setting in which students develop independence and learn life skills. Therefore, TVET colleges, such as Goldfields should be engaged in initiatives aimed at developing the personal attributes of students and staff as well, and this development may contribute to a conducive working, learning and living environment (cf. 3.8 and table 3.2). In this manner, conducive learning may lay the foundation of creating the Graduate Attributes for teaching, research and the entire wellness of the graduates (cf. 2.8 and cf. 3.8). Therefore, the college environment needs to be fully utilised to develop the various attributes of students (cf. 3.7.1 and cf. table 3.2). The TVET college should attempt activities aimed at the the holistic development of students;

these activities will include all aspects of humanity. While colleges produce students as the agents for social good, communities might also benefit (cf. 2.7 and cf. table 5.9). Therefore, prospective students become members of communities before they are registered students of these colleges.

6.4.2. Student Support Services at TVET sector level

The Student Support Services, the department within the TVET, college should be entirely committed to education, development, wellness, transformation and the success of all students of all ages (cf. 2.14.1 and cf. table 5.3). In concurrence with its mission to assist students' grow intellectually, the department should foster the holistic development of all students (cf. 2.8 and cf. 2.13).   The objective of the Student Support Services Department at the TVET colleges should also ensure that students are capacitated with accredited with life skills programmes (cf. 5.5.4.4 and cf. table 5.2). The strengthening of the Students Support Services Department in the Goldfields College could assist lecturers with the effective implementation of programmes that support the acquisition of the relevant Graduate Attribute requirements and the needs of students (cf. 2.14.1 and cf. table 5.3).

6.4.3. Partnerships needed for the development of the Graduate Attributes

The strengthening of sound working relationships and partnership initiatives to promote the Graduate Attributes are needed for all sectors in the industry, public, private and non-government agencies and organisations (cf. 3.3 and cf. figure 3.2). These partners should work together in responding to the needs of the industry and the well-being of lecturers and students in a sustainable manner. During this engagement, the promotion of individual attributes and behavioural change should take prominence (cf. 3.10 and cf. table 5.7). The greater the level of industry and corporate world involvement in setting agendas for action and in participating in the practice of pedagogy, the larger the impact they have on graduates (cf. 2.8, 5.3.1 and cf. table 3.2).   Through their Workplace-based Experience and Work-Integrated Learning experiences, TVET students should gain the maximum benefit from community approaches (cf. 2.7 and cf. 2.9).   In addition, durable structures at TVET colleges which facilitate planning and decision making, such as business chambers

and college councils, are key structures for forging successful alliances or partnerships, thus enhancing the Graduate Attributes development (cf. 3.3 and cf. figure 3.2). Certain mechanisms, such as in the context of the Goldfields TVET college, should also support critical aspects, such as the sharing of power, responsibility, curricular changes, programmatic relevance, and the management of leadership change ((cf. 2.7 and cf. table 5.5).

6.4.4. Student-centered counselling

Student-centred counselling is a process by which a student meets with a helper (the therapist) to talk about an issue. A basic principle of student-centred counselling is to note that every student is capable of solving his/her own problems. The therapist or support officer facilitates this process for the student (cf. 2.8 and cf. 2.13). All student counselling sessions are strictly confidential, prompt and professional. The Student Support Services Department at TVET colleges, such as Goldfields TVET, should assist students in discovering themselves, but also advance students' Graduate Attribute habits and competencies (cf. 5.2.3).

6.4.5. Training and development

The education and training of TVET college staff and students should be seen as crucial to the development of the Graduate Attributes to capacitate them to deal with corporate affairs and industry-related matters (cf. 3.4). These training sessions should be focused on capacity development and training needs, together with the incorporation and assessment of the Graduate Attributes in the curriculum (cf. 5.4.5.1). This may enable lecturers to become more aware of what the Graduate Attributes are and how to embed them in the curricula, programmes and courses (cf. 3.6 and 3.7).

Initiatives for the training and development of academics about the Graduate Attributes and the activation of a programme-mapping exercise may alleviate the difficulty that academics may experience when incorporating the Graduate Attributes into the curricula, programmes and applicable courses (cf. 5.4.5.1 and cf. table 3.1). This has the potential to further meet industry needs, which include the provision of

graduates with applicable attributes to contribute significantly to the socio-economic development of communities and the country (cf. 2.7 and cf. 2.9).

6.4.6. Student involvement

Student participation and involvement in the Graduate Attributes at TVET college level should be promoted and need to comprise various learning activities (cf. 3.4). These actions should include the opportunity to explore and articulate their own interpretations of knowledge concerns and to enable them to communicate and discuss their own conclusions about academic issues (cf. 5.6). This could be implemented once the college starts to explore all possible avenues to broaden students' participation in the Graduate Attributes promotion programmes, such as Workplace-based Experience and Work-Integrated Learning (cf. 5.3.6).

6.4.7. Curriculum alignment to industry

TVET colleges need to collaborate and align their academic activities to industry (cf. 2.9.1, cf. 5.3.5 and cf. figure 3.2). College and industry collaboration should be encouraged, as it can play an important role in the skills and expertise of students, particularly as it concerns aspects, such as Workplace-based Experience and Work-integrated learning (cf. 3.3 and cf. 5.2.3). Findings further suggest that industry and corporate interventions have the potential to be effective in the support of the Graduate Attributes at a college. Together, educators and industry should also provide combined support, thus acting like a mirror against which students' own knowledge and competencies can be reflected (cf. 3.10 and cf. table 5.7). The Graduate Attributes at colleges should be about bridging the gap that exists between education outcomes and the expectations of industry; and the creation of corporate and industry-related environments; as well as the development of a strong sense of self-efficacy (cf. 3.6.3, 3.6.5 and cf. table 3.2).

Student knowledge, competencies and expertise have to be determined mainly by what students have studied during their time with an institution (cf. 5.2.3 and cf. table 5.4). The expertise that they acquire can heavily influence their professionalism and work ethics. The college should therefore, ensure that the graduates' adaptations

259

to corporate life, the professional practices in and outside industry, as well as the access to support services, are seen as vital, and need to be addressed (cf. 2.7 and cf. table 5.5).

6.4.8. ADDITIONAL RECOMMENDATIONS

The following are general recommendations:

- In order to ensure that all the Graduate Attributes are embedded in the learning outcomes of modules within a curriculum, it is recommended that a programme- mapping exercise be completed for each curriculum (cf. 2.9.1 and cf. 5.4.4).

- The Graduate Attributes programmes at TVET colleges should be sufficiently funded. This means that the Graduate Attributes be included among the so-called high-profile activities of the college (cf. 2.9.1 and cf. 5.7.4.2).

- Student Support Services Department officials should play a crucial role in providing support to the students. Effective support is possible through joint services to college students (cf. 2.7 and cf. table 5.5).

- The Graduate Attribute activities should include issues on:
  - ➢ employability (e.g. work readiness, congruence with industry, acquisition of corporate information etc.);
  - ➢ functional knowledge (e.g. scholarship, continuous development, expertise etc.);
  - ➢ reflective competencies (e.g. technical and artistic skills, curriculum understanding and implementation, professionalism and ethical standards, intellectual engagement etc.);
  - ➢ integrity and discipline (e.g. dignity and stature, morals and respect, loyalty and kindness, mindset and personal conduct etc.); and
  - ➢ innovation (e.g. independent and analytical thinking, entrepreneurship etc.), diversity and multicultural education.

260

6.5. LIMITATIONS OF THE RESEARCH PROJECT

Although the research was planned, organised and executed according to sound scientific principles, a number of limitations and shortcomings emerged during the course of the project.

- The first issue was related to communication. To communicate with the lecturers and managers was a challenge. It took some time before a proper communication line was put into place. The lecturers did not have functioning telephones lines and a few were without college e-mail addresses.

- Another limitation related to the participating lecturers, was their availability to participate in the focus group interviews, due to their heavy work schedules. This resulted in an over-representation of the views expressed by specific subject specialists in relation to other programmes or subject areas.

- In the first students' interviews, the participants responded very briefly. This might be attested, to some extent, to the fact that the researcher still had to build rapport with the group before conducting the interviews. With the next interview the response was much better.

- With regard to the questionnaires, not all of them were returned to the researcher at the anticipated time. This delayed some of the unfolding of the processes. Furthermore, the closed-ended questions in the questionnaire compelled participants to answer all the questions, despite the graduates' knowledge of the Graduate Attributes. This led to some contradictory comments found in the closed-question section.

- Only one TVET college was used as a case to conduct this study.

6.6. RECOMMENDATIONS FOR FURTHER RESEARCH

The following recommendations are made for future research:

- It is recommended that the possible reasons why students do not have a clear understanding and a well-informed perception about the Graduate Attributes should be studied.

- It is recommended that students at a college be studied in order to ascertain the possible teaching and learning strategies that students can apply to their own

261

contexts in promoting the Graduate Attributes.

- It is recommended that an investigation be done on the various ways and means a college can introduce the Graduate Attributes to new students.
- It is recommended that an exploration should be done on the Graduate Attributes promotion needs of students at a college.

6.7. CONCLUSION

This chapter revealed the findings and the recommendations based on the literature review and the empirical investigation. Synthesis is the Graduate Attributes and their implication for policy, practice and theory for the TVET sector. The intention was to establish the perceptions of students and lecturers pertaining to the development of the Graduate Attributes. The entire research project provides the framework for the advancement of lecturer capacity in developing the Graduate Attributes in the Technical and Vocational Education and Training sector.

CHAPTER 7

PROPOSED FRAMEWORK FOR THE DEVELOPMENT OF THE GRADUATE ATTRIBUTES

7.1. INTRODUCTION

Since the study was conducted to design a framework for the advancement of lecturer capacity in the development of the Graduate Attributes, the current chapter is devoted to discussing this framework and providing the guidelines for its implementation. Emanating from discussions from the existing body of knowledge and the literature review chapters (chapters 2 & 3), an empirical study in chapters 4 and 5, and the discussion of findings in chapter 6, the researcher was able to design the framework.

The assertions from the literature review and the empirical research have confirmed that the Graduate Attributes are the skills, competencies, qualities and knowledge that the TVET colleges should value. They are embedded in various TVET academic and pedagogical discourses, such as the curriculum, co-curricular and extra-curricular activities. The Graduate Attributes commit South African TVET colleges to the development, wellness, success and transformation of all students of all ages, which ensure that the TVET colleges develop students intellectually. In concert with the mission to assist the students grow intellectually, the TVET college sector needs to foster their holistic development. It is also critical that qualities, such as leadership, lifelong learning and civic responsibility are emphasised so that upon the conferral of the qualification, for which the student shall have spent time at a TVET college, she/he may lead a very responsible life. The embedding of the Graduate Attributes into the curriculum further characterises them as an integral component of the curriculum, as well at the learning outcomes of a particular academic programme. As a result, the Graduate Attributes should guide the planning of curricula, teaching, learning, and assessment methods.

The framework also shows the list of the Graduate Attributes that TVET colleges, such as the Goldfields TVET college community, may aspire to develop.

7.2. PURPOSE OF THE FRAMEWORK

The purpose of the TVET framework for the Graduate Attributes is to provide the guiding principles, which would ensure that lecturers share a common understanding of the Graduate Attributes and their implementation at the TVET colleges. The framework explicitly outlines the set of skills and attributes that would ensure that graduates are successful in their academic and professional endeavours. Moreover, it highlights the importance of teaching, learning, effective management of the curriculum and assessment. It asserts to the implications for lecturer capacity, in order to equip the students with knowledge, skills, values and competencies that will enable them to improve their prospects for success in industry and life at large.

Over and above the fact that the Graduate Attributes are embedded in a curriculum, they are nevertheless developed in different ways depending on their purpose, nature, context and value. The TVET colleges ought to support the graduates to develop the attributes required by industry, as well as for their personal and professional development. The development of these attributes by the TVET sector would enable the graduates to be unique in all contexts. The manner, in which the graduates engage intellectually to rise to the challenges of their era, becomes impressive as a result of the Graduate Attributes development.

FRAMEWORK FOR THE ADVANCEMENT OF LECTURER CAPACITY IN DEVELOPING THE GRADUATE ATTRIBUTES

1. Policy conceptualisation
- Draft policy development
- Stakeholder consultation
- Policy ratification

2. Embedding Graduate Attributes into curriculum
- Planning curriculum activities for graduate attributes
- Implementation of the Graduate Attributes developing activates
- Monitoring and evaluation of Graduate Attributes teaching and learning

3. Holistic development of TVET lecturers
- Recruitment of quality and well qualified lecturers
- Induction of all newly appointed lecturers
- Training and continuous development of TVET lecturers

4. Advancement of teachng, learning and curriculum mnagementt
- Establishment of subject groups for lecturers
- Establishment of learning groups for students
- Formative and summative assessments of Graduate Attributes

5. Placement in industry
- Placement of TVET managers in industry
- Placement of TVET lecturers in industry
- Placement of TVET students in industry

6. Curriculum re-evaluation
- Involvement of industry
- Qualification mix review
- Realignment of curriculum to industry

Figure 7.1 Framework for the advancement of lecturer capacity in developing the Graduate Attributes

265

Table 7.1   Objectives and the key performance indicators for the development of the Graduate Attributes

OBJECTIVE	KEY PERFORMANCE INDICATOR
1. Policy conceptualisation	• Draft policy development • Stakeholder consultation • Policy ratification
2. Embedding Graduate Attributes into curriculum	• Planning curriculum activities for Graduate Attributes • Implementation of Graduate Attributes development activities • Monitoring and evaluation for Graduate Attributes teaching and learning
3. Holistic development of TVET lecturers	• Recruitment of quality and well qualified lecturers • Induction of all newly appointed lecturers • Training and continuous development of TVET lecturers
4. Advancement of teaching, learning and curriculum management	• Establishment of subject groups for lecturers • Establishment of learning groups for students • Formative and summative assessments of Graduate Attributes
5. Placement in industry	• Placement for TVET managers in industry • Placement for TVET lecturers in industry • Placement for TVET students in industry
6. Curriculum re-evaluation	• Involvement of industry • Qualification mix review • Realignment of curriculum to industry

266

7.3. DISCUSSION OF THE FRAMEWORK FOR ADVANCEMENT OF LECTURER CAPACITY

A short discussion will now follow on the components informing the frame work for the advancement of the Graduate Attributes.

7.3.1. Policy conceptualisation

The process of policy development at TVET colleges requires the identification of and clarity on the phenomenon of the Graduate Attributes and the reasons this necessitates policy conceptualisation. The management, lecturers and students should also understand the purpose of the policies and how the issues of the Graduate Attributes could be swiftly dealt with through policy development. Collectively, they have to plan and facilitate the roles, responsibilities and time frames.

There should be a working document that defines the nature and characteristics of the desired Graduate Attributes. The working document is a critical instrument for the consultation processes. After the consultation processes, the draft policy needs to be prepared and circulated to all stakeholders, with the ratification by the relevant college committees and councils to follow. When the policy has been ratified, it is ready for implementation. The stakeholders also need to determine the time within which the policy should be reviewed, to ensure that it moves along with the trends of teaching and learning, and consequently industry.

7.3.2. Embedding Graduate Attributes into the curriculum

To equip the graduates with employability skills and many other attributes, the colleges ought to align the pedagogical and academic discourses to the needs and the expectations of industry. This will prepare the students to participate meaningfully in the labour market. The planning and implementation of the Graduate Attributes should prepare students to take advantage of the continuous technological changes and their tendencies to broaden industry and shape the economy of the country. While it is of high importance that the Graduate Attributes capacitate the students with skills and competencies, the TVET colleges should be mandated to produce a

267

highly attributed workforce that responds to the skills demands of various sectors of the economy. Clearly stipulated guidelines and curriculum re-evaluation need to outline explicitly how the students should be prepared for industry so that, upon the conferral of the qualifications, they already match the requirements of industry. The incorporation of the Graduate Attributes into the curriculum components educates the students into contributing significantly to the development of the country and the global village at large.

As a stakeholder in the TVET sector, industry should be given space to participate in the development of the Graduate Attributes. This will take place through the collaboration between the lecturers and industry, in order to synchronise the theoretical and practical components of the curriculum. The official responsibility of the lecturers should be to provide students with theory which leads to functional knowledge, while industry's responsibility should be the provision of practicum which leads to the reflective competencies. The practicum to which the students are exposed in industry should entail the multi-disciplinary approaches of the prevailing trends in the economy. It is thus critical that the TVET colleges design the academic programmes in such a way that they also entail the multi-disciplinary discourses that allow for various problem-solving skills.

7.3.3. Holistic Development of TVET lecturers

The TVET pedagogical triangle that includes teaching, learning and the effective management of the curriculum depends heavily on the competencies and professionalism of the lecturers. For the TVET colleges to achieve the production of highly attributed individuals, the sector should attract individuals with skills, competencies and an understanding of the continuously changing trends of industry. The TVET colleges will have to rework recruitment and improve the working conditions to attract highly competent and diverse academics. Through the latter process, students should be able to experience a conducive learning environment that exposes them to a variety of attributes. The presence of the desired academic personnel needs to be followed by an in-depth induction of the newly appointed lecturers and continuous training for all the lecturers to advance their capacity in developing the Graduate Attributes. The induction and continuous training would

give the TVET lecturers pedagogical competence and professionalism, and would equip them with an in-depth knowledge of specific aspects of the academy.

The holistic development of TVET lecturers entails capacity building, which would convey the set of desired skills to the students. This would consequently allow students to experience sound learning experiences and be intellectually engaged. Since the holistic development of lectures should be a continuous process, it would have to be monitored through a well-coordinated performance management system. The lecturers need to be capacitated to create an atmosphere that allows intellectual engagement for the students. This would also enable the students to design for themselves learning experiences that allow disciplinary engagement.

7.3.4. Advancement of teaching, learning and curriculum management

Since academic excellence is a result of effectiveness in teaching, learning and curriculum management, this becomes the core business of the college. This suggests that the Graduate Attributes development is a process that revolves around academic excellence at TVET colleges. Academic excellence encourages active and enthusiastic teaching from the lectures, and active and enthusiastic learning from students. Since the Graduate Attributes development process requires academic excellence, adoption of appropriate approaches to teaching, learning, curriculum management and assessment are crucial. The selection of academic activities and their effective rollout could yield fruitful outcomes in the development of the Graduate Attributes.

The advancement of academic and pedagogical discourse, would develop the lecturers' ability to design the co-curricular and extra-curricular contents and activities that direct the Graduate Attributes. These activities would encourage the students to reflect more on the Graduate Attributes that the lecturers instil in them and those that they perceive to be important for their personal and professional lives.

7.3.5. Placement in industry

Placement of both lecturers and students in industry could provide them with the required knowledge, skills and competencies needed by industry. This would also enhance both student and lecturer knowledge and understanding of current economic and industrial trends. Making placements in industry would allow lecturers to identify and develop the Graduate Attributes that would enable the students to function effectively and efficiently in industry. The students could also contribute through indicating their experiences in industry and allow the lecturers to clarify areas that are complicated and reflect on them from a curriculum perspective.

The students and lecturers would be exposed to a variety of things that characterise and constitute industry at large. The information gathered by both students and lecturers needs to be incorporated into the design of the curriculum. Redesigning the curriculum to merge it with industry could improve student productivity in industry. It is, therefore, critical that lecturers and students are placed in industry to gain significant information about industry. This would keep the curriculum of the TVET relevant, contemporary and responsive to industry. The involvement of industry in curriculum mapping and designing would improve the colleges' working relationships with industry, which would thus increase the prospects of employment for students, upon completion of their college programmes.

To maintain curriculum relevance to industry and practical knowledge, the theoretical and practicum components should be compounded as one. A high concentration should also be on the assessment of both theory and practicum. Both formative and summative assessments should be administered carefully, in order to identify the similarities and differences between theory and practice. Industry placements should also allow the skills and competencies of a particular discipline to be incorporated into the curriculum.

7.3.6. Curriculum planning and re-evaluation

The TVET colleges need to ensure that curriculum planning and re-evaluation align their teaching and learning to the needs of industry. This will simultaneously ensure that that the curriculum is congruent with what industry expects of the graduates. Planning the curriculum enables the TVET colleges to design a curriculum that synchronises the teaching and learning outcomes with labour market trends. Curriculum re-evaluation would validate the quality and standards of the academic programmes. The colleges need to perform this exercise regularly within appropriate timeframes.

The curriculum should be revised and restructured in such a way that it reflects exactly what is taking place and what is required by industry. Curriculum re-alignment would also bridge the gap between what the college produces and what industry expects. TVET colleges should revise the curriculum to help students put into practice what they have been taught. This could be done in the form of sessions in which students are required to demonstrate certain expertise or skills. The building of good relationships with industry could assist in aligning the curriculum with job market requirements. The college should consider the re-evaluation of the curriculum upon the identification of the difference in what is being taught and what is truly happening in the workplace.

7.4. LIST OF GRADUATE ATTRIBUTES IDENTIFIED FOR THE IMPLEMENTATION AT GOLDFIELDS TVET COLLEGE

1. **Entrepreneurship**: the ability to venture into new businesses

2. **Intellectual engagement**: the ability to reason or apply one's knowledge in all contexts

3. **Functional knowledge**: information used to deal with everyday challenges

4. **Reflective competencies**: skills that are noticeable and that can be seen in real-life situations

5. **Discipline**: ability to direct thoughts and behaviours

6. **Innovation**: creation of new opportunities

271

7. **Teamwork**: function effectively and efficiently with other professionals

8. **Leadership**: ability to lead and show direction

9. **Lifelong learning**: scholarship and willingness to learn in and outside one's profession

10. **Civic responsibility**: relating positively with known and unknown people despite their status

The Goldfields TVET College's list of the Graduate Attributes entails the qualities, skills, competencies and understandings a college community agrees it students should develop during their time with the institution. These Graduate Attributes should be the properties of each college student that should be visible upon the conferral of a qualification awarded for their time spent successfully at the college and beyond.

Lecturers' guidelines for Graduate Attribute implementation

Step 1
Graduate Attribute identification
(the lecturer has to identify the skills and competencies she/he needs the students to acquire)

Step 2
Specific learning outcomes
(at the end of this module, the students should be able to do certain things)

Step 3
Teaching and learning activities
(presenting to the students what they need to know and determining the extent to which they know it)

Step 4
Graduate Attributes assessment
(the lecturer has to identify the skills and competencies she/he needs the students to acquire)

Step 5
Evaluation
(evaluation of Graduate Attributes systems for improvement)

Figure 7.2 The exposition of the suggested guidelines for the possible implementation of Graduate Attributes at Goldfields TVET

273

7.5. Explanation of lecturers' guidelines for Graduate Attributes implementation

Step 1: Graduate Attributes identification

The first step requires the lecturers to identify the skills and competencies they need the students to acquire. The lecturers need to check which skills they need to instil in students at various levels. They need to indicate the skill they need to instil in students during the first year of studies and which ones during the final stages of students' studies. This process of the Graduate Attributes identification could take place through continuous consultations with other lecturers of the same academic department and other departments. Moreover, the lecturers will have to explore all possible avenues to involve industry in the college's academic activities.

Step 2: Specific learning outcomes

Once the lecturers have identified the skills and competencies they want to instil in students, they will have to include them in the academic discourse in a form of specific learning outcomes. The lecturers could do this by specifying that at the end of a particular module, the students should be able to demonstrate certain things. This could assist in determining the extent to which the students have understood the learning content, and the extent to which they could put what they have learnt into practice.

Step 3: Teaching and learning activities

The development of the Graduate Attributes requires effective teaching and learning processes, pointing to the core business of the TVET colleges. Teaching and learning requires presentations of whatever the lecturers think the students need to know. On the same note, the lecturers are required to determine the extent to which the students know what they are expected to know. The lecturers have to ensure that teaching and learning provide students with opportunities to apply their acquired information in real-life situations.

Step 4: Graduate Attributes assessment

After teaching and learning, the lecturers identify the skills and competencies that the students have acquired. This could be done in the form of formative and summative assessments. The assessments part is not only important to lectures, but to students as well, since it enables them to discover themselves. The lecturers reflect to the students everything pertaining to the Graduate Attributes and should give them feedback on their performance through assessments.

Step 5: Evaluation

The evaluation of the quality and relevance of the Graduate Attributes systems need to be done for improvement. Evaluation could be done through the convergence of TVET curricular specialists with industry. The lecturers could determine the timeframes for the evaluation of the Graduate Attributes development systems. After every cycle of determined time, the lecturers would have to meet and perform the evaluation of the quality and relevance of the Graduate Attributes systems.

BIBLIOGRAPHY

Aamodt, P.O. & Hovdhaugen, E. (2008). Assessing Higher Education Learning Outcomes as a Result of Institutional and Individual Characteristics. OECD's Higher Education Management and Policy Journal, 23(2), pp. 1-26.

Abdullah, A.C. (2009). Multicultural Education in Early Childhood: Issues and Challenges. Journal of International Cooperation in Education, 12(1) (2009) pp.159-175.

Abdullah, A.G.K.B. (2013). Bridging the Gap Between Industry and Higher Education Demands on Electronic Graduates' Competencies. IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) 1(1), pp.60-65.

Abdulwahed, M., Ahmad, S., Hasna, M.O., Ghani, S. & Benammar, M. (2014). "Contribution of Shell Eco-Marathon engineering design experience to soft skills development: A qualitative analysis in the Asian context". Interactive Collaborative Learning (ICL) 2014 International Conference. Dubai, United Arab Emirates.

Abrahamson, C.E. (2011). Methodologies for Motivating Student Learning Through Personal Connections. Oxford Round Table, Harris Manchester College, Oxford University, Oxford, England.

Abubakar, A.S. & Yahya, Z.A. (2013). Strengthening Small and Medium Enterprises (SMEs) as a Strategy for Poverty Reduction in North Western Nigeria. American Journal of Humanities and Social Sciences, 1(3), pp. 189-201.

Abubakar, M., Kazaure, M. & Yusuf, S. (2013). Introducing the NVQF for more open and flexible skills domain in Nigeria. 2013. Retrieved June 16, 2016 from http://dspace.col.org/bitstream/handle/11599/1857/2013 _Abubakar _etal _NVQF.pdf?sequence=1&isAllowed=y. Accessed 8 March 2017.

Adawo, M.A. (2011). Has education (human capital) contributed to the economic growth of Nigeria? Journal of Economics and International Finance, 3(2), pp. 46-58.

Adeyemi, T.O. (2008). The Availability of Teaching Manpower in Technical Colleges in Ondo and Ekiti States, Nigeria: A Comparative Analysis. Middle-East Journal of Scientific Research 3(4), pp. 179-189.

Afeti, G. (2017). 8th ADEA-WGHE/AAU Webinar: TVET Strategy for African Technical Universities, 2017. Retrieved from http://www.adeanet.org/en/news/8th-adea-wghe-aau-webinar-tvet-strategy-for-african-technical-universities. Published April 2017. Accessed August 2017.

African Union. (2007). Strategy to revitalize technical and vocational education and training (TVET) in Africa. Meeting of the Bureau of the Conference of Ministers of Education of the African Union (COMEDAF II+). Retrieved December 27, 2013, from http://africa-youth.org/sites/default/files/TVET%20Strategy%20Final%20-DRAFT.pdf. Accessed June 2016.

Aggarwal, A. & Gasskov, V. (2013). Comparative analysis of national skills development policies: a guide for policy maker. Retrieved April 22, 2014, from http://www.ilo.org/ wcmsp5/groups/public/ africa/documents/publication/wcms_224559.pdf. Accessed February 2017.

Aggarwal, M., Kapur, D. & Tognatta, N. (2011). The Skills they Want: Aspirations of Students in Emerging India. CASI Working Paper Series, n. 12(3).

Philadelphia, PA: Center for the Advanced Study of India, University of Pennsylvania. United States of America.

Agrawal, T. (2013). Vocational education and training programs (VET): An Asian perspective. Journal of Vocational Education & Training, 64(4), pp. 453-474.

Agu, N.N., Onyekuba, C. & Anyichie, A.C. (2013). Measuring teachers' competencies in constructing classroom-based tests in Nigerian secondary schools: Need for a test construction skill inventory. Educational Research and Reviews, 8(8), pp. 431-439.

Ahmad, E.R. (2009). Application of generic skills in teaching and learning in community college in Johor. Skudai, Malaysia: Published by Universiti Teknologi Malaysia.

Aithal, P.S. & Suresh-Kumar, P.M. (2015). Enhancement of Graduate Attributes in Higher Education Institutions through Stage Models. IMPACT. International Journal of Research in Business Management (IMPACT: IJRBM). 3(3), pp. 2347-4572.

Akoojee, S. (2010). Intermediate skills development in South Africa: understanding the context, responding to the challenges. Human Science Research Council. Retrieved from https://www.researchgate.net/publication/288939328. Accessed 19 February 2016.

Akoojee, S. (2016). Developmental TVET Rhetoric In-Action: The White Paper for Post-School Education and Training in South Africa. International Journal for Research in Vocational Education and Training (IJRVET), 3(1): pp. 1-15.

Akoojee, S., McGrath, S. & Visser, M. (2008). "Further education and training

colleges". In Human resources development review 2008: Education, employment and skills in South Africa, Edited by: Kraak, A. and Press, K. 254–77. Cape Town, South Africa.

Alam, G.M. (2009). The role of science and technology education at network age population for sustainable development of Bangladesh through human resource advancement, Sci. Res. Essays, 4(11), pp. 1260-1270.

Allbalooshi, F.A. (2013). Graduate Attributes for Higher Education and Their Development in Bahrain. International Education Studies, 6(9), pp. 21-25.

Albashiry, N.M., Voogt, J.M. & Pieters, J.M. (2015). Teacher collaborative curriculum design in technical vocational colleges: a strategy for maintaining curriculum consistency? The Curriculum Journal, 26(4), pp. 601-624.

Albitz, R.S. (2007). The what and who of information literacy and critical thinking in higher education. Portal: Libraries and the Academy, 7(97), pp. 1-30.

Alhojailan, M. I. (2012). Thematic analysis: A critical review of its process and evaluation. West East Journal of Social Sciences, 1(1), pp. 34-59.

Al-hooli, A. & Al-Shammari, Z.(2007). Teaching and learning moral values through Kindergarten curriculum. Education Journal 129(3), pp. 382-399.

Ali, H.A. (2015). Performance Lecturer's competence as the quality assurance. The International Journal of Social Sciences, 4(1), pp. 105-132.

Alias, M. & Hassan, R. (2013). TVET agency-industry collaborations: addressing diversity. In: TVET@Asia, issue 1, 1-14. Online. Accessed November 2016.

Alimohamed, S.I. (2011). Dropout and graduation rates of high schools in South Carolina: Does school size matter? ProQuest Information & Learning, 1(1), pp. 71.

279

Allais, S., 2011. What are skills? Reflections on policy in South Africa in the light of international debates. Paper to be presented at the Global Labour University Conference 28-30 September 2011. The Politics of Labour and Development. Education Policy Unit, University of the Witwatersrand. Johannesburg, South Africa.

Allen, M. (2008). Promoting Critical Thinking Skills in Online Information Literacy Instruction Using a Constructivist Approach, College & Undergraduate Libraries, 15(1-2), pp. 21-38.

Allio, R.J. (2009). Leadership—the five big ideas. Strategy & Leadership, 37(2), 4–12.

Almendarez, L. (2011). Human Capital Theory: Implications for Educational Development. Caribbean Quarterly, 59(3), pp. 21-33.

Amankwah, E. & Swanzy, P. (2011). The role of stakeholders in building adequate competences in students for the job market. International Journal of Vocational and Technical Education, 3(8), pp. 107-112, 2011.

Amineh, R.J. & Asl, H.D. (2015). Review of Constructivism and Social Constructivism. Journal of Social Sciences, Literature and Languages. 2015JSSLL Journal, 1(1), pp.9-16.

Anakin, M., Spronken-Smith, R., Healey, M. & Vajoczki, S. (2017). The contextual nature of university-wide curriculum change, International Journal for Academic Development, 22(4), pp. 66.

ANC (2012). Education and Health: policy discussion document, towards the 2012 ANC national policy conference. Pretoria: African National Congress. Johannesburg, South Africa.

Andrews, J. & Higson, H. (2008). Graduate Employability, 'Soft Skills' Versus 'Hard'

Business Knowledge: A European Study. Higher Education in Europe, 33(4), pp. 411-422.

Angrist, J., Autor, D., Hudson, S. & Pallais, A. (2015). Evaluating econometric evaluations of post-secondary aid. American Economic Review, 105(5), pp. 502-507.

Annual Report : (2008). Ministry of Human Resource Development, Department of Education, India.

Ansah, S.K. & Ernest, K. (2013). Technical and Vocational Education and Training in Ghana: A tool for Skill Acquisition and Industrial Development. Journal of Education and Practice, 4(16), pp. 172-180.

Archer, E. & Chetty, Y. (2013). Graduate Employability: Conceptualisation and findings from the University of South Africa. Progressio 35(1), pp. 134-165, 2013.

Arco-Tirado, J.L., Fernandez-Martin, F.D., Fernandez-Balboa, J. (2011). The impact of a peer tutoring program on quality standards in higher education. Higher Education 62(6), pp. 773–788.

Arfo, E.B. (2015). A Comparative Analysis of Technical and Vocational Education and Training Policy in Selected African Countries. Unpublished Doctoral Thesis, University of Kwa-Zulu Natal, Durban, South Africa.

Armstrong, P., Lekezwa, B. & Siebrits, K. (2008). Poverty in South Africa: A profile based on recent household surveys. Stellenbosch Economic Working Papers: 04/08. Stellenbosch, South Africa.

Arnolds, C.A., Stofile, R.N. & Lillah, R., (2013) 'Assessing the outcomes of the higher education mergers in South Africa: Implications for strategic management, Acta Commercii, 13(1), pp. 175-186.

Arrowsmith, C., Bagoly-Simó, P., Finchum, A., Oda, K. & Pawson, E. (2011). Student employability and its implications for geography curricular and learning practices. Journal of Geography in Higher Education, 35(3), pp. 365-377.

Arzubiaga, A., Artiles, A.J., King, K., & Harris-Murri, N. (2008). Beyond research on cultural minorities: Challenges and implications of research as situated cultural practice. Exceptional Children, 74(1), pp. 309-327.

Asiyai, R.I. (2013). Challenges of Quality in Higher Education in Nigeria in the 21st Century. International Journal of Educational Planning & Administration, 3(2), pp. 159-172.

Astuty, E. (2015). Implementation Analysis of Lecturer's Pedagogical Competence on Student's Academic Achievement. Journal of Management Research, 7(2), pp. 150-155.

Atherton, J.S. (2013). Learning and Teaching; Constructivism in learning. Creative Education Journal, 4(12), pp. 6-23.

Ayalew, T. (2011). Students" attitudes towards technical and vocational education and training program in Afar Region. (Unpublished Master's thesis, Addis Ababa University, Ethiopia). Retrieved from http://etd.aau.edu.et/dspace/bitstream/123456789/4035/1/Teferi%20Ayalew.pdf. Accessed 24 June 2016.

Ayonmike, C.S., Okwelle, P.C. & Okeke, B.C. (2015). Towards Quality Technical Vocational Education and Training (TVET) Programmes in Nigeria: Challenges and Improvement Strategies. Journal of Education and Learning, 4(1) pp. 1-25.

Azam, M., Chin, A. & Prakash, N. (2013). The returns to English-language skills in India. Economic Development and Cultural Change, 61(2), pp. 335-367.

Babalola, H. (2003). Economic growth and human development" Nsukka: University Press. Journal of Economics and Sustainable Development, 4(18), pp. 48-51.

Babbie, E. (2014). The basics of social research (Sixth edition ed.). Belmont, Calif.: Wadsworth Cengage.

Badat, S. (2010). The Challenges of Transformation in Higher Education and Training Institutions in South Africa Paper. The Development Bank of Southern Africa. Pretoria, South Africa.

Baffour-Awuah, D. & Thompson, S. (2011). A Holistic approach to Technical and Vocational Skills Development (TVSD) Policy and Governance Reform: The Case of Ghana. Journal of Arts and Design Studies, 33(1), pp. 1-5.

Baker, J., Grant, S. & Morlock, L. (2008). The teacher–student relationship as a developmental context for children with internalizing or externalizing behavior problems. School Psychology Quarterly, 23(1), pp. 3-15.

Baloyi, M.P. (2013). Perceptions on the causes of poverty: Field study at mavambe village. Retrieved from https://www. 0cAnW-eiIsWWgAbC1JKIAQ&start=0&sa=N&biw=1366&bih=635. Accessed 23 August 2016.

Banerjee, P.A. & Lamb, S. (2016). A systematic review of factors linked to poor academic performance of disadvantaged students in science and maths in schools, Cogent Education, 3(1), pp. 23-31.

Baran, E., & Correia, A.P. (2014). A professional development framework for online teaching. Tech Trends, 58(5), pp. 96–102.

Barker, F. (2007). The South African Labour Market: Theory and Practice. Pretoria, South Africa: Van Schaik.

Barnett, D.R. (2011). Partnering Industry and Education for curricular enhancement: A response for greater educational achievement. Online Journal of Workforce Education and Development Volume, 5(2), pp. 2-12.

Barnett, R. (2010). Life-wide education: a new and transformative concept for higher education? In: Enabling a More Complete Education: Encouraging, Recognising and Valuing Life-Wide Learning in Higher Education Conference E-proceedings On-line. Available from: http://lifewidelearningconference.pbworks.com/E-proceedings [Accessed 15 May 2013].

Barrell, R., Holland, D. & Liadze, I. (2011). Accounting for UK economic performance 1973-2009 in Giudice, G., Kuenzel, R., Springbett, T., UK Economy: The Crisis in Perspective. Essays on the Drivers of Recent UK Economic Performance and Lessons for the Future, London, Routledge, Taylor & Francis Group.

Barrie, S. (2004). A research-based approach to generic graduate attributes policy. Higher Education Research & Development, 23(3), 261-275.

Barrie, S. (2006). 'Understanding what we mean by the generic attributes of graduates'. Higher Education, 51(2), pp. 215-241.

Barrie, S. C., Hughes, C., & Smith, C. (2009). The graduate attributes we've overlooked: enhancing graduate employability through career management skills. Higher Education Research and Development, 28(1), pp. 1-44.

Barrie, S., Hughes, C. & Smith, C. (2009). The national graduate attributes project: integration and assessment of graduate attributes in curriculum. Australian Learning and Teaching Council. Sydney, Australia, Strawberry Hill, NSW.

Barrie, S.C. (2007). A conceptual framework for the teaching and learning of generic graduate attributes. Studies in Higher Education. 32(4), pp. 439-458.

Barrie, S.C. (2012). A Research-Based Approach to Generic Graduate Attributes Policy. Higher Education Research and Development, 31(1) pp. 79-92, 2012.

Bath, D., Smith, C., Stein, S. & Swann, R. (2007). Beyond mapping and embedding graduate attributes: bringing together quality assurance and action learning to create a validated and living curriculum. Higher Education Research & Development, 23(3), pp. 313-328.

Baumann, C. & Krskova, H. (2016). "School discipline, school uniforms and academic performance". International Journal of Educational Management, 30(6), pp. 1003-1029.

Baxter, P., & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers . The Qualitative Report, 13(4), pp. 544-559.

Beck, J. & Young, M.F.D. (2005). The assault on the professions and the restructuring of academic and professional identities: A Bernsteinian analysis. British Journal of Sociology of Education, 26(2) pp. 183-197.

Bekhradnia, B. (2009). Male and female participation and progression in higher education. Oxford: Higher Education Policy Institute.

Beneš V. (2011). Role theory: A conceptual framework for the constructivist foreign policy analysis? Paper prepared for the Third Global International Studies Conference "World Crisis. Revolution or Evolution in the International Community?", 17-20 August 2011, University of Porto, Portugal.

286

Bergold, J. & Thomas, S. (2012). Participatory Research Methods: A Methodological Approach in Motion. Forum: Qualitative Social Research, 13(1) pp. 1-30.

Bergold, J. (2007). Participatory strategies in community psychology research – a short survey. In A. Bokszczanin (Ed.), Poland welcomes community psychology: Proceedings from the 6th European Conference on Community Psychology (pp.57-66). Opole: Opole University Press.

Bester, M. (2014). Academics' conceptions and orientations of Graduate Attributes in applied design programmes at a university of technology. Department of Curriculum Studies, Faculty of Education at Stellenbosch University. Unpublished Masters Dissertation M.Com. Stellenbosch University. Stellenbosch, South Africa.

Bhorat, H., Cassim, A. & Tseng, D. (2016). Higher education,employment and economic growth: Exploring the interactions, Development Southern Africa, 33(3), pp. 312-327.

Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. Eurasia Journal of Mathematics, Science & Technology Education, 5(3), pp. 235-245.

Bjornberg, N.H. (2014). Mutual performance monitoring in virtual teams: Masters dissertation. Norfolk, VA: Old Dominion University.

Blacker, R. 2009. A thematic analysis of psycho-dynamically-oriented supervision of observations in an acute inpatient ward. Unpublished thesis. University of Leicester.

Boothroyd, L.G. & Cross, C.P. (2017). Father absence and gendered traits in sons and daughters. PLoS ONE, 12(7), pp. 1-19.

Booyens, J.C. (2009). The value attached to teaching qualifications by educators and other stakeholders at a Further Education and Training college in Southern Kwa-Zulu Natal. Unbublished thesis. University of Kwa-Zulu Natal.

Booyens, M & Crause, E. (2012). Excluded From Education And Work: Perceptions Of At Risk Youth. Social Work Journals, 48(3), pp. 55-74.

Boud, D. & Soler, R. (2016). Sustainable assessment revisited. Assessment & Evaluation in Higher Education 41(3), pp. 400-413.

Boughey, C. (2012). Social inclusion and exlusion in a changing higher education environment. Multidisciplinary Journal of Educational Research, 2(2) pp. 133-151.

Bowden, J., Hart, G., King, B., Trigwell, K. and Watt, O (2000). Generic capabilities of ATN university graduates. Canberra: Australian Government Department of Education, Training and Youth Affairs. Creative Education, 4(7), pp. 6-19.

Bowman, K. (2010). Background paper for the AQF council on generic skills. Retrieved from http://www.aqf.edu.au/wp-content/uploads/2013/06/Generic-skills-background-paper-FINAL.pdf. Accessed 2 November 2016.

Brand, A. (2007). The long and winding road: professional development in further and higher education. Journal of Further and Higher Education, 31(1), pp. 7-16.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), pp. 77–101.

Bravo, R., Lucia-Palacios, L. & Martin, M.J. (2014). Processes and outcomes in

288

student teamwork. An empirical study in a marketing subject, Studies in Higher Education, 41(2), pp. 302-320.

Bridgstock, R. (2009). The graduate attributes we've overlooked: enhancing graduate employability through career management skills, Higher Education Research & Development, 28(1), 31-44.

Brookhart, S.M. (2011). Educational Assessment Knowledge and Skills for Teachers. Educationall Measurement Issues and Practice, 30(1), pp. 3-12.

Bryman, A. 2012. Social research methods. 4th edition. Oxford: Oxford University Press.

Buchanan, J. (2011). Quality teaching: Means for its enhancement? Australian Universities' Review, 53(1), pp. 66–72.

Bunney, D., Sharplin, E. & Howitt, C. (2014). Generic skills for graduate accountants: the bigger picture, a social and economic imperative in the new knowledge economy, Higher Education Research & Development, 34(2), pp. 256-269.

Busteed, B. & Seymour, S. (2015). Many college graduates not equipped for workplace success. Retrieved from Gallup Business Journal: http://www.gallup.com/businessjournal/185804/ college-graduates-not-equipped-workplace-success.aspx. Accessed 7April 2016.

Caballero, C., & Walker, A. (2010). Work readiness in graduate recruitment and selection: A review of current assessment methods. Journal of Teaching and Learning for Graduate Employability, 1(1), pp. 13 – 25.

Carneiro, P., Crawford, C. & Goodman, A. (2007). The Impact of Early Cognitive and Non-cognitive Skills on Later Outcomes. London: London School of Economics.

Catalano, A. (2013). Patterns of graduate students' information seeking behavior: a meta-synthesis of the literature. Journal of Documentation, 69(2), pp. 243-274.

Cataldi, E.F., Laird, J., & Kewalramani, A. (2009). High school dropout and completion rates in the United States: 2007 (NCES 2009-064). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Cavanagh, S. (2009). Singapore Crafts Vocational Ed. With Industries in Mind," Education Week. Retrieved from https://issuu.com/cieb/docs/phoenix9_25. Accessed 3March 2016.

Cerezo, A. & McWhirter, B.T. (2012). A brief intervention designed to improve social awareness and skills to improve Latino college student retention. College Student Journal 46, pp. 867–879.

Chambers, R. (2008). "PRA, PLA and Pluralism: Practice and Theory", in The Sage Handbook of Action Research: Participative Inquiry and Practice. London: Sage.

Chan, V. (2011). Teaching oral communication in undergraduate science: Are we doing enough and doing it right? Journal of Learning Design, 4(3), pp. 71-79

Chang, H.G. (2009). The Reform of the TVET System in the Republic of Korea for an Ageing Society. In: Maclean R., Wilson D. (eds) International Handbook of Education for the Changing World of Work. Springer, Dordrecht.

Chauraya, E., Madzanire, D., Maphosa, C. & Zikhali, J. (2014). How do Lecturers Teach?: Students' Assessment of Lecturers' Attributes in a Selected University in Zimbabwe. Mediterranean Journal of Social Sciences, 5(7), 307-316.

Cheng, Y. (2018). Educated non-elites' pathways to cosmopolitanism: the case of private degree students in Singapore. Social & Cultural Geography 19(2), pp. 151-170.

Chevalier, J.M. & Buckles, D.J. (2013). Participatory Action Research: Theory and Methods for Engaged Inquiry. York, UK: Routledge.

Chew, S.B., & Chew, R. (2011). The current productivity drive in Singapore and labour market policies. In P. Wilson (Ed.), Challenges for the Singapore economy after the global financial crisis (pp. 93–108). Singapore: World Scientific Publishing.

Chidambaram, V., Ramachandran, A. & Thevar, S.S. (2013). A Study on Efficacy of Induction Training Programme in Indian Railways Using Factor Analysis. Academic journal article Business: Theory and Practice, 14(2), pp. 140-146.

Chireshe, R. & Chireshe, E. (2010). Student Teachers' Perceptions Towards Teaching Practice Assessment. South African Journal of Higher Education, 24(4), pp. 511-524.

Chireshe, R. (2017). Special Needs Education In-Service Teacher Trainees' Views on Inclusive Education in Zimbabwe, Journal of Social Sciences, 27(3), pp. 157-164.

Chisholm, L. (2012). Apartheid education legacies and new directions in post-apartheid South Africa. Storia Delle Donne, 8(1), pp. 81-103.

Choy, S.C. & Delahaye, B.L. (2009). University-industry partnership for pedagogy: Some principles for practice. Paper presented at the 16th World Association for Cooperative Education Conference, Vancouver. Retrieved from http: //waceinc.org/papers/vancouver/Australia/Choy,%20Delahaye.pdf. Accessed 19 July 2016.

Chukwumerije, U. (2011). The Imperative of Technical and Vocation Education in Nigeria Convocation Lecture, Anambra State University. December 7, 2011.

Chung, J.S. (2010). Lifelong vocational education and training in Korea: The vision and tasks. Journal of Technical Education and Training, 2(1), pp. 77-88, 2010.

Cicerello, T. (2012). Malaysia: Overhaul in vocational training. In: Borneo Post, 1(1), pp. 1-19.

Ciechanowska, D. (2010). Teacher competence and its importance in academic education for prospective teachers. General and Professional Education 1, pp. 100-120.

Ciobanu, A. (2013). The Role of Student Services in the Improving of Student Experience in Higher Education. Procedia - Social and Behavioral Sciences, 92, pp. 169-173.

Clark, R.W., Threeton, M.D., & Ewing, J.C. (2010). The Potential of Experiential Learning Models and Practices In Career and Technical Education & Career and Technical Teacher Education. Journal of Career and Technical Education, 25(2), pp. 48-49.

Clarke, S.J. (2015). Employers 'should participate more' in HE provision. Times Higher Education. Retrieved from https://www.timeshighereducation.com/news/ranking-methodology. Accessed 19 April 2016.

Cloete, A. (2015). Youth unemployment in South Africa. A theological reflection through the lens of human dignity. Missionalia (Online), 43(3), 2015, Pretoria.

Cloete, N., Mouton, J. & Sheppard, C., (2015). Doctoral Education in South Africa: Policy, Discourse and Data. Cape Town, South Africa: African Minds.

Cohen, D. & Soto, M. (2007). Growth and human capital: Good data, good results. Journal of Economic Growth, 1(3), pp. 113-207.

Cohen, L., Manion, L. & Morrison, K. (2011). Research Methods in Education (7 ed.). New York: Routledge.

Cole, J.S. & Spence, S.W.T. (2012). Using continuous assessment to promote student engagement in a large class. European Journal of Engineering Education 37(5), pp. 508–25.

Coll, R. K. & Kalnins, T. (2009). A critical analysis of interpretive research studies in cooperative education and internships. Journal of Cooperative Education & Internships, 43(1), pp. 1-13.

Collet, C., Hine, D. & du Plessis, K. (2015). "Employability skills: perspectives from a knowledge-intensive industry", Education and Training, 57(5), pp. 532-559.

Collet, K. & Green, L. (2017). Walking the talk: The influence of an introduction to cognitive education on school leaders. South African Journal of Education, 37(3), pp. 1-9.

Collier, M., Jobbins, S. & Taylor, R. (2012). Student Perception of Graduate Attributes in the Bachelor of Animal and Veterinary Bioscience. University of Sydney, Australia.

Collins English Dictionary [12th edition]. (2014). Glasgow, UK: HarperCollins Publishers Ltd.

Conrad, D. (2008). 'From Community to Community of Practice: Exploring the Connection of Online Learners to Informal Learning in the Workplace'. American Journal of Distance Education, 22(1), pp. 3-23.

Cook, T. (2012). Where participatory approaches meet pragmatism in funded (health) research: The challenge of finding meaningful spaces. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 13(1), pp. 1-18.

COTVET (2011). From prejudice to prestige: vocational education and training in Ghana. Retrieved on 12 January 2014 from http://www.gesci.org/assets/files/COTVET%20report.pdf. Accessed 23 July 2016.

Creswell, J.W. & Plano Clark, V.L. (2011). Designing and Conducting Mixed Methods Research. Thousand Oaks, California, SAGE Publication Inc.

Creswell, J.W. (2013). Steps in Conducting a Scholarly Mixed Methods Study. Thousand Oaks, California, SAGE Publication Inc.

Cribb, A. & Gewirtz, S. (2013). The hollowed-out university? A critical analysis of changing institutional and academic norms in UK higher education. Discourse: Studies in the Cultural Politics of Education, 34(3), pp. 338–350.

Cronin, C.B. (2013). Building a Sustainable Workforce in the Public Transportation Industry - A Systems Approach. 162 of Report (Transit Cooperative Research Program). Retrieved from https://biw=1366&bih=635&ei=ntsnW-r9IOregAb024LgDg&q. Accessed on 13 October 2016.

Crookston, A. & Hooks, G. (2012). Community colleges, budget cuts, and jobs: The impact of community colleges on employment growth in rural U.S. counties, 1976-2004. Sociology of Education, 85(4), 350-372.

Daggett, W. R. (2010). Preparing Students for Their Technological Future.

International Center for Leadership in Education Ungerds. Unpublished manuscript. Retrieved from http://www.leadered.com/pdf/Preparing%20Students%20for%20Tech%20 Future%20white%20paper.pdf. Accessed 16 May 2016.

Dall'Alba, G. (2009). Learning to be professionals. Dordrecht: Springer.

Dang, V.H. (2016). The Relationships Between the Vocational Education Training Providers and Enterprises: Theory and Practice. International Journal of Education & Literacy Studies, 4, pp. 1-7.

Daniels, J. & Brooker, J. (2014). Student identity development in higher education: Implications for graduate attributes and work-readiness. Educational Research, 56(1), pp. 65–76.

Das, D.K. (2013). The Role of China in Asia's Evolution to Global Economic Prominence. Asia & the Pacific Policy Studies, 1(1), pp. 216–229.

Davidson, J.C. (2014). Leading indicators: Increasing statewide bachelor's degree completion rates at 4-year public institutions. Higher Education Policy, 27(1), 85-109.

Davos-Klosters (2014). Matching Skills and Labour Market Needs Building Social Partnerships for Better Skills and Better Jobs. Global Agenda Council on Employment. World Economic Forum. Retrieved from https:// JmNADwAAQBAJ&pg=PT612&lpg=PT612&dq. Accessed October 2017.

de Casterlé, B. D., Gastmans, C., Bryon, E., Denier, Y. (2012). QUAGOL: A guide for qualitative data analysis. International Journal of Nursing Studies, 49(3), pp. 360-371, 2010.

de la Harpe, B. & David, C. (2012). Major influences on the teaching and assessment of Graduate Attributes. Higher Education Research & Development, 31(4), pp. 493-510.

295

De Weert, E. (2011). Perspectives on Higher Education and the labour market: Review of international policy developments. Enschede: Centre for Higher Education Policy Studies (CHEPS) Publishers.

Deissinger, T. (2015). International education policy: Its influence on the conception of VET and the VET system in Germany. Erschienen in: Research in Comparative and International Education,10, pp. 607-621.

Denson, N., & Zhang, S. (2010). "The Impact of Student Experiences with Diversity on Developing Graduate Attributes." Studies in Higher Education 35(5) pp. 529–43.

Dentith, A.M., Measor, L. & O'Malley, M.P. (2012). The research imagination amid dilemmas of engaging young people in critical participatory work. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 13(1), pp. 1-17.

Denzin, N.K.& Lincoln Y.S. (2005). The SAGE Handbook of Qualitative Research. Thousand Oaks, CA: Sage Publications Ltd.

DHET: National Skills Development Strategy III. Pretoria, South Africa

DHET: Policy on Professional Qualifications for Further Education and Training College Lecturers. Pretoria, South Africa: Department of Higher Education and Training (DHET: PPQFET), 2012. Pretoria, South Africa.

DHET: National policy for an Integrated Career Development System for South Africa 2017. Pretoria, South Africa.

DHET: Green Paper for Post-School Education and Training, 2012. Pretoria, South Africa.

DHET: White Paper for Post-School Education and Training, 2013. Pretoria, South Africa.

Dhindsa, H.S., Omar, K. & Waldrip, B. (2007). Upper Secondary Bruneian Science Students' Perceptions of Assessment, International Journal of Science Education, 29(10), pp. 1261-1280.

Dillon, J. (2008). A Review of the Research on Practical Work in School Science. London: Kings College.

Dodoo, J.E. & Kuupole, D.D. (2017). Utility of university curricula in contemporary times: Perspectives of employers in the Cape Coast Metropolis. Journal of Education for Business 92(4), pp. 186-193.

Domenech, F. & Gómez, A. (2014). The relationship among students' and teachers' thinking styles, psychological needs and motivation. In Learning and Individual Differences, 29, pp. 89-97.

Doyle, T. (2008). Helping students learn in a learner-centered environment: A guide to facilitating learning in higher education. Sterling, VA: Stylus Publishing.

Duncan, J. (2010). How intelligence happens. Yale University Press: New Haven, CT; 2010. Yale University Press.

Duta, N., Panisoara, G. & Panisoara I.O. (2015). The Effective Communication in Teaching. Diagnostic study regarding the academic learning motivation to students. Procedia - Social and Behavioral Sciences, 186, pp. 1007-1012.

Dzigbede, F.K.K. (2009). Challenges in the administration of technical Vocational education and training in the Ghana Education Service. University of Cape Coast. Retrieved from http://hdl.handle.net/123456789/1878. Accessed 16 July 2016.

Easa, S.M. (2013). Framework and guidelines for graduate attribute assessment in

engineering education. Faculty of Engineering and Architectural Science, Ryerson University, Toronto, Ont., Canada. Canadian Journal of Civil Engineering, 40(6), pp. 547-556.

Elkins, J., Nink, C., Kenison, M. & Krzeminski, C. (2011). Training and mentoring TVET staff: Lessons from the field. Centerville: MTC Institute.

Emmel, N. (2013). Sampling and choosing cases in qualitative research: A realist approach. London: Sage Publishers.

Engelbrecht, M., Spencer, J. & van der Bijl, A. (2017). Relevance for work in the Western Cape tourism industry of the National Certificate Vocational in tourism education at TVET colleges. Industry and Higher Education Journal, 31(5), pp. 328-334.

Essel, O.Q., Agyarkoh, E. & Sumaila, S.M. (2014). TVET Stigmatization in Developing Countries: Reality or falacy? European Journal of Training and Development Studies, 1(1), pp. 27-42.

Etikan, I., Musa, S.A. & Alkassim, R.S. (2016). Comparison of Convenience Sampling and Purposive Sampling. American Journal of Theoretical and Applied Statistics, 5(1), 2016, pp. 1-4.

Ettorchi-Tardy, A., Levif, M. & Michel, P. (2012). Benchmarking: A Method for Continuous Quality Improvement in Health. Healthcare Policy, 7(4), pp. 101-119.

Evans, C. (2016). Re-thinking case-based assessments in business management education. The International Journal of Management Education 14(2), pp. 161-166.

Fabris, C. (2015). College students think they're ready for the work force. Employers aren't so sure. The Chronicle of Higher Education. Retrieved from http://m.chronicle.com/article/College-Students-Think/151239. Accessed 119 July 2018.

Farland-Smith, D. (2009). How Does Culture Shape Students' Perceptions of Scientists? Cross-National Comparative Study of American and Chinese Elementary Students. Journal of Elementary Science Education, 21(4), pp. 23-42.

Finch, D.J., Hamilton, L.K., Baldwin, R. & Zehner, M. (2013). "An exploratory study of factors affecting undergraduate employability", Education and Training, 55(7), pp. 681-704.

Finley, A. & Rhodes, T. (2013). Using the VALUE rubrics for improvement of learning and authentic assessment. Washington: Association of American Colleges and Universities. https://www.aacu.org/sites/default/files/files/VALUE/mobile.pdf. Accessed 23 August 2016.

Fisher, G. & Scott, I. (2011). The role of Higher Education in closing the Skills gap in South Africa. Human Development Group, Africa Region. Pretoria, South Africa.

Fowler, P.R. & Boylan, H.R. (2010). Increasing student success and retention: A multidimensional approach. Journal of Developmental Education, 34(2), pp. 2–10.

Fraenkel, J.R. & Wallen, N.E. (2009). How to Design and Evaluate Research in Education (7th ed). New York. McGraw-hill.

Frey, B.B. (2007). An introduction to quality test construction. Retrieved from http://www.specislconnection.ku.edu/cgi bin/cgiwrap speccom/ mainphp?cat. Accessed 13 April 2016.

Froese-Germain, B. (2015). Effective Student Learning Depends on Effective Teacher Learning. Journal of Education. Ottawa: Canadian Teachers' Federation.

Fuhrmann, C.N., Halme, D.G., O'Sullivan, P.S. & Lindstaedt, B. (2011). Improving Graduate Education to Support a Branching Career Pipeline: Recommendations Based on a Survey of Doctoral Students in the Basic Biomedical Sciences. CBE Life Sciences Education, 10(3), pp. 239–249.

Galindo, M. (2016). The New Trend of Parental Involvement in the College Admissions Process. Scholarship and Engagement in Education, 1(1), pp. 1-4.

Gallie, M. & Keevy, J. (2014). Standards Framework for Teachers and School Leaders. London: Commonwealth Secretariat.

Gamble, J. (2013). Why improved formal teaching and learning are important in technical and vocational education and training (TVET). UNESCO-UNEVOC | Revisiting global trends in TVET. Retrieved from https://unevoc.unesco.org/fileadmin/up/2013_epub_revisiting_global_trends_in_tvet_chapter6.pdf. Accessed January 2017.

Ganyaupfu, E.M. (2013). Factors Influencing Academic Achievement in Quantitative Courses among Business Students of Private Higher Education Institutions. Journal of Education and Practice, 4(15), pp. 57-65.

Garraway, J., Bronkhorst, J., Wickham, S. (2015). Between college and work in the Further Education and Training College sector. South African Journal of Education, 35(1), pp. 1-8.

Gauvain, M. (2008). Vygotsky's sociocultural theory, Encyclopedia of infant and Early Childhood Development, 3, pp. 404-413.

Gentelli, L. (2015). Using industry professionals in undergraduate teaching: Effects on student learning, Journal of University Teaching & Learning Practice, 12(4), pp. 4-10.

Gewer, A. (2010). Improving quality and expanding the further education and training college system to meet the need for an inclusive growth path. Pretoria, South Africa: Development Bank of Southern Africa.

Gewer, A., & Akoobhai, B. (2013). Post-school education pathways in the South African education system. Retrieved from http://www.dhet.gov.za/dhetresearchbulletin/issue2/Abstarct%20and%20excerpts/article2.htm. Accessed 23 March 2016.

Ghazivakili, Z., Norouzi Nia, R., Panahi, F., Karimi, M., Gholsorkhi, H. & Ahmadi, Z. (2014). The role of critical thinking skills and learning styles of university students in their academic performance. Journal of Advances in Medical Education & Professionalism, 2(3), 95–102.

Gibbs, S., Steel, G. & Kuiper, A. (2011). Expectations of competency: the mismatch between employers' and graduates' views of end-user computing skills requirements in the workplace. Journal of Information Technology Education Research, 10, pp. 371–382.

Gillies, D. (2015). Human Capital Theory in Education. In: Peters M. (eds). Encyclopedia of Educational Philosophy and Theory. Singapore: Springer.

Ginsberg, S.M. & Schulte, K. (2008). Instructional accommodations: Impact of conventional vs. social constructivist view of disability. Journal of the Scholarship of Teaching and Learning, 8(2), pp. 84-91.

Given, L.M. 2008. "Qualitative research methods." In The Encyclopedia of Educational Psychology, edited by Neil J. Salkind, 827-831. Thousand Oaks, CA: Sage Publications.

Glaser, E. & Warick, C. (2016). What does the research say about early awareness strategies for college access and success? Washington, DC: National College Access Network.

Glick, P. & Sahn, D.E. (2010). Early Academic Performance, Grade Repetition, and School Attainment in Senegal: A Panel Data Analysis. The World Bank Economic Review, 24(1), pp. 93-120.

Goel, V.P. (2011). Technical and vocational education and training (TVET) system in India for sustainable development. Bonn: UNEVOC.

Goniadis, G. (2015). Introduction to Sustainable Development. A brief handbook for students by students. Thessaloniki, Greece: International Hellenic University.

Goodman, R., Hatakenaka, S. & Kim, T. (2009). "'The changing status of vocational higher education in contemporary Japan and the Republic of Korea: a discussion paper'". Bonn: UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training. Korea.

Gopinathan, S. (2013). Education and the nation state: the selected works of S. Gopinathan. London: Routledge.

Gopisetty, Y. (2016). A study of online users' cyber threat awareness and their use of threat countermeasures. Department of informatics, Human Computer Interaction. Masters' Dissertation. Umeå University. Sweden.

Gracia, L. (2009). Employability and higher education: contextualising female students' workplace experiences to enhance understanding of employability development, Journal of Education and Work, 22(4), pp. 301-318.

Graham, R., Mancher, M., Wolman, D.M., Greenfield, S., Steinberg, E. (2011). Clinical Practice Guidelines We Can Trust. Washington, DC: National Academies Press.

Green, W., Hammer, S. & Star, C. (2009). 'Facing up to the challenge: why is it so hard to develop graduate attributes'. Higher Education Research and Development, 28(1), pp. 17-29.

Greenbank, P. (2003). The role of values in educational research: The case for reflexivity. British Educational Research Journal, 29, pp. 791–801.

Greene, F.J. & Saridakis, G. (2008). The role of higher education skills and support in graduate self-employment, Studies in Higher Education, 33(6), pp.653-672.

Greinert, W. (2007). "The German philosophy of Vocational Education." In Vocational Education. International Approaches, Developments and Systems, edited by L. Clark, and C. Winch, 49–61, 2007. London: Routledge.

Griesel, H. & Parker, B. (2009). Graduate Attributes. Higher Education South Africa and the South African Qualifications Authority. Retrieved from http://www.saqa.org.za/docs/genpubs/2009/graduate_attributes.pdf. Accessed 7 June2016.

Griffiths, J., Maggs, H. & George, E. (2008). Stakeholder Involvement': Background paper prepared for the WHO/WEF joint event on Preventing Noncommunicable Diseases in the Workplace (Dalian/China, September 2007). Cologny/Geneva, Switzerland: World Health Organization.

Grundmann, R. (2017). The Problem of Expertise in Knowledge Societies. Minerva, 55(1), pp. 25–48.

Hager, P. & Holland, S. (2008). Graduate Attributes, Learning and Employability. Australia: Springer Science & Business Media.

Haigh, M. & Clifford, V. (2010). Widening the Graduate Attribute Debate: a Higher Education for Global Citizenship. The Brookes eJournal of Learning and Teaching, 2(5), pp. 1-14.

Hailu, E. T. (2012). Analysing the labour outcomes of TVET in Ethiopia: Implication of challenges and opportunities in productive self-employment of TVET graduates. Retrieved January 14, 2014, from hdl.voced.edu.au 10707 240424. Accessed September, 2016.

Hall, M., Pascoe, D. & Charity, M. (2017). The impact of work-integrated learning experiences on attaining graduate attributes for exercise and sports science students. Asia-Pacific Journal of Cooperative Education, Special Issue, 2017, 18(2), pp. 101-113.

Hamilton, L., Halverson, R., Jackson, S.S., Mandinach, E., Supovitz, J.A., Wayman, J.C., Pickens, C., Martin, E. & Steele, J.L. (2009). Using Student Achievement Data to Support Instructional Decision Making. United States Department of Education, Retrieved from https://repository.upenn.edu/gse_pubs/279. Accessed 28 March 2016.

Hammersley, M. (2015). Sampling and thematic analysis: A response to Fugard and Potts. International Journal of Social Research Methodology, published online. doi10.1080/13645579.2015.1005456. Accessed 14 February 2017.

Hanapi, Z. & Nordin, M.S. (2014). Unemployment among Malaysia Graduates: Graduates' Attributes, Lecturers' Competency and Quality of Education. Procedia - Social and Behavioral Sciences, 112, pp. 1056-1063.

Hanf, G (2011) The changing relevance of the Beruf. In: Brockmann, M, Clarke, L, Hanf, G, Méhaut, P, Westerhuis, A, Winch, C (2011) Knowledge, Skills, Competence in the European Labour Market: What's in a Qualification? Abingdon: Routledge, 50–67.

Hango, D. (2013). Gender differences in science, technology, engineering, mathematics and computer science (STEM) programs at university. Science, 6(6.6), pp. 5-8.

Hanifi, N., Parvizi, S., Jolaee, S. (2012). The role of clinical instructor in clinical training motivation of nursing students; A qualitative study. Iranian J Nurs Res, 7, pp. 23–33.

Hansen, E.C. (2006). Successful Qualitative Health Research: A Practical Introduction. Crows Nest, N.S.W. Allen & Unwin Publishers.

Hanushek, E.A., Woessmann, L. & Zhang, L. (2011). General education, vocational education and labor market outcomes over the life-cycle: Working paper 17504. Cambridge, MA: National Bureau of Economic Research.

Heffernan, T., Morrison, M., Sweeney, A. & Jarratt, D. (2010). Personal attributes of effective lecturers: The importance of dynamism, communication, rapport, and applied knowledge. The International Journal of Management Education - IJMIE. 8, pp. 13-27.

Hénard, F. & Roseveare, D. (2012). Fostering Quality Teaching in Higher Education: Policies and Practices. Guide for Higher Education Institutions. Oxford: Institutional Management in Higher Education.

Hendricks, K. & Louw- Potgieter, J. (2012). A theory evaluation of an induction programme. SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 10(3), 10(3), pp. 420-422.

Hennik, M., Hutter, I. & Bailey, A. (2011). Qualitative Research Methods. Thousand Oaks: SAGE Publications.

Herrmann, K. J. (2013). The impact of cooperative learning on student engagement: Results from an intervention. Active Learning in Higher Education, 14(3), pp. 175–187

Herrera, S.G., Murry, K.G. & Cabral, R.M. (2007). Assessment accommodations for classroom teachers of culturally and linguistically diverse students. Boston: Pearson Education Inc.

Herrington, B. (2012). "Influence of Grandparents on First-Generation College Students,"Ursidae: The Undergraduate Research Journal at the Univerity of Northern Colorad, 2(2), pp. 1-10.

Hicks, M., Weingarten, H.P., Jonker, L. & Liu, S. (2013). The Diversity of Ontario's Colleges: A Data Set to Inform the Differentiation Discussion. Toronto: Higher Education Quality Council of Ontario.

Hill, J., Walkington, H. & France, D. (2016). Graduate attributes: implications for higher education practice and policy. Journal of Geography in Higher Education, 40(2), pp. 155-163.

Hinchliffe, G.W. & Jolly, A. (2011). "Graduate Identity and Employability." British Educational Research Journal, 37, pp. 563–584.

Hippach-Schneider, U. & Wiechert, M. (2012). Country Report – Germany: On the occasion of the International Dialogue on TVET" hosted by NSA and QCTO on 2nd -3rd April 2012. Retrieved from https://link.springer.com/article/10.1007/s11125-014-9311-4. Accessed 1 June 2015.

Holland, D., Liadze, I., Rienzo, C. & Wilkinson, D. (2013). The relationship between graduates and economic growth across countries. UK: National Institute of Economic and Social Research.

Holloway, I., Wheeler, S. (2010). Qualitative research in nursing and healthcare. Oxford, UK: Blackwell.

Holmes, N. (2017). Engaging with assessment: Increasing student engagement through continuous assessment. SAGE Journals, 19(1), pp. 23-34.

Holton, M. (2017). Traditional or non-traditional students?: incorporating UK students' living arrangements into decisions about going to university. Journal of Further and Higher Education, 42(4), pp. 556-569.

Hood, M., Creed, P.A. & Neumann, D.L. (2012). Using the expectancy value model of motivation to understand the relationship between student attitudes and achievement in statistics. Statistics Education Research Journal, 11(2), pp. 72-85.

Hopkins, C.D., Raymond, M.A., Carlson, L. (2011). Educating students to give them a sustainable competitive advantage. Journal of Marketing Education 33(3) pp. 337–347.

How, T.T. (2015). Is it time for a new approach to education in Singapore? Singapore: The Head Foundation.

HRDC (Human Resource Development Council for South Africa), 2014. TVET Colleges in South Africa. Pretoria, South Africa. Pathways Workstream.

Hughes, C., & Barrie, S. (2010). Influences on the assessment of graduate attributes in higher education. Assessment and Evaluation in Higher Education, 35, pp. 325–334.

Hughes, D.M. (2017). "Twenty Reasons to Publish in Dignity," Dignity: A Journal on Sexual Exploitation and Violence, 2(2), pp. 1-15.

Human Resource Development Council for South Africa (HRDC). (2014). TVET Colleges in South Africa: Pathways Workstream. Pretoria, South Africa,.

Impagliazzo, J. (2009). Graduate attributes and performance measures: refinements in assessing programs. Journal ACM SIGCSE - ITiCSE '09. 41(3), pp. 370-370.

Ipperciel, D. & ElAtia, S. (2014). Assessing Graduate Attributes: Building a Criteria-Based Competency Model. International Journal of Higher Education, 3(3), pp. 1-13.

Jackson, D. (2012). Student Perceptions of the Importance of Employability Skill Provision in Business Under graduate Programs. Journal of Education for Business, 88(5), pp. 271-279.

Jackson, D. (2013a). Student Perceptions of the Importance of Employability Skill Provision in Business Undergraduate Programs. Journal of Education for Business, 88(5), pp. 271-279.

Jackson, D. (2013b). The contribution of work-integrated learning to undergraduate employability skill outcomes. Asia-Pacific Journal of Cooperative Education, 2013 14(2), pp. 99-115.

Jackson, K., Lower, C.L. & Rudman, W.J. (2016). The Crossroads between Workforce and Education. Perspectives in Health Information Management, 13(1), pp. 1-9.

Jacobs, P. & Hart, T. (2012). Skills development in rural areas - A brief review of evidence. RIAT Concept Paper. Pretoria, South Africa: HSRC-EPD.

James, B., Lefoe, G. & Hadi, M. (2004). Working 'through' graduate attributes: A bottom-up approach. HERDSA 2004 Conference proceedings. Retrieved from http://www.herdsa.org.au/conference2004 /Contributions /RPapers /P022-jt.pdf. Accessed 16 July 2016.

Jansen, E.P. & Suhre, C.J. (2015). Factors influencing students' perceptions of graduate attribute acquisition in a multidisciplinary honours track in a Dutch university. Higher Education Research & Development, 34(6), pp. 1138-1152.

Janssen, W., Bouwman, H., van Buuren, R. & Haaker, T. (2014). An organizational competence model for innovation intermediaries". European Journal of Innovation Management, 17(1), pp. 2 – 24.

Jarr, K.A. (2012). Education practitioners' interpretation and use of assessment results. Doctoral thesis PhD. University of Iowa. Iowa City, United States of America.

Jaschik, S. (2015). Well-Prepared in Their Own Eyes. Washington DC: The Association of American Colleges and Universities (AACU).

Jelita, A. (2017). The downsides to Singapore's education system: streaming, stress, and suicides. International Journal of Advance Research, Ideas and Innovations in Technology, 4(1), pp. 388-392.

Johan, K. (2015). Perception of students towards lecturers teaching engineering courses with industry experience: A case study in Malaysia Technical University. Procedia - Social and Behavioral Sciences, 195, pp. 925-931.

Johansson, L. (2015). Does human capital create economic growth in Sub-Saharan Africa? An empirical analysis of the relationship between human capital and economic growth. Södertörn University| Institution of Social Sciences, 1, pp. 55-59.

Johnson, R.B., Onwuegbuzie, A.J. & Turner, L.A. (2007). Toward a Definition of Mixed Methods Research. Journal of Mixed Methods Research, 1, pp. 112-133.

Jonck, P. (2014). A Human Capital Evaluation of Graduates from the Faculty of Management Sciences Employability Skills in South Africa. Academic Journal of Interdisciplinary Studies. MCSER Publishing, Rome-Italy, 3(6), pp. 265-274.

Jones, A. (2013). There is nothing generic about Graduate Attributes: unpacking the scope of context. Journal of Further and Higher Education, 37(5) pp. 591-605.

Jones, C.M., Green, J.P & Higson, H.E. (2015). Do work placements improve final year academic performance or do high-calibre students choose to do work placements?, Studies in Higher Education, 42(6), pp. 976-992.

Jones, E. & Killick, D. (2013). 'Graduate Attributes and the Internationalized Curriculum: Embedding a Global Outlook in Disciplinary Learning Outcomes'. Journal of Studies in International Education, 17(2), pp. 165-182.

Jones, G. & Skolnik, M. (2009). Degrees of Opportunity: Broadening Student Access by Increasing Institutional Differentiation in Ontario Higher Education. Toronto: Higher Education Quality Council of Ontario.

Jones, P.M. (2008). Industrial Enlightenment: Science, Technology, and Culture in Birmingham and the West Midlands, 1760– 1820. Manchester and New York: Manchester University Press.

Kalinowski, P., Lai, J., Fidler, F., Cumming, G. (2010). Qualitative Research: An Essential Part of Statistical Cognition Research. Statistics Education Research Journal, 9(2), pp. 22-34.

Kalpana, T. (2014). A Constructivist Perspective on Teaching and Learning: A Conceptual Framework. International Research Journal of Social Sciences. 3(1), 27-29.

Kamin, Y., Cartledge, D., & Simkin, K. (2010). Work-based learning in Malaysia's Community Colleges: Perceptions from Students, Lecturers, Training Partners and Employers. Online: http://www.voced.edu.au/content/ngv43617 (retrieved 12 April2013). Accessed 3 July 2016.

Kamvounias, P. & Thompson, D.G. (2008). Assessing Graduate Attributes in the Business Law Curriculum. Retrieved from https://opus.lib.uts.edu.au/handle/10453/10516. Accessed 19 February 2016.

Karacasulu, N. & Uzgören, E., (2007). Explaining Social Constructivist Contributions to security studies. Perceptions, 1, pp. 27-48.

Karinka, S. (2016). Research and Innovations in Technical Education – Why to Match Industry Expectations? Udupi District, India: Institute of Technology Nitte, Karkala Taluk.

Kassile, T. (2014). Pass rates in primary school leaving examination in Tanzania: implication for efficient allocation of resources. South African Journal of Education, 34(2), pp. 1-21.

Kayla, J. (2017). "Extended Family Relationships: How They Impact the Mental Health of Young Adults" (2017). Theses and Dissertations--Family Sciences, 49 pp. 1-36.

Kazar, K. (2014). The role of lecturers in students' performance. University of Szeged, Hungary. ICOTS9 (2014) Contributed Paper. Hungary: University of Szeged.

Keenan, A. & O"Neill, G. (2008). Engaging Academic Staff in a Strategic Approach to Assessment Practices in University College Dublin"s (UCD) College of Life Sciences. Paper accepted for presentation in the International Conference of Education, Research and Innovation (ICERI 2008), Madrid, Spain.

Keogh, J., Maguire, T. & O'Donoghue, J. (2015). Graduate Work-Readiness in the 21st Century. Higher Education in Transformation Conference, Dublin, Ireland, 2015, pp. 385-395.

Kew, B. (2014). A study of the relationship between students' participation in the commerce education development unit and their graduate attributes. Unpublished Master's dissertation M.Com. University of Cape Town. Cape Town, South Africa.

Kim B. (2008). Social constructivism. Available at: http://projects.coe.uga.edu/epltt/index.php? title=Social Constructivism. Accessed 4 December 2016.

Kinash, S., Crane, L., Judd, M.M., Mitchell, K., McLean, M., Knight, C., Dowling, D. & Schulz, M. (2015). Supporting graduate employability from generalist disciplines through employer and private institution collaboration, report prepared for the Office for Learning and Teaching, Australian Government. Australia: Bond Unversity.

Kindley, R. (2002). Scenario-based e-learning: A step beyond traditional e-learning. Retrieved from http://www.learningcircuits.org/2002/may2002/kindley.html. Accessed July 2015.

Knight, D. B., Lattuca, L. R., Kimball, E. W., & Reason, R. D. (2013). Understanding Interdisciplinarity: Curricular and Organizational Features of Undergraduate Interdisciplinary Programs. Innovative Higher Education, 38(2), pp. 143-158.

Kopanidis, F.Z. & Shaw, M.J. (2017). Predicting faculty membership – application of student choice logit model. Education and Training, 59(1), pp. 90-104.

Kourkouta, L. & Papathanasiou, I. V. (2014). Communication in Nursing Practice. Materia Socio-Medica, 26(1), pp. 65–67.

Kovacs, P. (2013). Issues and challenges of statistical literacy in higher education. 59th ISI World Statistics Congress. Retrieved from http://www.statistics.gov.hk/wsc/CPS007-P6-S.pdf. Accessed 19 February 2016.

Kreider, C.M., Bendixen, R.M. & Lutz, B.J. (2015). Holistic Needs of University Students with Invisible Disabilities: A Qualitative Study, Physical & Occupational Therapy in Pediatrics, 35(4), pp. 426-441.

Kroboth, J.N. (2016). Benefits of Promoting College Awareness for Low Income Middle and High School Students (2016). Capstone Projects and Master's Theses. 3. California State University, Monterey Bay.

Kutay, C., Howard-Wagner, D., Riley, L. & Mooney J. (2012). Teaching Culture as Social Constructivism. In: Popescu E., Li Q., Klamma R., Leung H., Specht M. (eds) Advances in Web-Based Learning. Berlin, Heidelberg: Springer Publishers.

Labov, J.B. (2012). Changing and Evolving Relationships between Two- and Four-Year Colleges and Universities: They're Not Your Parents' Community Colleges Anymore. US National Library of Medicine National Institutes of Health, 11, pp. 121-128.

Law, S.S. (2008). Vocational technical education and economic development—The Singapore experience. In L. S. Kong, G. C. Boon., B. Frediksen, & T. J. Peng (Eds.), Towards a better future: Education and training for economic development in Singapore since 1965 (pp. 114–134). New York, NY: The World Bank.

Leeds-Hurwitz W. (2009). Social construction of reality. Encyclopedia of communication theory, pp. 892-895.

Leibbrandt, D.L.M. & Mlatsheni, C. (2008). Education and Youth Unemployment in South Africa. London: Routledge.

Lemke, A.A. & Harris-Wai, J.N. (2015). Stakeholder engagement in policy development: challenges and opportunities for human genomics. Genetics in Medicine : Official Journal of the American College of Medical Genetics, 17(12), pp. 949–957.

Leung, D.Y.P. & Kember, D. (2013). "Nurturing Graduate Attributes through a First Year Student Experience Which Promotes the Formation of Effective Learning Communities." American Journal of Educational Research, 1(7), pp. 230-239.

Leutert, W. (2016). Challenges Ahead in China's Reform of State-Owned Enterprises. Seattle, Washington DC: The National Bureau of Asian Research.

Lewis, T. (2009). Towards reclaiming the high ground in the discourse on vocationalism in developing countries. International Journal of Educational Development, 29(6), pp. 558-564.

Lie, K. (2007). Employer perception on graduate literacy in higher education in relation to the workplace. Retrieved June 26, 2014, from http://www.esp-world.info/Articles_20/DOC/Koo_vp_employer_Journal18Oct09.pdf. Accessed 5 May 2017.

Litchfield, A.J., Frawley, J.E. & Nettleton, S.C. (2010). Contexualising and intergrating into the curriculum the learning and teaching of work-ready professional graduate attributes. Higher Education Research & Development, 29, pp. 519-534.

Liu, X. & Dong, K. (2012). Development of the civil servants performance appraisal system in China: Challenges and improvements. Review of Public Personnel Administration, 32(2), pp. 149-168.

Long, H. (2014). An Empirical Review of Research Methodologies and Methods in Creativity Studies (2003–2012), Creativity Research Journal, 26(4), pp. 427-438.

Lotter, D. (2016). College gains exposure in "Inside Retail Training". The Official Quartely TVET College Newsletter and Journal, 46, pp. 10-47.

Lowden, K., Hall, S., Elliot, D. & Lewin, J. (2011). Employers' perceptions of the employability skill of new graduates. The SCRE centre, Education Research. London: Edge Foundation.

Lowe, K. & Marshall, L. (2004). Plotting renewal: Pushing curriculum boundaries using a web based graduate attribute mapping tool. In R. Atkinson, C. McBeath, D. Jonas-Dwyer & R. Phillips (Eds), Beyond the comfort zone: Proceedings of the 21st ASCILITE Conference (pp. 548-557). Perth, 5-8 December. http://www.ascilite.org.au/conferences/perth04/procs/lowe-k.html. Accessed 14 May 2017.

Loynes, K (2017). TVET College Times: Special 50th Edition. Accessed October, 2017.

Lugoma, E.M. (2017). On-campus mine surveying practicals: their contribution in training mining engineering students in an open distance learning context. Journal of the Southern African Institute of Mining and Metallurgy. 117(3), pp. 26-41.

Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. Issues in educational research, 16(2), pp. 193-205, 2006.

Maclean, R. & Wilson, D. (2009). International Handbook of Education for the Changing World of Work: Bridging Academic and Vocational Learning. Netherlands: Springer Science & Business Media.

Maclean, R., & Pavlova, M. (2013). Vocationalisation of Secondary and Tertiary

315

Education: Challenges and Possible Future Directions. In: Maclean R., Jagannathan S., Sarvi J. (eds) Skills Development for Inclusive and Sustainable Growth in Developing Asia-Pacific. Technical and Vocational Education and Training: Issues, Concerns and Prospects. Dordrecht: Springer.

Mafini, C., & Pooe, D.R.I. (2013). The relationship between employee satisfaction and organisational performance: Evidence from a South African government department. SA Journal of Industrial Psychology/SA Tydskrif vir Bedryfsielkunde, 39(1), pp. 9-18.

Mager, S. & Spronken-Smith, R. (2014). Graduate attribute attainment in a multi-level undergraduate geography course. Journal of Geography in Higher Education, 38(2), pp. 238-250.

Magnus, G., Prinsloo, F., Bird, A. & Singh, A. (2013). Concept Document - Building a Technical and Vocational Education and Training System in South Africa. Pretoria: DHET.

Mahadea, D. & Simson, R. (2010). The challenge of low employment economic growth in South Africa: 1994 -2008. South African Journal of Economic and Management Sciences, 3(1), pp. 1-9.

Maher, C. (2011). Academic writing ability and performance of first year. University students in South Africa. International Journal of Psychology, 47, pp. 307.

Maiga, E. (2013). Making skills development work for economic transformation in Africa: Demystifying the suit and de-stigmatizing vocational and technical education. Retrieved on 10 May 2014. Accessed 27 June 2016.

Mainz, J., Hjulsager, M., Thorup-Eriksen, M. & Burgaard, J. (2009). "National Benchmarking Between the Nordic Countries on the Quality of Care." Journal of Surgical Oncology, 99(8) pp. 505–07.

Malale, M. & Sentsho, L. (2014). Perceptions of Rural Further Education and Training (FET) College Students Towards Placement at Small, Medium and Micro Enterprises (SMMES): The South African Rural Perspective. Mediterranean Journal of Social Sciences, 5(20), pp. 683-690.

Mamoon, D., & Murshed, S.M. (2009). Want economic growth with good quality institutions? Spend on education. Education Economics, 17(4), pp. 445-468.

Manyau, T. (2015). Assessing Skills Development Management for Lecturers in Technical Vocational Education and Training colleges in North West province. North West University. Unpublished Master's dissertation M.Ed. North West University. Mafikeng, South Africa.

Marfo, A. (2014). What is the difference between vocational & technical courses? Retrieved http: //everydaylife. globalpost.com/ difference between-vocational-technical-courses-32351.html. Accessed 19 February 2016.

Masino, S. & Niño-Zarazúa, M. (2016). What works to improve the quality of student learning in developing countries? Int. J. Educ. Dev., 48(2), pp. 53-65.

Maton, K. & Moore, R. (2010). "Introduction" in K. Maton & R. Moore (Eds.) Social realism, knowledge and the sociology of education: Coalitions of the mind (pp. 1-13, 2010). London: Continuum.

Matzler, J. & Woessmann, L. (2010). The impact of lecturer subject knowledge on student achievement: Evidence from within- lecturer within-student variation. Journal of Development Economics, 99(2), pp. 486-496.

Mays, A. (2015). Toward the Application of Constructivism and Constructionism to Work-Related Training in Service of the Enhancement of Human Capital Development in Postsecondary Education Settings in the United States. A Dissertation Submitted in Partial Fulfilment of the Requirement for the Degree of Doctor of Education California Coast University 2015.

Mbatha, N., Wildschut, A., Mcnwango, B., Ngazimbi, X., & Twalo T. (2015). Towards understanding the distinctive nature of artisan training. Implications for skills planning in South Africa. Labour Market Intelligence Partnership Report 2. Retrieved from http://www.lmip.org.z a/document/lmip-report-2-towards-understanding-distinctive-nature-artisan-training-implications-skills. Accessed 19 November 2016.

McCabe, G. (2010). Graduate Attributes and Employability: helping universities and students prepare for the changing landscape. Centre for Teaching, Learning and Assessment, The University of Edinburgh, Paterson's Land, Holyrood Road, Edinburgh EH8 8AQ.

McEwan, D., Ruissen, G.R., Eys, M.A., Zumbo, B.D., Beauchamp, M.R. (2017). The Effectiveness of Teamwork Training on Teamwork Behaviors and Team Performance: A Systematic Review and Meta-Analysis of Controlled Interventions. Retrieved from https://doi.org/10.1371/journal.pone.0169604. Accessed 13 April 2017.

McGovern, T.V., Corey, L.A., Cranney, J., Dixon, Jr., W.E., Holmes, J.D., Kuebli, J.E., Ritchey, K., Smith, R. A. & Walker, S. (2010) Psychologically literate citizens. In D. Halpern (Ed.). Undergraduate Education in Psychology: Blueprint for the Discipline's Future (pp. 9-27). Washington, DC: APA.

McGrath, S. & Akoojee, S. (2009). Vocational education and training for sustainability in South Africa: the role of public and private provision. International Journal of Educational Development 29(2), pp. 149–156.

McGrath, S. and Akoojee, S. 2007. Education and skills for development in South Africa: Reflections on the accelerated and shared growth initiative for South Africa. International Journal for Educational Development, 27(4): 421–34.

318

McIntosh, D. (2013). Employers want greater focus on technical/vocational training. Jamaica Information Service. Retrieved from http//jis.gov.jm/employers want greater focus technical vocation training. Accessed 3 July 2016.

McKinley, J., (2015). Critical Argument and Writer Identity: Social Constructivism as a Theoretical Framework for EFL Academic Writing. Critical Inquiry in Language Studies, 12 (3), pp. 184-207.

McLean, C. (2006). The SAGE Dictionary of Social Research Methods. (pp. 253-254). London, England: SAGE Publications, Ltd. Retrieved from http://srmo.sagepub.com/view/the-sage-dictionary-of-social-research-methods/SAGE.xml. Accessed 5 May 2016.

Mclean, R. & David, N.W. (2009). International handbook of education for the changing world of work: Bridging academic and vocational learning. Retrieved 19 July 2013, from http://toolkit.ineesite.org/toolkit/INEEcms/uploads. Accessed 1 May 2016.

McMillan, J. H. & Schumacher, S. (2010). Research in education: Evidence-based inquiry (7th ed.). New York, NY: Pearson.

McNeil, H.P., Scicluna, H.A., Boyle, P., Grimm, M.C., Gibson, K.A. & Jones, P.D. (2012). Successful development of generic capabilities in an undergraduate medical education program. Higher Education Research & Development, 31(4), 525-539.

McNiff, J. (2010). Action Research for Professional Development: Concise Advice for New (and Experienced) Action Researchers. Dorset: September Books Publishers.

Meda, L. & A.J. Swart, A.J. (2017). "Graduate Attributes in an Electrical Engineering Curriculum: A Case Study," IJEE, International Journal of Engineering Education, 33, pp. 210–217.

Mega, C., Ronconi, L. & De Beni, R. (2014). What makes a good student? How emotions, self-regulated learning, and motivation contribute to academic achievement. Journal of Educational Psychology, 106( ) pp. 121–131.

Meyari, A., Kashani, A.S., Gharib, M., Beiglarkhani, M. (2009). Comparison between the Learning Style of Medical Freshmen and Fifth-year Students and its Relationship with their Educational Achievement. Strides in Development of Medical Education, 6(2): 110–118.

Millar, B. (2012). Graduate Attributes (not attributes) in emergency medical science students. Paper presented at WILRU Ten-Year Anniversary Conference. Cape Town, South Africa.

Miller, J. (2014). Building academic literacy and research skills by contributing to Wikipedia: A case study at an Australian university. Journal of Academic Language & Learning, 8(2), pp. 51-96.

Ministry of Labour (2009). Workers Vocational Skills Development Act. Retrieved from http://www.moleg.go.kr/english/korLawEng?pstSeq=52976. (Accessed 17 July 2016).

Mmako, M.M. (2015). Employee Engagement: Evidence from TVET Colleges in South Africa. Proceedings of the 28th Annual Conference of the Southern African Institute of Management Scientists. Retrieved from http://www.up.ac.za/media/shared/643/ZP_Files/2016/Papers/hrl5_full.zp97846.pdf. Accessed 4 March 2016.

Moalosi, R. Molokwane, S. & Mothibedi, G. (2015). Using a Design-orientated Project to Attain Graduate Attributes. Design and Technology Education: An International Journal, 17(1), pp. 30-43.

Moalosi, R., Oladiran, M.T. & Uziak, J. (2012). Students' perspective on the attainment of graduate attributes through a design project. Global Journal of Engineering Education (GJEE), 14(1), pp. 40-46.

MOE. (1996). Post-secondary education: Bringing out your best with different learning styles. Singapore: Ministry of Education. Retrieved from http://www.moe.gov.sg/education/post-secondary/files/post-secondary-brochure.pdf. Accessed 19 April 2016.

Moeliodihardjo, B.Y. (2010). Equity and Access in Higher Education: The case of Indonesia. International seminar on Massification of Higher Education in Large Academic Systems. Indonesia: Higher Education and Training.

Moemeke, C.D. (2013). Innovating Science Education for Technical Entrepreneurship: The Curriculum Dimension. Journal of Business. Entrepreneurship, 2(2), pp. 1-17.

Mohammad, R. (2012). Developing the right graduate attributes through project-based teaching. Procedia - Social and Behavioral Sciences, 59, pp. 565–573.

Morin, S.M., Jaeger, A.J. & O'meara, K. (2016). The State of Community Engagement in Graduate Education: Reflecting on 10 Years of Progress. A journal of Higher Education outreach and Engagement. A publication of the University of Georgia, 20(1), pp. 151-154.

Mouzakitis, G.S. (2010). The role of vocational education and training curricula in economic development. Procedia - Social and Behavioral Sciences, 2(2), pp. 3914-3920.

Mukora, J. (2009). Artisans. In: Erasmus, J. & Breier, M. (ed), Skills Shortages in South Africa: Case studies of key professions. Research Monograph. Education, Science and Skills Development Programme. Human Sciences Research Council. Pretoria South Africa.

Mukuni, J. & Price, B. (2013). Portability of technical skills across occupations: A case for demolition of disciplinary silos?, 5(2), pp. 21–28.

Mulhere, K. (2014). Following in a Sibling's Footsteps. Inside Higher Education. Retrieved from https://www.insidehighered.com/users/kaitlin-mulhere. Accessed 30 January 2017.

Mullins, L.L., Wolfe-Christensen, C., Chaney, J.M., Elkin, T.D., Wiener, L., Hullmann, S.E., Fedele, D.A. & Junghans, A. (2011). The Relationship Between Single-Parent Status and Parenting Capacities in Mothers of Youth with Chronic Health Conditions: The Mediating Role of Income, Journal of Pediatric Psychology, 36(3), pp. 249–257.

Musau, L.M. & Abere, M.J. (2015). Teacher qualification and students' academic performance in science mathematics and technology subjects in Kenya. International Journal of Educational Administration and Policy Studies, 7(3), pp. 83-89.

Mussawy, S.A.J. (2009). Assessment Practices: Student's and Teachers' Perceptions of Classroom Assessment. Massachusetts: CIE Master's Capstone Projects.

Muzenda, A. (2013). Lecturers' Competences and Students' Academic Performance. International Journal of Humanities and Social Science Invention, 3(1), pp. 6-130.

Mwaikokesya, M., Osborne, M., Houston, M. (2014). Mapping Lifelong Learning Attributes in the Context of Higher Education Institutions. Journal of Adult and Continuing Education. 20(2), pp. 21 – 36.

Mylrea, M., Gupta, T.S. & Glass, B. (2015). Professionalization in pharmacy education as a matter of identity. Am J Pharm Educ, 79, pp. 1-9.

322

Nagarajan, S. & Edwards, J. (2014). Is the graduate attributes sufficient to develop work ready graduate? Journal of Teaching and Learning for Graduate Employability, 5(1), pp. 56-64.

Nalere, P., Yago, M. & Oriel, K. (2015). The contribution of rural institutions to rural development: Study of smallholder farmer groups and NGOs in Uganda. International NGO Journal 10(4), pp. 37-51.

Namey, E., Guest, G., Thairu, L. and Johnson, L. (2008). Data Reduction Techniques for Large Qualitative Data Sets. Handbook for team-based qualitative research, 2, pp. 137-161.

Nasrabadi, H.M., Mousavi, S., Kave-Farsan, Z. (2012). The Contribution of Critical Thinking Attitude and Cognitive Learning Styles in Predicting Academic Achievement of Medical University's Students. Iranian Journal of Medical Education. 2012; 12(4): 285–96.

National Centre for Vocational Education Research (NCVER) (2010). Careers and pathways. Retrieved from. http://www.ncver.edu.au /students/21004.htm.. Accessed 5 November 2016.

Nghia, T.L. (2018). "It is complicated!": Practices and challenges of generic skills assessment in Vietnamese universities. Educational Studies 44(2), pp. 230-246.

Nick, T.G. (2007). "Descriptive Statistics". Topics in Biostatistics. Methods in Molecular Biology. New York: Springer.

Nicol, D. (2010). The foundation for graduate attributes: developing self-regulation through self and peer assessment. Graduates for the 21st century: Integrating Enhancement Themes. Scotland: The Quality Assurance Agency of Higher Education Publishers.

Nigmatov, Z.G. & Yarullin, I.F. (2015). Forming a Sense of Civic Responsibility in Youth Students. Mediterranean Journal of Social Sciences. 6(3), pp. 336-340.

Nilson, L. B. (2010). Teaching at its best: A research-based resource for college instructors. New York, NY: John Wiley & Sons.

Noor, A.I. (2011). Graduate Characteristics and Unemployment: A Study among Malaysian Graduate. International Journal of Business and Social Science, 2(16), pp. 1-16.

Normand, C. & Anderson, L. (2017). Graduate Attributes in Higher Education: Attitudes on Attributes from Across the Disciplines. London: Routledge.

Novelli, M. & Sayed, Y. (2016). Teachers as agents of sustainable peace, social cohesion and development: theory, practice & evidence. Education as Change, 20(3), pp. 15-37.

Nsiah-Gyabaah, K. (2009). The Missing Ingredients in Technical and Vocational Education in Meeting the Needs of Society and Promoting Socio-Economic Development in Ghana; Journal of Polytechnics in Ghana; 3(3), pp. 18-25.

O'Connor, E.E., Dearing, E. & Collins, B.A. (2011). Teacher-child relationship and behavior problem trajectories in elementary school. American Educational Research Journal, 48(1), pp. 120-162.

O'Connor, H. & Bodicoat, M. (2017). Exploitation or Opportunity? Student Perceptions of Internships in Enhancing Employability Skills. British Journal of Sociology of Education. 38(4) pp. 435-449.

O'Leary, S. (2016). Graduates experiences of, and attitudes towards, the inclusion of employability-related support in undergraduate degree programmes; trends and variations by subject discipline and gender, Journal of Education and Work, 30(1), pp. 84-105.

O'Neill, G. (2009). A Programe wide approach to assessment; A reflection on some curriculum mapping tools. Retrieved from http://ocs.aishe.org/aishe/index.php/international/2009/schedConf/present ations. Accessed 15 April 2016.

OECD. (2013). A Skills beyond School Review of Germany. Retrieved from http://www.oecd.org/edu/skills -beyond- school/ ASkillsbeyondSchool. Accessed 18 May 2018.

Ogbunaya, T.C. & Udoudo, E.S. (2015). Repositioning Technical and Vocational Education and Training (TVET) for Youths Employment and National Security in Nigeria. Journal of Education and Practice, 6(32), pp. 1-8.

Ogude,N.A., Kilfoil, W. & Du Plessis, G. (2012). An Institutional Model for Improving Student Retention and Success at the University of Pretoria. FYHE International Journal 3(1) pp. 21-34.

O'Hare, E. D., Lu, L. H., Houston, S. M., Bookheimer, S. Y. & Sowell, E. R. (2008). Neurodevelopmental changes in verbal working memory load-dependency: an fMRI investigation. Neuroimage, 42, pp. 1678–1685.

Okebukola, P.A. (2010). Five years of higher education in Nigeria: Trends in quality assurance. Nigerian Journal of Curriculum Studies, 2010. Available at: www.unilorin.edu.ng. Accessed 5 March 2016.

Oketch, M.O. (2007). To vocationalize or not to vocationalize? Perspectives on current trends and issues in technical and vocational education and training (TVET) in Africa. International Journal of Educational Development, 27(2), pp. 220–34.

Oketch, O. (2014). Human capital theory and educational policy strategies in Sub-Saharan Africa: A retrospective overview. International Journal of Educational Development in Africa, 1(1), pp. 96-107.

Oladeji, J.T. (2012). Investigation into Effectiveness of Questionnaire as a Method of Scientific Research. Education, 2(1), pp. 16-18.

Olajide, S. E. (2015). Repositioning technical and vocational education toward eradicating unemployment in Nigeria. International Journal of Vocational and Technical Education, 7(6), pp. 54-63.

Oliver, B. (2013). Graduate Attributes as a focus for institution-wide curriculum renewal: innovations and challenges. Higher Education Research & Development, 32(3), pp. 450-463.

Oluwajodu, F., Blaauw, D., Greyling, L. & Kleynhans, E.P.J. (2015). Graduate unemployment in South Africa: Perspectives from the banking sector. SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 13(1) pp. 9-13.

Omair, A. (2014). Sample size estimation and sampling techniques for selecting a representative sample. J Health Spec. 2, pp. 142-147.

Osman, S.A., Omar, M.Z., Kofli, N.T., Mat, K., Darus, Z.M. & Rahman, M.N.A. (2008). The importance of Industrial Training: Students' Perception in Civil Engineering Sector. Proceedings of the 7th WSEAS International Conference on Education and Educational Technology (EDU'08).

Osmani, M., Hindi, N., Al-Esmail, R & Weerakkody, V. (2017). Examining graduate skills in accounting and finance: The perception of Middle Eastern students. Industry and Higher Education, 31(5), pp. 318–327.

Osmani, M., Weerakkody, V., Hindi, N.H. (2015). Identifying the trends and impact of graduate attributes on employability: a literature review. Tertiary Education and Management 21(4), pp. 367–379.

Öztürk, S. (2009). Outdoor education integrated with the education at school. The Journal of National Education, 181, pp. 131–144.

Paadi, K. (2014). Perceptions on Employability Skills Necessary to Enhance Human Resource Management Graduates Prospects of Securing a Relevant Place in the Labour Market. European Scientific Journal (special edition), 1, pp. 129-143.

Panacci, A.G., (2014). Baccalaureate Degrees at Ontario Colleges: Issues and Implications. College Quarterly Articles, 17(1), pp. 1-10.

Pannucci, C. J., & Wilkins, E. G. (2010). Identifying and Avoiding Bias in Research. Plastic and Reconstructive Surgery, 126(2), pp. 619–625.

Papier, J. (2009). Report on the Training of FET College Lecturers in South Africa, England and other International Contexts. Cape Town, South Africa: Further Education and Training Institute.

Parandeh, A., Khaghanizade, M., Mohammadi, E. & Mokhtari-Nouri, J. (2016). Nurses' human dignity in education and practice: An integrated literature review. Iranian Journal of Nursing and Midwifery Research, 21(1), 1–8.

Parks, M.R., Faw, M. & Goldsmith, D. (2011). Undergraduate Instruction in Empirical Research Methods in Communication: Assessment and Recommendations. Communication Education, 60(4), pp. 406-421.

Path, B.R. (2013). College Graduate Supply and Demand. Retrieved from https://www.huffingtonpost.com/dr-bill-r-path/college-graduate-supply_b_3727375.html. Accessed 18 February 2016.

327

Paudel, N.R. (2009). A critical account of policy implementation theories: status and reconsideration. Nepalese Journal of Public Policy and Governance, 25(2), pp. 36-54.

Paul, R., Hugo, R.J. & Falls, L.C. (2015). International Expectations of Engineering Graduate Attributes. Proceedings of the 11th International CDIO Conference. Chengdu: University of Calgary.

Pavlova, M. (2014). TVET as an important factor in country's economic development. US National Library of Medicine National Institutes of Health. Springerplus. 2014; 3(Suppl 1): K3.

Pelinescu, E. (2015). The impact of human capital on economic growth: 2nd International Conference Economic Scientific Research - Theoretical, Empirical and Practical Approaches. ESPERA 2014, 13-14 November 2014, Bucharest, Romania.

Pellegrino, J.W. & Hilton, M.L. (2012). Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century, National Academies Press, Washington, DC.

Peretomode, V.F. (2008). What is higher in higher education. Benin-City: Justice Jecko Press and Publishers Ltd.

Perkmann, M. & Walsh, K. (2007). University–industry relationships and open innovation: Towards a research agenda. International Journal of Management Reviews, 9(4), pp. 259-280.

Perkmann, M., Tartari, V., McKelvey, M., Autio, E., Broström, A., D'Este, P., Fini, R., Geuna, A., Grimaldi, R., Hughes, A., Krabel, S., Kitson, M., Llerena, P., Lissoni, F., Salter, A. & Sobrero, M. (2013). Academic engagement and commercialisation: A review of the literature on university–industry relations. Research Policy 42(1), pp. 423-442.

Pillay, A.L. & Ngcobo, H.S.B. (2010). Sources of Stress and Support among Rural-Based First Year University Students: An Exploratory Study. South African Journal of Psychology, 40(3), pp. 234-240.

Pillay, P. (2012). Pathways through Education and Training and into the Workplace: A Concept Paper. Labour Market Intelligence Partnership. 2012.

Pitman, T., & Broomhall, S. (2009). Australian universities, generic skills and lifelong learning. International Journal of Lifelong Education, 28(4), pp. 439-458.

Plomin, R. & Deary, I.J. (2015). Genetics and intelligence differences: five special findings. Molecular Psychiatry, 20(1), 98–108.

Pool, L.D. & Sewell, P. (2007). The key to employability: Developing a practical model of graduate employability. Education and Training, 49(4), pp. 277–89.

Pool, R., Montgomery, C.M., Morar, N.S., Mweemba, O., Ssali, A., Gafos, M., Lees, S., Stadler, J., Crook, A., Nunn, A., Hayes, R., McCormack, S. (2010). A Mixed Methods and Triangulation Model for Increasing the Accuracy of Adherence and Sexual Behaviour Data: The Microbicides Development Programme. Retrieved from. http://doi.org/10.1371/journal.pone.0011600. Accessed 18 May 2016.

Posel, D., Casale, D. & Vermaak, C. (2013). The unemployed in South Africa: Why are so many not counted? Econ 3x3, février-disponible en ligne, 1, pp. 1-7.

Potgieter, I. & Coetzee, M. (2013). Employability attributes and personality preferences of postgraduate business management students. SA Journal of Industrial Psychology/SA Tydskrif vir Bedryfsielkunde, 39(1), pp. 10-35.

Potgieter, I.L. & Coetzee, M. (2010). Management competencies in higher education: Perceived job importance in relation to level of training required. SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 8(1), pp. 56-69.

Powell, K. C., Kalina, C. J., (2009). Cognitive and Social Constructivism: Developing tools for an effective classroom cognitive and social constructivism: Developing tools for an effective classroom. Education Journal, 130(2), pp. 241-250.

PWC. (2012). Report on "India-Higher education system: Opportunities for Private Participation. Retrieved from https://www.pwc.in/assets/pdfs/industries/education-services.pdf. Accessed 6 June 2016.

Radloff, A., de la Harpe, B., Dalton, H., Thomas, J. & Lawson, A. (2008). Assessing graduate attributes: Engaging academic staff and their students. Paper presented at Engaging Students in Assessment. Retrieved from http://www.ojs.unisa.edu.au/index.php/atna/article/viewFile/342/279. Accessed 18 March 2017.

Rager, K. B. (2009). I feel, therefore, I learn: the role of emotion in self-directed learning. New Horizons in Adult Education and Human Resource Development, 23(2), pp. 22-33.

Ramirez, C., Schau, C., & Emmioglu, E. (2012). The importance of attitudes in statistic education. Statistics Education Research Journal, 11(2), pp. 57-71.

Rasool, F., & Botha, C.J. (2011). The nature, extent and effect of skills shortages on skills migration in South Africa. SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 9(1), pp. 287-299.

Rasool, H. & Mahembe, E. (2014). FET colleges purpose in the developmental State: imperatives for South Africa. Pretoria, South Africa: Human Resource Development Council.

Reddy, V., Bhorat, H., Powell, M., Visser, M. & Arends, A., (2016). Skills Supply and Demand in South Africa. Human Sciences Research Council. Pretoria, South Africa, LMIP Publication.

Reeves, D.B. (2009). Leading change in your school: How to conquer myths, build commitment, and get results. Alexandria, VA: ASCD Publishers.

Renehan, S. (2015). "Rising Tuition in Higher Education: Should we be Concerned? Retrieved from http://scholar.oxy.edu/liberalarts/1(3). Accessed 6 May 2016.

Ritchie, J., Lewis, J., Nicholls, C.M. & Ormston, R. (2013). Qualitative Research Practice: A Guide for Social Science Students and Researchers. Thousand Oaks, California: SAGE Publications Inc.

Robertson, I. (2008). VET Teachers Knowledge and Expertise. International Journal of Training Research, 6(1), 1-22.

Roller, M. R., & Lavrakas, P.J. (2015). Applied qualitative research design: A total quality framework approach. New York: Guilford Press.

Romanelli, F., Bird, E., Ryan, M. (2009). Learning Styles: A Review of Theory, Application, and Best Practices. American Journal of Pharmaceutical Education, 73(1), pp. 9-15.

Rospigliosi, A.P., Greener, S., Bourner, T. & Sheehan, M. (2014). "Human capital or signalling, unpacking the graduate premium". International Journal of Social Economics, 41(5), pp. 420-432.

Rowe, A.D. & Zegwaard, K.E. (2017). Developing graduate employability skills and attributes: Curriculum enhancement through work-integrated learning. Asia-Pacific Journal of Cooperative Education, 18(2), pp. 87–99.

Rowe, M. & Melvyn, (2012). Embedding graduate attributes in modules/programmes. Retrieved from https://www.uwc.ac.za/.../GUIDE%20on%20embedding%20graduate%20 attributes%2. Accessed 20 June 2016.

Rowe, M. (2012). Embedding graduate attributes in modules/programmes. Retrieved from https://www.biw=1366&bih=651&ei=iDIqW6PrLqm. Accessed 19 March 2016.

RSA. (2006). Continuing Education and Training Act, No. 16 of 2006.

RSA. (1995). South African Qualifications Authority Act (No. 58 of 1995).

RSA. (2008). National Qualifications Framework Act 67 of 2008.

RSA. (2012). National Development Plan 2030 (RSA: NDP, 2012).

RSA. (1998). The Skills Development Act, 1998 (Act No. 97 of 1998).

RSA. (2012). Further Education and Training Colleges Amendment Bill (B24), 2012. Government Gazette No. 35401 of 30 May 2012.

RSA. (2015). TVET College Strategic Plan 2015/16 – 2019/20.

Rubin, A. & Babbie, E.R. (2016). Empowerment Series: Research Methods for Social Work. Boston, USA: Cengage Learning Publishers.

Ruggeri, K., Dempster, M., Hanna, D. & Cleary, C. (2008).   Experiences and expectations: The real reason nobody likes stats. Psychology Teaching Review, 14(2), pp. 75-83.

SACE (2011). A Position Paper on the Professional Registration of FET College Educators. Pretoria, South Africa.

Saldana, J. (2009). The Coding Manual for Qualitative Researchers. Thousand Oaks, California: Sage Publications.

Salter, S., Douglas, T., Kember, D. (2017).   Comparing face-to-face and asynchronous online communication as mechanisms for critical reflective dialogue. Educational Action Research 25(5), pp. 790-805.

Saunders, A.L. & Mydlarski, L.B. (2015). Evolution of graduate attribute assessment and continuous program improvement in the Faculty of Engineering at McGill University.   Proc.   2015 Canadian Engineering Education Association (CEEA15) Conf. McMaster University.

Saunders, V. & Zuzel, K. (2015).   Evaluating Employability Skills: Employer and Student Perceptions, Bioscience Education, 15(1), pp. 1-15.

Savin-Baden, M. & Major, C. (2013). Qualitative Research: The Essential Guide to Theory and Practice. London: Routledge.

Scheepers, D. (2015).   Professional development for teaching with technology. Pretoria, South Africa.

Schiffrin, H.H., Liss, M., Miles-McLean, H., Geary, K.A., Erchull, M.J. & Tashner, T. (2014). Helping or hovering? The effects of helicopter parenting on college students' well-being. Journal of Child and Family, 23, pp. 548-557.

Schmidt, M. (2010). Learning From Teaching Experience: Dewey's Theory and Preservice Teachers' Learning. SAGE Journals, 58(2), pp. 131-146.

Schreuder, A.M.G. & Coetzee, M. (2011). Careers an organisational perspective. 4th Ed. Claremont: Juta & Co. Ltd.

Schroeder, R. (2009). Promotion of the "scholarship of publishing"- a sustainable future for scholarly communication. Retrieved from http://commons.pacificu.edu/sustainableschol/program/oct20/11. Accessed 24 April 2016.

Scott, F.J., Connell, P., Thomson, L.A. & Willison, D. (2017). Empowering students by enhancing their employability skills, Journal of Further and Higher Education, 1, pp. 1-16.

Scott, G. & Yates, K.W. (2001). Using Successful Graduates to Improve the Quality of Undergraduate Engineering Programs. European Journal of Engineering Education, 27(4), pp. 363-378.

Scott-Clayton, J. (2015). The Role of Financial Aid in Promoting College Access and Success: Research Evidence and Proposals for Reform. Journal of Student Financial Aid, 45(3), pp. 44-49.

Selvadurai, S., Choy,E. & Maros, M. (2012). Generic Skills of Prospective Graduates from the Employers' Perspectives. Asian Social Science. 8(12), pp. 295-303.

Senini, S. & Nouens, F. (2004). A design framework for developing technical competence, professional skills and identity. Central Queensland University. Retrieved from https://www.researchgate.net/publication/257409310_A_design_framewor k_for_developing_technical_competence_professional_skills_and_identity . Accessed 26 March 2016.

Shah, A. (2007). Budgeting and Budgetary Institutions. Public sector Governance and Accountability series. 2007 The International Bank for Reconstruction and Development. Washington DC: The World Bank.

Shahriari, M., Mohammadi, E., Abbaszadeh, A. & Bahrami, M. (2013). Nursing ethical values and definitions: A literature review. Iran J Nurs Midwifery Res, 18, pp.1–8.

Sharifirad, G.R., Rezaeian, M., Jazini, A. & Etemadi, Z.S. (2012). Knowledge, attitude and performance of academic members regarding effective communication skills in education. Journal of Education and Health Promotion, 1(42), pp. 19-23.

Sharma, S. & Sharma, P. (2015). Indian Higher Education System: Challenges and Suggestions. Electronic Journal for Inclusive Education, 3(4), pp. 98-103.

Sheik, Y.A. (2017). Higher Education in India: Challenges and Opportunities. Journal of Education and Practice, 8(1), pp. 39-42.

Shields, K. & Johnson, J.A. (2008). Report of the Rhode Island Information Technology Skills Gap Task Force; Rhode Island. Cranston, RI, USA: Governors' Workforce Board.

Shirley, A.C. (2015). Technical and Vocational Education and Training (Tvet): Model for Addressing Skills Shortage in Nigerian Oil and Gas Industry. American Journal of Educational Research 3(1) pp. 62-66.

Sikrweqe, N.P. (2013). Integrated development planning as a poverty reduction strategy in the King Sabata, Dalindyebo municipality, Eastern Cape Province. Doctoral thesis PhD. University of South Africa. Pretoria, South Africa.

Sipos, Y., Battisti, B. & Grimm, K. (2008). Achieving transformative sustainability learning: engaging heads, hands and heart. Int J Sust in Higher Educ, 9(1), pp. 68–86.

Siu, K.M. & Contreras, G.J. (2016). Design Education for Fostering Creativity and Innovation in China: Advances in Higher Education and Professional Development. United States of America: IGI Global Publishers.

Skolnik, M.L. (2012). College baccalaureate degrees and the diversification of baccalaureate production in Ontario. Retrieved from https://tspace.library.utoronto.ca/bitstream/1807/. Accessed 4 August 2016.

Slomka, J., Quill, B., des Vignes-Kendrick, M. & Lloyd, L. E. (2008). Professionalism and Ethics in the Public Health Curriculum. Public Health Reports, 123 (2), pp. 27–35.

Small, L., Shacklock, K., Marchant, T. (2017). Employability: a contemporary review for higher education stakeholders. Journal of Vocational Education & Training 1(1), pp. 1-19.

Smith, M., Brooks, S., Lichtenberg, A., McIlveen, P., Torjul, P., & Tyler, J. (2009). Career development learning: Maximising the contribution of work-integrated learning to the student experience. Wollongong, New South Wales: Careers Central, Academic Services Division, University of Wollongong.

Song, A.M. (2015). Human dignity: A fundamental guiding value for a human rights approach to fisheries? Science Direct, Marine Policy, 61, pp.164-170.

Sorin, R., Errington, E., Ireland, L., Nickson, A. & Caltabiano, M. (2012). Embedding graduate attributes through scenario-based learning. Journal of the NUS Teaching Academy, 2(4), pp. 192-205.

Spronken-Smith, R., Bond, C., McLean, A., Frielick, S., Smith, N., Jenkins, M. & Marshall, S. (2015). Evaluating engagement with graduate outcomes across higher education institutions in Aotearoa/New Zealand. Higher Education Research & Development, 34, pp. 1014–1030.

Stake, R. E. (2008). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), Strategies of qualitative inquiry, (pp. 119-149). Thousand Oaks, CA, US: Sage Publications, Inc.

Statistics Portal. (2017). South Africa: Unemployment rate from 2007 to 2017. Retrieved from https://www.statista.com/statistics/813010/youth-unemployment-rate-in-south-africa. Accessed 28 June 2016.

Stats SA 2014. Quarterly Labour Force Survey, Quarter 3. 2014. Retrieved from http://www.statssa.gov.za/publications/P0211/P02111stQuarter2016.pdf. Accessed 24 May 2016.

Steinberg, P.F. (2015). Can We Generalize from Case Studies? Global Environmental Politics, 15(3), pp. 152-175.

Steur, J.M., Jansen, E.P.W.A. & Hofman, W.H.A. (2012). Graduateness: an empirical examination of the formative function of university education. Higher Education, 64, pp. 861-874.

Stewart, V. (2015). Made in China: Challenge and Innovation in China's Vocational Education and Training System International Comparative Study of Leading Vocational Education Systems, Washington, DC: National Centre on Education and the Economy.

Sthapornnanon, N., Sakulbumrungsil, R., Theeraroungchaisri, A., & Watcharadamrongkun, S. (2009). Social Constructivist Learning Environment in an Online Professional Practice Course. American Journal of Pharmaceutical Education, 73(1), pp. 10-20.

Stinebrickner, R. & Stinebrickner, R.T. (2009). Learning about academic ability and the college drop-out decision. NBER Working Paper No. 14810. Cambridge: National Bureau of Economic Research.

Stracke, E. & Kumar, V. (2014). Realising graduate attributes in the research degree: the role of peer support groups, Teaching in Higher Education. London: Routledge.

Strydom, S.C., Jacobs, C. & Kirsten, E. (2012). Signature learning experience first phase pilot: reflections and future considerations. Centre for Teaching and Learning, University of Stellenbosch. Stellenbosch, South Africa.

Stuckey, H.L. (2013). Three types of interviews: Qualitative research methods in social health. J Soc Health Diabetes, 2013, 1(56) pp. 5-19.

Stumpf, R., Papier, J., McBride, T., & Needham, S. (2012). Shaping the Future of South Africa's Youth. Somerset West, South Africa: African Minds Publishers.

Stumpf, R., Papier, J., Needham, S. & Nel, H. (2009). Responding to the educational needs of post-school youth. Somerset West, South Africa: African Minds Publishers.

Su, F. & Wood, M. (2009). What makes a good university lecturer? Students' perceptions of teaching excellence. Journal of Applied Research in Higher Education, 4(2), pp.142–155.

Sun, R.C.F & Hui, E.K.P. (2011). Cognitive Competence as a Positive Youth Development Construct: A Conceptual Review. The Scientific World Journal Volume, 1, pp. 1-7.

Suresh, K., Thomas, S.V. & Suresh, G. (2011). Design, data analysis and sampling techniques for clinical research. Annals of Indian Academy of Neurology, 14(4), pp. 287–290.

Talwar, S., Wiek, A. & Robinson, J. (2011). User engagement in sustainability research. Science and Public Policy, 38(5) pp. 379–390.

Tan, D., Koppi, A., Field, D. (2016). First Year Agricultural Science Student Perspectives in Graduate Attribute Development Through Problem-Based Learning. International Journal of Innovation in Science and Mathematics Education, 24(1), pp. 54-66.

Tan, E. (2014). Human Capital Theory A Holistic Criticism. SAGE Journals, 84(3), pp. 411-445.

Tan, W.K. (2016). Singapore Polytechnic to Transform into a Smart Campus. Retrieved from https://www.enterpriseinnovation.net/article/singapore-polytechnic-transform-smart-campus-1203036396. Accessed 14 July 2016.

Taylor, N. (2011). Priorities for Addressing South Africa's Education and Training Crisis: A Review commissioned by the National Planning Commission. National Planning Commission. Retrieved from https://www.google.com/search?ei=9F0qW7-BPY35gQbj6rgY&q=Tayl. Accessed 18 August 2016.

Taylor, S. & Govender, C. (2013). Education and Training for the Workplace: Workplace-readiness skills. Retrieved from https://ujcontent.uj.ac.za/vital/access/services/Download/uj:5344. Accessed 24 April 2016.

Teddlie, C. & Yu, F. (2007) Mixed Methods Sampling: A Typology With Examples. Journal of Mixed Methods Research, 1; pp. 77-90.

Terblanche, T.E. (2017). Technical and Vocational Education and Training (TVET) Colleges in South Africa: A Framework for Leading Curriculum Change. Doctoral Thesis PhD, Stellenbosch University. Stellenbosch, South Africa.

Terry, S.F. & Bonhomme, N. (2013). Nothing about us without us: guidelines for genetic testing. Genet Test Mol Biomarkers, 17(1), pp. 357–358.

The Australian Government (2008). Qualification Framework (AQF). Retrieved from https://www.aqf.edu.au/sites/aqf/files/aqf-1st-edition-july-2011.pdf. Accessed 24 September 2016.

Thomas, A., Menon, A., Boruff, J., Rodriguez, A.N., Ahmed, S. (2014). Applications of social constructivist learning theories in knowledge translation for healthcare professionals: a scoping review. Implementation Science, 9(1), pp. 1-3.

Thomas, D. & Brown, J.S. (2011). A new culture of learning: cultivating the imagination for a world of constant change. London: Soulellis.

Thomas, M., (2009). Handbook of Research on Web 2.0 and Second Language Learning. United States of America: IGI Global Publishers.

Thompson, D. (2007). Integrating Graduate Attributes with Student Self-Assessment. CONNECTED 2007 International Conference on Design Education 9–12 July 2007. Retrieved from https://www.google.com/search?ei=O2MqW6uFKOjfgAabgrSYDg&q. Accessed 24 May 2016.

Thompson, D., Treleaven, L., Kamvounias, P., Beem, B. & Hill, E. (2008). Integrating Graduate Attributes with Assessment Criteria in Business Education: Using an Online Assessment System. Journal of University Teaching & Learning Practice, 5(1), pp. 1-9.

Tkachenko, O., Mosiychuk, T. (2014). Labour Force Availability as an Economic Development Factor in Post Socialist Countries, Economics & Sociology, 7(2), pp. 64-79.

Tognatta, N. (2014). Technical and Vocational Education and Training in India - A Study of Choice and Returns. Publicly Accessible Penn Dissertations. 1472. Accessed 30 January 2017.

Tomlinson, M. (2012). Graduate Employability: A Review of Conceptual and Empirical Themes. Higher Education Policy, 25(4), pp. 26-36.

Tongco, D. C. (2007). Purposive sampling as a tool for informant selection. A Jounal of People, Plants and Applied research. Department of Botany, University of Hawai`i at Manoa, 3190 Maile Way, Honolulu, HI, 96822 U.S.A. and Institute of Biology, University of the Philippines, Diliman, Quezon City, 1101, PHILIPPINES.

Townsend, V., & Urbanic, J. (2013). Industrial field trips: An integrated pedagogical framework of theory and practice. International Journal of Engineering Education, 29 (5), pp. 1155–1165.

Trapp, A., Banister, P., Ellis, J., Latto, R., Miell, D. & Upton, D. (2011). The Future of Undergraduate Psychology in the United Kingdom. York: Higher Education Academy. Retrieved from: http://www.heacademy.ac.uk/resources/detail/subjects/psychology/Future-undergrad-psych-uk. Accessed 18 July 2016.

Treleaven, L. & Voola, R. (2008). Integrating the Development of Graduate Attributes Through Constructive Alignment. Journal of Marketing Education, 30(2), pp. 160-173.

Tremblay, K., Lalancette, D. & Roseveare, D. (2012). Assessment of Higher Education Learning Outcomes. Feasibility Study Report, 1(1), pp. 6-18.

Tripney, J., Hombrados, J., Newman, M., Hovish, K., Brown, C., Steinka-Fry, K., Wilkey, E. (2013). Technical and Vocational Education and Training (TVET) Interventions to Improve the Employability and Employment of Young People in Low- and Middle-Income Countries: A Systematic Review. Campbell Systematic Reviews.

Tripney, J.S. & Hombrados, J.G. (2013). Technical and vocational education and training (TVET) for young people in low- and middle-income countries: a systematic review and meta-analysis. Empirical Research in Vocational Education and Training, 5(3), pp.3-9.

Trzaskowski, M., Yang, J., Visscher, P.M., Plomin, R. (2014). DNA evidence for strong genetic stability and increasing heritability of intelligence from age 7 to 12. Mol Psychiatry, 19(1), pp. 380–384.

Tucker, M.S. (2012). The Phoenix: Vocational Education and Training in Singapore. International Comparative Study of Leading Vocational Education Systems. Retrieved from http://www.ncee.org/wp-content/uploads/2014/01/The-Phoenix1-7.pdf. Accessed 19 October 2016.

U.S. Census Bureau, 2017. United States of America, Washington DC. Retrieved from https://www.census.gov. Accessed October 2017.

Uddin, P.S.O. (2013). The Role of Technical and Vocational Education in Poverty Reduction Among Youths in Nigeria. Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS) 4(4), pp. 613-617.

Umalusi (2017). Report on the quality assurance of the November 2017 Technical and Vocational Education and Training Examinations and Assessment. Retrieved from http://www.umalusi.org.za/list.php?type=Quality%20Assurance%20Reports. Accessed 17 November 2015.

UNESCO-UNEVOC. (2014). International Centre for Technical and Vocational Education and Training. Retrieved from https://unevoc.unesco.org/go.php?q=page_Visitors. Accessed July 2016.

Unger, M. (2014). Benefits of curriculum renewal: The Stellenbosch University physiotherapy experience. University of Stellenbosch. Suppl 1 AJHPE, 6(2), pp 1-7.

UNICEF (2013). Asia-Pacific End of Decade Note on Education for All: Goal 3 - Life Skills and Lifelong Learning. Bangkok: UNESCO Bangkok, UNICEF EAPRO, UNICEF.

Usman, A.S. & Tasmin, R. (2015). Entrepreneurial Skills Development Strategies through the Mandatory Students' Industrial Work Experience Scheme in Nigeria. The 4th World Congress on Technical Vocational Education and Training (4thWoCTVET), 5-6 December 2014, Universiti Tun Hussein Onn Malaysia, MALAYSIA.

Usó-Juan, E. & Martínez-Flor, A. (2008). Teaching Intercultural Communicative Competence through the Four Skills. Revista Alicantina de Estudios Ingleses, 21(1): pp. 157-170.

Vally, S. & Motala E. (Eds.). Education, Economy and Society. University of South Africa Press. 2014. Pretoria, South Africa.

Van Broekhuizen, H. (2016). Graduate unemployment and Higher Education Institutions in South Africa. Doctoral thesis PhD. Stellenbosch University. Stellenbosch, South Africa.

Van der Merwe, A. (2010). Does Human Capital Theory Explain The Value Of Higher Education? A South African Case Study. American Journal of Business Education, 3(1), pp.107-118.

Van Lottum, J & Van Zanden, J.L (2011). Labour Productivity and human capital in the maritime sector of the North Atlantic, c. 1672-1815," Working Papers 0022, Utrecht University, Centre for Global Economic History.

Van Nieuwkerk, A. (2014). South Africa's National Development Plan and its Foreign Policy: Exploring the Interface. Johannesburg: South Africa: University of the Witwatersrand, Johannesburg: Wits School of Governance and the Oliver and Adelaide Tambo Foundation.

Van Schalkwyk, S., Herman, N. & Muller, A. (2010). Graduate Attributes for the public good.   Retrieved   from http://blogs.sun.ac.za/hopefulpedagogiessu/files/2010/11/Van-Schalkwyk-Muller-Herman-Graduate-attributes-for-the-public-good_3Nov2010.pdf. Accessed 23 July 2016.

Van Schalkwyk, S., Muller, A. & Herman, N. (2011). Graduate attributes for the public good: a case of a research-led university. In Leibowitz, B. (Ed) Higher Education for the Public Good: views from the South. Sterling: Trentham.

Vetter, T.R. (2017). Descriptive Statistics: Reporting the Answers to the 5 Basic Questions of Who, What, Why, When, Where, and a Sixth, So What? Anesthesia & Analgesia, 125(5), pp. 1797-1802.

Visser, M. & Kruss, G. (2009). Learnerships and skills development in South Africa: A shift to prioritise the young unemployed. Journal of Vocational Education and Training, 61(3) pp. 357-374.

Vorster, J.E.J. (2010). A social realist analysis of collaborative curriculum development processes in an academic department at a South African university. Doctoral thesis D.Litt et Phil. thesis, Rhodes University. Grahamstown, South Africa.

Vosloo, J.J. (2014). A sport management programme for educator training in accordance with the diverse needs of South African schools. Doctoral thesis PhD. North West University. Potchefstroom, South Africa.

Wahab, N.A. & Mustapha, R. (2015). Reflections on Pedagogical and Curriculum Implementation at Orang Asli Schools in Pahang. Global Conference on Business & Social Science. Procedia - Social and Behavioral Sciences, 172, pp. 442-448.

Wallenborn, M. & Heyneman, S.P. (2009). Should vocational education be part of secondary education? J Educ Change (2009) 10(1) pp. 405–413.

Wan Mohamed, W. A. & Omar, B. (2010). Developing problem solving skills for lifelong learning through work-based learning among community college students. In: Journal of Technical Education and Training (JTET), 2(1), pp. 1-8.

Watermeyer, R. (2012). Curriculum alignment, articulation and the formative development of the learner. London, UK, International Baccalaureate Organization.

WDA. (2015). Skills Future. Retrieved from www.wda.gov.sg. Accessed 23 November 2016.

Wedekind, V. & Mutereko, S. (2016). Higher education responsiveness through partnerships with industry: The case of a university of technology programme. Development Southern Africa, 33(3): pp. 376-389.

Wedekind, V. (2016). What makes students employable and what can colleges do about it? A critical look at employability. The Official Quarterly TVET College Newsletter and Journal, 46, pp. 10-30.

Wells, P. (2003). Accounting Education: Have we heeded the calls for reform in New Zealand? APJHM Journal, 10(1), pp. 5-13.

Wheelan, L. (2007). How competency-based training locks the working class out of powerful knowledge: A modified Bernsteinian analysis. British Journal of Sociology of Education, 28(2) pp. 637-651.

Wiek, A., Withycombe, L. & Redman, C.L. (2011). Key competencies in sustainability: a reference framework for academic program development. Sustainability Science, 6(2), pp. 203-218.

Williams, A.C. (2015). Soft Skills Perceived by Students and Employers as Relevant Employability Skills. Minneapolis, Minnesota, United States of America. Walden University Press.

Williams, C. (2007). Research Methods. Journal of Business & Economic Research, 5(3), pp. 65-72.

Williams, M. (2013). Less education, less work: UK's youth left without training or jobs. London: Guardian Careers

Willison, J.M. & O'Regan, K. (2007). Commonly known, commonly not known, totally unknown: A framework for students becoming researchers. Higher Education Research & Development, 26, pp. 393-409.

Willison, J.M. (2013). Research Skill Development for curriculum design and assessment. Retrieved from www.adelaide.edu.au/rsd. Accessed 18 May 2016.

Wilson, L., Ho, S. & Brookes, R.H. (2017). Student perceptions of teamwork within assessment tasks in undergraduate science degrees, Assessment & Evaluation in Higher Education, 43(5), pp. 786-799.

Wiśniewska, D. (2011). Mixed Methods and Action Research: similar or different? Uniwersytet im. Adama Mickiewicza w Poznaniu. Glottodidactica, 37, pp. 59-72.

Woldetsadik, D.A. (2012). The Implementation of an apprenticeship training programme in the Addis Ababa technical vocational educational training (TVET) colleges and enterprises. Unpublished Doctoral thesis, University of South Africa. Pretoria, South Africa.

Woodhouse, D., Berg M., van der Putten J. & Houtepen, J. (2009). "Will Benchmarking ICUs Improve Outcome?" Current Opinion in Critical Care, 15(5), pp. 450–5.

Workman, J.L. (2015). Parental influence on exploratory students' college choice, major, and career decision making. College Student Journal, 49(1), pp. 23-30.

World Bank (2012). World Development Report 2013: Jobs. Washington DC, United States of America: The World Bank.

Xue, Y., Bradley, J. & Liang, H. (2011). "Team climate, empowering leadership, and knowledge sharing". Journal of Knowledge Management, 15(2), pp. 299-312.

Yazdizadeh, B., Shahmoradi, S., Majdzadeh, R., Doaee, S., Bazyar, M. & Souresrafil, A. (2016). Stakeholder involvement in health technology assessment at national level: a study from Iran. Int J Technol Assess Health Care. 2016, 32(3), pp. 1–9.

Yin, R.K. (2009). Case study research, design and method. 4. London: Sage Publications Ltd.; 2009.

Yorke, M. & Knight, P.T. (2004). Embedding Employability into the Curriculum. York: Higher Education Academy.

Young, G. (2017). The Five Core and the Five Supplementary Ethical Principles and Their Sub-principles. In: Revising the APA Ethics Code. UK: Springer, Cham.

Yusuff, M. A & Soyemi, J (2012). Achieving Sustainable Economic Development in Nigeria through Technical and Vocational Education and Training: The Missing Link. International Journal of Academic Research in Business and Social Sciences, 2(2), pp. 71-77.

Yuzhuo, C. (2013). Graduate Employability: A Conceptual Framework for Understanding Employers' Perceptions. The International Journal of Higher Education and Educational Planning, 65(4), pp. 457-469.

Zainal, Z. (2007). Case study as a research method. Journal Kemanusiaan, 9, pp. 2-6.

Zaman, M. (2012). Human capital and economic growth: An empirical investigation using panel data. Journal of Humanities and Social Science, 4(6), pp. 43-56.

Zavale, N.C. (2017). Expansion versus contribution of higher education in Africa: University–industry linkages in Mozambique from companies' perspective, Science and Public Policy. Retrieved from https://doi.org/10.1093/scipol/scx089. Accessed on 26 February 2017.

Žeravíková, I. (2013). Analysis of professional competencies of lecturer and creating his competency profile (in Slovak). Doctoral Thesis. Matej Bel University: Banská Bystrica, Slovakia.

Zohrabi, M. (2013). Mixed Method Research: Instruments, Validity, Reliability and Reporting Findings. Theory and Practice in Language Studies, 3(2), pp. 254-262.

Zungu, S.Z. (2015). An Evaluation of the New Funding Model for Further Education and Training Colleges and its Financial. Unpublished Doctoral Thesis, University of Kwa-Zulu Natal, Durban, South Africa.

Annexure A Letter asking permission for conducting research

Central University of
Technology, Free State

The Principal
Goldfields TVET College
P.O Box 95
WELKOM
9460

13 February 2015

Pitso Kheza
19 Bach Avenue
Riebeeckstad
WELKOM
9460

Re: Permission to conduct research

I am a registered student at the Central University of Technology and wish to conduct a
research at a College entitled :

Designing a framework for the advancement of lecturer capacity in developing the Graduate
Attributes at a College for Technical and Vocational Education and Training.

The research will be conducted according to all stipulated ethics of research and the
Executive Management of the College will be informed continuously with the developments of
the research.

Yours very sincerely and respectfully,

_____
MR. J.P KHEZA
RESEARCHER

350

Annexure B Letter of permission granted for conducting research

higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

GOLDFIELDS
TVET COLLEGE

Mr. J.P Kheza
19 Bach Avenue
Riebeeckstad
WELKOM
9460

PRIVATE BAG X 95

WELKOM

9460

admin@goldfieldsfet.edu.za

www.goldfieldsfet.edu.za

CENTRAL OFFICE

36 .BUREN STREET

FLAMINGO PARK

WELKOM

9459

TEL:057 9106000

FAX:057 3921082

23 March 2015

Dear Sir

RE: Permission to conduct research

We acknowledge receipt of your application to conduct research that will:

Develop the framework for advancement of lecturer capacity in developing the Graduate Attributes at a College for Technical and Vocational Education and Training.

This permit is valid until 31 December 2018. You are reminded to submit a copy of your final report to the College Council, College Principal and Executive Management.

Thank you.

_____
MR. F.S. MAHLANGU
PRINCIPAL

351

Annexure C Students' Questionnaire

SECTION A
DEMOGRAPHIC VARIABLES

1. Please complete all questions.   Please tick only in the relevant box

1.1   Student Gender:

| 1 | Male | | 2 | Female |

1.2   Race group:

| 1 | Black | 2 | Coloured | 3 | Indian | 4 | White | 5 | Other |

1.3   Student Age group:

| 1 | 15 - 22 | 2 | 23 - 30 | 3 | 31 – 38 | 4 | 39 – 46 | 5 | 47 + |

1.4   High School Attended:

| 1 | Public | 2 | Private | 3 | Technical | 4 | LSEN | 5 | Other |

1.5   Highest Grade Passed:

| 1 | Grade 9 | 2 | Grade 10 | 3 | Grade 11 | 4 | Grade 12 |

1.6 Place of residence

Rural town	1	Urban town	2	Semi- urban (eg. Township area)	3	Other (please specify)	

352

1.7 Please indicate below, the information about caregivers.				
Single mother	Single father	Both parents	Guardian	None (Child-headed Family)
1	2	3	4	5

1.8 Parents/Guardian Education Level							
High school (grades8 -11)	Matric	Diploma	Bachelor's Degree	Honours Degree	Masters Degree	PhD	Not sure
1	2	3	4	5	6	7	8

1.9 Parents/Guardian Occupation	Employed	Self-Employed	Unemployed	Pensioner
	1	2	3	4

1.10 Please tick below, the grades you failed below											
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12

1.11 Please tick below, the grades from which you were progressed											
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12

1.12 Highest Grade Passed	AET Level 4	Grade 9	Grade 10	Grade 11	Grade 12
	1	2	3	4	5

1.13 Did you receive career advice before enrolling at TVET college?			Yes	No
			1	2
1.14 First choice/preference before you enrolled at TVET	TVET College e.g. Goldfields TVET College	University of Technology e.g. Central University of Technology, Free State	University e.g. University of the Free State	

353

	1		2		3	
1.15 Provide a reason for your enrolment at TVET	My Choice	Parents' Instruction	Advice from somebody/information source		Other Reasons	
	Other reasons (Please specify below)					

	NC(V) Business Studies	NC(V) Services Studies	NC(V) Engineering Studies	NATED Business Studies & Services	NC(V) Services Studies	NATED Engineering Studies	Skills Program	Learner-ships
1.16 What course have you been registered for?								
	1	2	3	4	5	6	7	8

1.17 Indicate the level of your NC(V) or NATED qualification. **For example:** NC(V) Engineering Studies- Level 2	

1.18 Are you a full-time or part time student ?	Full-time	1	Part time	2

_____

__

SECTION B

Listed below are a wide variety of questions. This questionnaire is designed to help the researcher gain a better understanding of what Graduate Attribute are and what they should entail at a TVET College. Please indicate your opinions about each of the statements below by crossing the appropriate number. Your answers will be kept strictly confidential and will not be identified by any names.

Please indicate your opinion about each of the statements below according to how you perceived them at a college. Respond to each item as it pertains to you personally.

2.1 What do you think the Graduate Attributes entail?

Personal skills	Academic skills	Corporate/ Work-related skills	Technological skills	Information, Communication & Technical skills (ICT)	Life skills	Not sure
1	2	3	4	5	6	7

2.2 How do you think the Graduate Attributes could be developed at a college?

Curriculum	Extra-curricular	Student Activities	Not sure
1	2	3	4

2.3 Who do you think should be responsible for the Graduate Attributes?

Lecturers	Students	Industry	Not sure
1	2	3	4

2.4 Which attribute do you consider most important

Employability	Functional Knowledge	Reflective competencies	Values relate competencies	Innovation
1	2	3	4	5

For questions, under 2.5 to 2.9, please use scale below to rate the statements. Kindly cross the answers according to the ratings. Please only cross one item per question.

Strongly agree	Agree	Unsure	Disagree	Strongly disagree
5	4	3	2	1

2.5 Generic Attributes						
2.5.1	I have the ability to access information	5	4	3	2	1
2.5.2	I have ability to use new information	5	4	3	2	1
2.5.3	I have the ability to handle large amounts of information	5	4	3	2	1

355

2.5.4	I have the ability to critic knowledge and information	5	4	3	2	1
2.5.5	I have technical and technological competencies	5	4	3	2	1

2.6 Academic Attributes and Intellectual Ability						
2.6.1	I possess subject or discipline knowledge	5	4	3	2	1
2.6.2	I have numeracy skills	5	4	3	2	1
2.6.3	I have oral presentation and written communication skills	5	4	3	2	1
2.6.4	I have enquiry and research skills	5	4	3	2	1
2.6.5	I desire to learn and continue learning	5	4	3	2	1

2.7 Workplace Attributes and Knowledge Application						
2.7.1	I can apply knowledge to new situations	5	4	3	2	1
2.7.2	I can plan and execute tasks independently	5	4	3	2	1
2.7.3	I have an understanding of changing workplace practices	5	4	3	2	1
2.7.4	I can relate specific issues to wider organisational context	5	4	3	2	1
2.7.5	I can follow and construct logical arguments	5	4	3	2	1

2.8 Personal Attributes						
2.8.1	I am decisive and persuasive	5	4	3	2	1
2.8.2	I am punctual and can stick to time-frames	5	4	3	2	1
2.8.3	I am self-disciplined and reliable	5	4	3	2	1

356

2.8.4	I have the ability to deal with different cultural practices	5	4	3	2	1
2.8.5	I have the ability to inspire people	5	4	3	2	1

2.9 Entrepreneurship Attributes						
2.9.1	I have adequate economic knowledge about local and global affairs	5	4	3	2	1
2.9.2	I can deal with business realities and its difficulties	5	4	3	2	1
2.9.3	I am flexible, adaptable and open-minded	5	4	3	2	1
2.9.4	I possess critical and analytical skills	5	4	3	2	1
2.9.5	I am innovative and creative	5	4	3	2	1

.Please answer the following questions 3.1-3.4 on the acquisition of Graduate Attributes

3.1 Now, that you have an understanding of Graduate Attributes what do you think about their use

   and importance.

3.2 How can lecturers support you in the development of   Graduate Attributes in a specific

   programme or course you are currently taking ?

3.3 Which type of knowledge, skills and qualities are needed from your lecturers to teach to

Graduate Attributes ?

Knowledge: --

--**Skills:** --

---**Qualities** ---

3.4 How will you use your knowledge of Graduate Attributes ? (think of your future/current work

situation, career, community and society)

Thank you so much for your input and valuable time in completing this survey on Graduate Attributes

Mr Pitso Kheza

358

Annexure D Schedules for Students' Focus Group Interviews

Focus Group Interview 1				
Group	Number of Participants	Date	Time	Venue
Engineering (NATED)	5	01 March 2017	10:00	Student Support Centre
Focus Group Interview 2				
Group	Number of Participants	Date	Time	Venue
Engineering (NVC)	5	03 March 2017	15:00	Student Support Centre
Focus Group Interview 3				
Group	Number of Participants	Date	Time	Venue
Business (NATED)	5	07 March 2017	11:00	Student Support Centre
Focus Group Interview 4				
Group	Number of Participants	Date	Time	Venue
Business (NCV)	5	09 March 2017	15:00	Student Support Centre
Focus Group Interview 5				
Group	Number of Participants	Date	Time	Venue
Learnerships	5	14 March 2017	09:00	Student Support Centre

_____

MR. J.P KHEZA

RESEARCHER

359

Annexure E Schedules for Lecturers' Focus Group Interviews

Focus Group Interview 1				
Group	Number of Participants	Date	Time	Venue
Engineering (NATED)	5	06 September 2017	10:00	Student Support Centre
Focus Group Interview 2				
Group	Number of Participants	Date	Time	Venue
Engineering (NVC)	5	08 September 2017	15:00	Student Support Centre
Focus Group Interview 3				
Group	Number of Participants	Date	Time	Venue
Business (NATED)	5	13 September 2017	11:00	Student Support Centre
Focus Group Interview 4				
Group	Number of Participants	Date	Time	Venue
Business (NCV)	5	20 September 2017	15:00	Student Support Centre
Focus Group Interview 5				
Group	Number of Participants	Date	Time	Venue
Learnerships	5	22 September 2017	09:00	Student Support Centre

_____

MR. J.P KHEZA

RESEARCHER

360

Annexure F Invitation to Lecturers' Workshop

higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

GOLDFIELDS
TVET COLLEGE

MEMO

TO   : SENIOR LECTURERS, LECTURERS

CC   : DEPUTY PRINCIPALS, CAMPUS MANAGERS, HOD'S

FROM : MR. KHEZA

DATE : 21 NOVEMBER 2016

_____

SUBJECT: Academic Support Training (Developing Graduate Attributes)
_____

You are kindly invited to attend Academic Support Training (Developing Graduate Attributes) scheduled as follows:

Date   : 24 November 2016

Time   : 08:00

Venue   : Tosa Campus (Media Centre)

Thank you.

_____
JP KHEZA
SES: STUDENT SUPPORT SERVICES

Annexure G Attendance Register for Lecturers' Workshop

ATTENDANCE REGISTER FOR THE LECTURERS' WORKSHOP

24 NOVEMBER 2016

INITIALS AND SURNAME	DESIGNATION	SIGNATURE

GFC-02-2044-09-01	2016/11/21	Page 362 of 397

Annexure H Request to students to participate in a study questionnaire

Prospective Participant

You are requested to participate in a research study conducted by Pitso Kheza who is currently studying towards a PhD at Central University of Technology, Free State. The results of the study will be contributed towards the completion of the thesis. You were selected as a possible participant in this study because you are a student of the identified college.

1. PURPOSE OF THE STUDY

The purpose of the research study is to potentially contribute to the field of knowledge and extension of conceptual understanding regarding the following issue:
Designing the framework for lecturer advancement in developing the Graduate Attributes at a College for Vocational Education and Training.

2. PROCEDURES

If you volunteer to participate in this study, you will complete a questionnaire that will take approximately 30 minutes. The questionnaire will be given as a hard-copy. The copy is expected to be returned within a stipulated time. Adequate time (one week) will be given for participants to complete the questionnaire.

3. POTENTIAL RISKS AND DISCOMFORTS

Foreseeable risks includes:

The methodology of the study involves questionnaires and analysis of documents which were prepared in conjunction with universities in the course of undertaking the project. At the end of the project institutions will be informed that they are at all liberty to treat the reports as confidential or make them available to the public. Hence, permission will be sought from participating institutions to enable the researcher to have access to these reports. There will therefore be no personal risk or discomfort whatsoever to individual participants in this study.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The information shared in the questionnaire and group interview will potentially enhance participants' understanding of and growth in the TVET college sector. The broader society, students and TVET college sector will potentially benefit from the findings of the study that could influence development of Graduate Attributes.

5. PAYMENT FOR PARTICIPATION

363

Participants will not receive any remuneration for participation in the study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with any participants will remain confidential and will be disclosed only with personal permission or as required by law. Confidentiality will be maintained by means of categorizing participants and colleges alpha-numerical, lock audio digital-recordings and notes of group interviews and completed questionnaires in fire proof safe at my house. The researcher will be the only person with access to the safe. The transcription, notes and questionnaires will be destroyed six months after the researcher completed the research study or as soon as required by University.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kinds. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. If the participants ceases to be in the employment of the TVET college sector, the investigator will terminate the participant's involvement in the study.

8. DECLARATION

I declare that I explained the informatipn given in this document to _____. He/She was encouraged and given ample time to ask me questions pertaining to the study. This was conducted in English and Sesotho.

_____
Signature of Investigator

Annexure I   Student's consent to participate in the study questionnaires

TO WHOM IT MAY CONCERN

Student Number   : _____

Date   : _____

Consent to participate in a research entitled:

Develop the framework for advancement of lecturer capacity in developing the Graduate Attributes at a College for Technical and Vocational Education and Training.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in the questionnaires for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully,

_____
STUDENT SIGNATURE

Annexure J Request to students to participate in the focus group interview

You are requested to participate in a research study conducted by Pitso Kheza who is currently studying towards a PhD at Central University of Technology, Free State. The results of the study will be contributed towards the completion of the thesis. You were selected as a possible participant in this study because you are a student of the identified college.

1. PURPOSE OF THE STUDY

The purpose of the research study is to potentially contribute to the field of knowledge and extension of conceptual understanding regarding the following key factors:

- strategies needed to capacitate TVET college to produce well-prepared students for the industry;
- Graduate Attributes policy development in the TVET college sector.

2. PROCEDURES

Participate in one focus group interview. The venue will be in close proximity of your classes. The group interview will take place after college hours. The date for the group interview will be communicated two weeks in advance to ensure maximum availability of participants. The group interviews will be tape-recorded for ease of transcribing and accurate reporting of results. The total length of the group interview will not exceed two hours

3. POTENTIAL RISKS AND DISCOMFORTS

Foreseeable risks includes:

The methodology of the study involves questionnaires and analysis of documents which were prepared in conjunction with universities in the course of undertaking the project. At the end of the project institutions will be informed that they are at all liberty to treat the reports as confidential or make them available to the public. Hence, permission will be sought from participating institutions to enable the researcher to have access to these reports. There will therefore be no personal risk or discomfort whatsoever to individual participants in this study.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The information shared in the questionnaire and group interview will potentially enhance participants' understanding of and growth in the TVET college sector. The broader society, students and TVET college sector will potentially benefit from the findings of the study that could influence development of Graduate Attributes.

5. PAYMENT FOR PARTICIPATION

366

Participants will not receive any remuneration for participation in the study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with any participants will remain confidential and will be disclosed only with personal permission or as required by law. Confidentiality will be maintained by means of categorizing participants and colleges alpha-numerical, lock audio digital-recordings and notes of group interviews and completed questionnaires in fire proof safe at my house. The researcher will be the only person with access to the safe. The transcription, notes and questionnaires will be destroyed six months after the researcher completed the research study or as soon as required by University.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kinds. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. If the participants ceases to be in the employment of the TVET college sector, the investigator will terminate the participant's involvement in the study.

8. DECLARATION

I declare that I explained the informatipn given in this document to _____. He/She was encouraged and given ample time to ask me questions pertaining to the study. This was conducted in English and Sesotho.

_____
Signature of Investigator

Annexure K Student's consent to participate in the study's focus group interview

TO WHOM IT MAY CONCERN

Student Number   : _____

Date   : _____

Consent to participate in a research entitled:

Develop the framework for advancement of lecturer capacity in developing the Graduate Attributes at a College for Technical and Vocational Education and Training.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in the focus group interviews for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully,

_____
STUDENT SIGNATURE

Annexure L Notice to lecturers to participate in a workshop

NOTICE IS HEREBY GIVEN THAT THE ACADEMIC SUPPORT TRAINING (DEVELOPING GRADUATE ATTRIBUTES) WILL BE HELD ON 24 NOVEMBER 2016 AT 8:00 AT TOSA CAMPUS (MEDIA CENTRE)

Day 1		
Facilitator Dr. Radile		
Agenda Item	Presenter	Time
1. Registration	College Officials	08:00 – 08:20
2. Attendance Register and Credentials		08: 20 – 08:25
3. Apologies		08:25 – 08:30
4. Opening and Welcome	Dr Radile	08:30 – 08:45
5. Purpose of the Training	Mrs.Zonke	08:45 – 09:00
6. Introduction to Graduate Attributes	Mr. Kheza	09:00 – 09:30
7. Tea Break		09:30 – 09:45
8. Graduate Attributes in TVET Colleges	Prof Alexander	09:45 – 10:15
9. Graduate Attributes in the Industry	Mr Kheza	10:15 – 10:45
11. Legislative Matters pertaining to Graduates Attributes	Prof Alexander	10:45 – 11:15
12. Role of Lectures	Mr Kheza	11:15 – 12:00
13. Lunch		12:00 – 13:00

369

14. Role of Students	Prof Alexander	13:00 -13:30
15. Role of Management	Mr Kheza	13:30 – 14:00
16. Role of other Stake Holders	Prof Alexander	14:00 – 14:30
17. Discussions and Way Forward		14.30 – 15:00
18. Departure		15:00

_____

KHEZA J.P

SES: STUDENT SUPPORT

Annexure M Lecturer's consent to participate in the workshop

TO WHOM IT MAY CONCERN

Staff Number   : _____

Date   : _____

Consent to participate in a research entitled:

Develop the framework for advancement of lecturer capacity in developing the Graduate Attributes at a College for Technical and Vocational Education and Training.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in the focus group interviews for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully,

_____

STUDENT SIGNATURE

Annexure N Request to Executive Manager to participate in a semi-structured interview

You are requested to participate in a research study conducted by Pitso Kheza who is currently studying towards a PhD at Central University of Technology, Free State. The results of the study will be contributed towards the completion of the thesis. You were selected as a possible participant in this study because you are a student of the identified college.

1. PURPOSE OF THE STUDY

The purpose of the research study is to potentially contribute to the field of knowledge and extension of conceptual understanding regarding the following key factors:

- strategies needed to capacitate TVET college to produce well-prepared students for the industry;
- Graduate Attributes policy development in the TVET college sector.

2. PROCEDURES

Participate in one semi-structured interview. The venue will be your office at your institution. The interview will take place after college hours. The date for the group interview will be communicated two weeks in advance to ensure maximum availability of participants. The interview will be tape-recorded for ease of transcribing and accurate reporting of results. The total length of the interview will not exceed two hours

3. POTENTIAL RISKS AND DISCOMFORTS

Foreseeable risks includes:

The methodology of the study involves questionnaires and analysis of documents which were prepared in conjunction with universities in the course of undertaking the project. At the end of the project institutions will be informed that they are at all liberty to treat the reports as confidential or make them available to the public. Hence, permission will be sought from participating institutions to enable the researcher to have access to these reports. There will therefore be no personal risk or discomfort whatsoever to individual participants in this study.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The information shared in the questionnaire and group interview will potentially enhance participants' understanding of and growth in the TVET college sector. The broader society, students and TVET college sector will potentially benefit from the findings of the study that could influence development of Graduate Attributes.

5. PAYMENT FOR PARTICIPATION

Participants will not receive any remuneration for participation in the study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with any participants will remain confidential and will be disclosed only with personal permission or as required by law. Confidentiality will be maintained by means of categorizing participants and colleges alpha-numerical, lock audio digital-recordings and notes of group interviews and completed questionnaires in fire proof safe at my house. The researcher will be the only person with access to the safe. The transcription, notes and questionnaires will be destroyed six months after the researcher completed the research study or as soon as required by University.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kinds. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. If the participants ceases to be in the employment of the TVET college sector, the investigator will terminate the participant's involvement in the study.

8. DECLARATION

I declare that I explained the informatipn given in this document to _____. He/She was encouraged and given ample time to ask me questions pertaining to the study. This was conducted in English and Sesotho.

_____
Signature of Investigator

Annexure O Executive Manager's consent to participate in the study's focus group interview

TO WHOM IT MAY CONCERN

Staff Number   : _____

Date   : _____

Consent to participate in a research entitled:

Develop the framework for advancement of lecturer capacity in developing the Graduate Attributes at a College for Technical and Vocational Education and Training.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in the focus group interviews for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully,

_____

STUDENT SIGNATURE

Annexure P Research Questions

Focus group interview schedule for various faculties

Focus Group Interviews Questions for Lecturers

1. What are the perception about the use of Graduate Attributes for Goldfields TVET College?
2. What are or should be the specific Graduate Attributes for your Department/Programme in general?
3. Could each Head of Department/Subject Head and representative, please possible explain on to how specific Graduate Attributes are embedded in the curriculum of your Programme?
4. Who do you think paly or should play a major role in developing these attributes and why?
5. What do you think should be the role of lecturers in developing them?
6. Do you think that certain Graduate Attributes (competencies, skills, qualities, values, attitudes, etc.) are included in programmes of your Department? Please elaborate.
7. Does the vision and mission statement of Goldfields pronounce on the importance of certain Graduate Attributes become a fundamental part of Goldfields institutional policies?
8. Does or could your Department involve various stakeholders in the conception and development of Graduate Attributes? Please expound.
9. Taking in consideration our discussion on Graduate Attributes, do you think there is a need for you to be capacitated and/or even trained in the development of Graduate Attributes? Please explain.
10. Once you are capacitated as a lecturer on Graduate Attributes, how can this assist you with your student's lifelong learning and holistic development?
11. How can the Head of Department, the Vice Principal Academic and College Management in general do to support lecturers' capacity in developing Graduate Attributes for their respective programmes?

Focus Group Interviews Questions for Students

What are the perception about the use of Graduate Attributes for Goldfields TVET College?

In what ways do you think the Graduate Attributes could be developed?

Who do you think should be charged with development of Graduate Attributes in question?

What are the barriers to the development of Graduate Attributes at a college?

What could be the possible solutions to the barriers mentioned?

Annexure Q Request to lecturers to participate in the focus group interview

You are requested to participate in a research study conducted by Pitso Kheza who is currently studying towards a PhD at Central University of Technology, Free State. The results of the study will be contributed towards the completion of the thesis. You were selected as a possible participant in this study because you are a student of the identified college.

1. PURPOSE OF THE STUDY

The purpose of the research study is to potentially contribute to the field of knowledge and extension of conceptual understanding regarding the following key factors:

- strategies needed to capacitate TVET college to produce well-prepared students for the industry;
- Graduate Attributes policy development in the TVET college sector.

2. PROCEDURES

Participate in one focus group interview. The venue will be in close proximity of your classes. The group interview will take place after college hours. The date for the group interview will be communicated two weeks in advance to ensure maximum availability of participants. The group interviews will be tape-recorded for ease of transcribing and accurate reporting of results. The total length of the group interview will not exceed two hours

3. POTENTIAL RISKS AND DISCOMFORTS

Foreseeable risks includes:

The methodology of the study involves questionnaires and analysis of documents which were prepared in conjunction with universities in the course of undertaking the project. At the end of the project institutions will be informed that they are at all liberty to treat the reports as confidential or make them available to the public. Hence, permission will be sought from participating institutions to enable the researcher to have access to these reports. There will therefore be no personal risk or discomfort whatsoever to individual participants in this study.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The information shared in the questionnaire and group interview will potentially enhance participants' understanding of and growth in the TVET college sector. The broader society, students and TVET college sector will potentially benefit from the findings of the study that could influence development of Graduate Attributes.

5. PAYMENT FOR PARTICIPATION

Participants will not receive any remuneration for participation in the study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with any participants will remain confidential and will be disclosed only with personal permission or as required by law. Confidentiality will be maintained by means of categorizing participants and colleges alpha-numerical, lock audio digital-recordings and notes of group interviews and completed questionnaires in fire proof safe at my house. The researcher will be the only person with access to the safe. The transcription, notes and questionnaires will be destroyed six months after the researcher completed the research study or as soon as required by University.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kinds. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. If the participants ceases to be in the employment of the TVET college sector, the investigator will terminate the participant's involvement in the study.

8. DECLARATION

I declare that I explained the informatipn given in this document to _____. He/She was encouraged and given ample time to ask me questions pertaining to the study. This was conducted in English and Sesotho.

_____

Signature of Investigator

Annexure R Lecturer's consent to participate in the study's focus group interview

TO WHOM IT MAY CONCERN

Staff Number   : _____

Date   : _____

Consent to participate in a research entitled:

Develop the framework for advancement of lecturer capacity in developing the Graduate Attributes at a College for Technical and Vocational Education and Training.

This letter serves to confirm that I, _____ have voluntarily agreed to participate in the focus group interviews for the above-mentioned study. I made a choice to voluntarily participate after being informed about the data collection procedure and all the possible implications of my involvement in the study. I have also been informed of my right to withdraw from the study any time I feel I can no longer continue for any reason (or whatsoever the case it may be) and such a decision will not have negative outcomes on me.

Yours faithfully,

_____

STUDENT SIGNATURE

379

TO WHOM IT MAY CONCERN

This is to state that the PhD: *'Designing a framework for the advancement of lecturer capacity in developing graduate attributes at a Technical Vocational Education and Training college'* submitted to me by Mr P Kheza (student number: 20385617), of the Central University of Technology in the Free State, South Africa, has been language edited by me, according to the tenets of academic discourse.

Carol Keep, MA (English); BEd (Hons.); SOD; Cert. of Proofreading
3 Beresford Rd
Stirling 5241
East London
E Cape
South Africa

072 508 0936
caroljkeep@gmail.com

14 June 2018.