

**GRADUATENESS AND EMPLOYABILITY: A CASE OF ONE POLYTECHNIC IN
ZIMBABWE**

by

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DECLARATION BY STUDENT

I **Miriam Mutirwara**, Student Number 201205303, declare that the contents of this thesis constitute my own original work, except where acknowledgements indicate otherwise and that neither the whole work nor any part of it has ever been previously or shall be submitted for assessment to any other institution for the purpose of obtaining a qualification.

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ABSTRACT

The study explored the domains of graduateness and employability at one polytechnic in Zimbabwe. The focus was on how instructional delivery strategies and assessment tools could embed domains of graduateness and employer expectations. A phenomenological research approach was used in conducting the study. This qualitative research paradigm allowed the research to take place in a natural setting which enabled a holistic picture and use of an inductive mode of inquiry through the researcher's immersion in the research setting.

Human capital, teaching methods and flexible training models, among others, emerged as major strengths in training. However, these key strengths were marred by unprofessional practices and limited resources. In assessment, proficiency schedules, trade testing and use of external assessors emerged as key strengths. Pertaining to the curriculum, it emerged that on paper, curriculum specifications and design for implementation appeared relevant to the production of a graduate exhibiting attributes of graduateness. It however emerged that there was need to revisit the hidden curriculum, as training was dependent on the availability of resources.

The study proposes a framework for promoting graduateness and enhancing employability through creation of mutual partnerships to collectively develop a curriculum that is acceptable to institutions and industry. Moreover, graduateness domains should be enshrined in the curriculum. A need for strategic selection of teaching and assessment methods which promote critical thinking, interaction, decision making and retention of information was identified.

Major recommendations are that institutions should align themselves with market demands and technological changes to ensure employability. Institutions should also prepare graduates for transition to the world of work, by rendering adequate preparation through teaming up with industry and the use of appropriate teaching methodology.

Key words; graduate, graduateness, employability, curriculum, competence, assessment, instructional delivery

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DEDICATIONS

This study is dedicated to:

The Almighty who reigns in my life.

My husband Louis and our children Tinotenda, Munyaradzi and Tanatswa.

My departed father and mother (Patrick and Emily).

My sister-in-law Leslie and late brother Edson.

All my siblings.

ACRONYMS

HE	Higher Education
HTC	Human Capital Theory
SLT	Social Learning Theory
ITTD	Industrial trade testing department
ZOSS	Zimbabwe occupational standards society
NAMACO	National manpower advisory council
CBET	Competence based education and training
TVET	Technical and vocational education and training
‘O’ Level	General certificate of education at ordinary level
‘A’ Level	General certificate of education at advanced level
NC	National certificate
ND	National diploma
HND	Higher national diploma
B Tec	Bachelor of Technology degree
SDEQA	Standards Development and Qualifications Authority
SDERU	Standard Development and Research Unit
MoHTE	Ministry of Higher and Tertiary Education
DPF	Diesel Plant Fitting
MoU	Memorandum of understanding
Nass	National and strategic studies

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CHAPTER ONE

ORIENTATION OF THE STUDY

1.1 INTRODUCTION

Graduateness and employability have recently gained centre stage in academic circles. The various interpretations and demands of graduateness as described by among others Ross (1996), Maher and Nield (2005) create the impression that graduates do not have the skills, competences, attributes and attitudes expected of them by prospective employers. As a result, employability has proved a challenge; yet education economists including Becker (1993), Parkins (2010), Todaro & Smith (2011) regard education as an investment. Education is expected to elevate one's social footing. In fact, in economic circles it is argued that education is the human resource base of a nation that is responsible for its overall economic and social development (Schultz 1961, Kohler, 1992, Todaro & Smith, 2011). Economists even call upon nations, especially in the third world, to orient their educational systems towards the real requirements and aspirations of their people. Becker (1993:17) argues that "education and training are the most important investments in human capital... The earnings of more educated people are almost always well above average". Yet, the benefit of investing in education remains shadowy for most of today's graduates. They find themselves armed with qualifications but remain unable to meet the employability criteria. The social revamp anticipated by many does not come to fruition.

According to Todaro & Smith (2011), employment and the high paying jobs that were meant to move them from one social rung to the other, are not forthcoming). An example of a country with a high literacy rate but low employment rate is Zimbabwe, with a literacy rate of over 90% (Zimbabwe Council of Churches 2006:3; Coltart, 2012). The nation has a total of sixteen universities, ten of which are state universities. There are also several polytechnics, several teachers' colleges and several

vocational/technical centres. The question that comes to the fore is; if so many people are highly educated, why then are so many unemployed? Why is the labour market dissatisfied with the graduates joining the labour market? Another question is, has higher education oriented its educational systems towards the real requirements and aspirations of the people and the labour market?

An analysis of minutes from one polytechnic in Zimbabwe reflects that the industry is disgruntled by the void they feel exists between their expectations and the nature of college graduates. This discontentment is what gave impetus to this study which explores the causes of unemployability of graduates and the measures can be put in place to solve this problem in Zimbabwe. Institutions of higher learning are renowned for producing experts in various fields. The Zimbabwe Council of Higher Education explicitly states that its mandate as far as polytechnics are concerned is to develop manpower for industry and commerce. Several scholars among others Chetty (2010, 2011), Griesel and Parker (2009), Steur, Jansen and Hofman (2012) have researched on employability and gradueness yet, the dissatisfaction remain prevalent. Chances are, if the perceived disharmony remains unaddressed, it is likely to compromise the symbiotic relationship that is expected to exist between Higher Education and business. Research has revealed that this problem is not only prevalent in Zimbabwe, but cascades all over Africa, and has even turned out to be a global issue, hence the need to carry out this study.

1.2 BACKGROUND

The competence of graduates and their work preparedness has drawn the attention of many governments globally. It cascades into African nations, including Zimbabwe. The issue has gone beyond governments and academia. Griesel and Parker (2009), Steur et al. (2012) assert that gradueness and employability among graduates leaving institutions of higher learning have gained precedence in the technology driven knowledge economy. The government and labour market exert pressure on Higher Education (HE) to ensure its output (graduates) has the capability and disposition to

acquire employment and satisfactorily meet the demands of the world of work (Griesel and Parker 2009:4). Steur et al. (2012) explains the issue of domains of graduateness that it should be reflective in graduates in order for them to be employable yet some employers complain that these domains are not exhibited by some graduates when they join the world of work.

According to unpublished reports (July 2010, 2011, 2012 and 2013) received by the college under study from industry, some students do not perform to the expectations of industry. This is reinforced by a document on occupational competence profiles from the Zimbabwe Occupational Standards Services (ZOSS) Manager (2012:3). The Board asserts that “in Zimbabwe there has always been and still is criticism from industry and commerce that training institutions are churning out graduates who are not competent in the real world of work”. The board goes on to point out that comments on the irrelevance of training programmes to the needs of industry and/or the portrayal of graduates from local institutions as half-baked puddings are common. Referring to graduates as half-baked cakes implies that they have theoretical knowledge, but lack practical competences. This pronounced mismatch between what training institutions teach and what industry and commerce want cannot be ignored any longer. Challenging the employment market to pinpoint the areas of deficiency might not yield the desired results. Rather, stakeholders need a preventive, comprehensive and long-term approach, hence the need to carry out the current research.

Research studies by renowned scholars reveal that these sentiments are not peculiar to Zimbabwe. Previous research by among others, Scot et al. (2002), Hart (2008), Casner-Lott and Barrington (2008), and Caballero et al. (2011), indicate a worldwide disgruntlement by industry over graduate preparedness for all operational aspects of industrial tasks. The issue at hand is, although colleges are understood not to produce highly competent artisans, novices they might be, they are still expected to be able to perform some basic industrial related tasks. There are certain attributes that link one to his/her trade. Kouwenhoven (2003:129) points out that in developing nations, many HE institutions have not aligned their curricula with the demands of society, business and industry which expect a flexible and versatile workforce. By regarding the work force as

flexible, the implication is graduates are expected to be adaptive to a number of situations. This is echoed by Caballero, Walker and Fuller-Tyszkiewicz (2011:41) who argue that some of the graduates joining the workforce fall short in terms of work readiness and preparedness, that is expected of them by prospective employers. They further assert that the discrepancy between employer expectations and the employer rating of work readiness suggest that work readiness is not a criterion being examined effectively by current graduate assessment practices. Hence it is evident that work readiness as a construct need to be systematically assessed.

Jaeger (2003:617) maintains that professional school graduates are frequently seen as lacking appropriate skills ... and are unable to adapt to change and are inept at effective group work. The assertion purports existence of a void between what is and what should be. I got the impression that graduates are failing to adapt to the work environment and apply what they would have learnt. However, this exposes the knowledge gap on how to redress the ineptitude through research in order to strike a balance between employer expectations and higher education products. Schneider (2010) argues that government when crafting policy for education should not only consider rights of individual citizens, but also be guided by the broad vision and purpose of education. That is, training and lifelong learning need not only focus on employability but beyond that. Equipping graduates with a broad base of skills does not warrant that these would be utilised to their fullest benefit. Consideration of the environment (workplace) in which the skills would be applied need to be taken seriously during training. Schneider (2010) goes on to call for union involvement in the crafting of training policy, its implementation right up to assessment and curriculum review.

The above-mentioned argument is reinforced by Adei (2012:1) who says universities must go beyond being big centres of knowledge and learning to develop research capacity and become national innovation centres. Chetty (2012:3) explains that graduate attributes that constitute gradueness as focusing on individual capacity for citizenship and one's ability to secure and uphold work, with the "employability" dimension are also espoused by various authors including Harvey (2001) and McQuaid and Lindsay (2005). The proposition presented by Schneider (2010); Chetty (2012) and

Adei (2012) reflects that gradueness and employability are only separated by a thin semantic line. Nonetheless, their argument points to the fact that effort should be made throughout the training process to ensure the impartation of the right attributes. Consequently, lifelong learning, citizenship and ability to find and maintain work (team work) would go a long way in making graduates fit into the world of work.

Abrandt Dahlgren et al. (2006); and Johnston (2003) quoted in Fahria Masum (2010:2) assert that research pertaining to the transitional stage from college life to working life is still minimal. Martinsson and Olsson, (2008) in Fahria Masum, (2010) go on to quote the Federal Ministry of Education and Research (BMBF, 2008:25) as arguing that provision of a dependable assessment system as a scientific basis to the development of a quality education system should be ensured. Thus, Fahria Masum, (2010) suggests that through the development of strategies/approaches, higher education can possibly reorganise trends and challenges of employability. Production of flexible graduates does not only improve the education system but entails adoption of market demands and enrichment of the research field. Hence, the need to conduct research on how to create synergy between industry and HE so that they can be further cemented. Evans (1999) however poses a question that is analogous to the time old hen and egg debate in establishing which comes first the hen or the egg. The line of argument here being whether institutions of higher learning should go out of their way to meet the expectations of students or vice versa. Chetty (2012) cites that there is a school of thought that argues that getting graduates ready for the world of work is not a mandate for higher education. Instead, HE should concentrate on ensuring that students master their respective disciplines of study. The final architectural work and trade refinement is beyond its responsibility.

Evans (1999) and Chetty (2012) concur that higher education has a limit in as far as the production of manpower is concerned, amidst clear indications that changing times require reorganisation of trends in order to effectively deal with challenges. It is against this maze of conflicting ideas that I undertook the present study aimed at investigating how instructional delivery and assessment strategies at one polytechnic in Zimbabwe

incorporate domains of gradueness and employer expectations and how the system can be improved.

1.3 STATEMENT OF THE PROBLEM

The dissatisfaction that is expressed by industry with regards to the inabilities of some students to perform basic tasks, and assertions by among others Kouwenhoven (2003) and Cohen (2005) suggest that there is an existing void between the work capacity exhibited by graduates and demands of the prospective employers in the labour market. Andrews and Higson (2008), Schneider (2010) and Jaeger (2008) among others, have expressed concern about the existing disconnect. Reports from industry also reveal that a considerable number of graduates lack the skills and competences that are considered to be of absolute importance when taking up employment, making self-evident the link between gradueness and employability (Chetty 2012:4). The need to address the disparity between what institutions produce (HE outcomes) and expectations of the labour market is apparent. However, although this largely entails proactive task oriented students as well as the ability to apply knowledge, effort should be made in order for graduates to find meaning in education. As Griesel and Parker (2009:4) point out that, “a degree of realism will need to be sustained on both sides about how far HE can be expected to bridge the gap and the role that only employers can play in providing on the job learning and continuing development”. The situation naturally seems to point at shared responsibility, yet the parameters are not engraved in stone. The current blaming game needs to be looked into in order to ascertain how best the issue can be resolved and chart a way forward.

Once doubt is expressed on the capabilities of graduates, it goes without saying that industry is implying that these graduates are failing to meet the criteria set for employability. It is the perceived disjuncture between what colleges produce and the expectations of industry and the desire for more innovative ways to enable HE and prospective employers work as a team for them to create a positive situation that benefit society at large that prompted the study.

1.4 PURPOSE OF THE STUDY

The study is aimed at identifying measures geared towards the improvement of training and assessment approaches in order to empower and enhance employment prospects graduates. The study focused on an assessment of instructional delivery strategies and assessment tools currently being implemented in a bid to improve them and enhance graduate work preparedness. Focus was also given to ensuring a lasting cementing of the synergy between commerce and industry and higher education through an effort to curb disgruntlement over work readiness. Thus, the overall aim of the study was to investigate whether certain domains of gradueness and employability can be embedded in the methodology employed for instructional delivery and assessment. The premise at play being prevalence of gradueness attributes in graduates is likely to enable institutions strike a balance between gradueness and employability through the systematic assessment of work readiness as a construct.

1.4.1 Objectives of the study

In the light of the background and research problem, the objectives of this study are as follows, to:

- 1) Appraise instructional delivery strategies and assessment tools being implemented to enhance graduate work preparedness.
- 2) Carry out an analysis of the outcomes of the Bachelor of Technology programme (BTech), in order to ascertain whether gradueness is embedded in the curricula.
- 3) Find out how the curriculum contributes (or not) to the perceived under-preparedness of students for employment.
- 4) Carefully consider the connection between industry expectations and outcomes of higher education in relation to employability.

- 5) Propose a remedy suitable for further improvement in training and assessment approaches in preparing students for industry.

1.5 RESEARCH QUESTIONS

The main research question is: **How can instructional delivery strategies and assessment tools embed domains of gradueness and employer expectations to ensure a balance between gradueness and employability?**

The following sub-questions are used as a build up to achieving the research question.

- 1) What are the strengths and limitations of current approaches to training and assessment in addressing the issue of gradueness and employability?
- 2) In what way does the delivery of the curriculum (and assessment) take into consideration the articulated aims in order to enhance the acquisition of the gradueness attributes?
- 3) In what way does the curriculum contribute to the perceived under-preparedness of students for employment?
- 4) What is the link/connection/relationship between employer expectations and the outcomes of Higher Education in relation to employability?
- 5) What remedies can be implemented to ensure integration of discipline mastery, employer expectations and the empowerment of the graduate to contribute meaningfully to the world of work?

1.6 ASSUMPTIONS

The study is centred on the premise that there is a void between the capabilities of college graduates and industry requirements. It is also assumed that higher education institutions (HEI) need to seriously consider embedding the domains of gradueness in the curricula. This entails the inculcation of attributes, behaviours and attributes that contribute to the graduates' maturity levels not just as employees but well rounded

citizens who contribute meaningfully to economic development. Thus, the assumption is that once the strategies of bridging the gap between HE outcomes and employer expectations have been established, the gap will be bridged and team work between the stakeholders will be enhanced.

1.7 JUSTIFICATION

Globalisation, technological advancement and economic recessions have all impacted on the place of work and the type of work expected of graduates. A lot of flexibility and adaptability is called for if one is to secure and maintain employment. These changes in the world of work have great implications to institutions of higher education as they are the architects of the workforce. The gradueness and employability of today's graduates is being questioned by employers who are of the opinion that graduates are not meeting their expectations (Bowers-Brown and Harvey (2004); Maher and Nield (2005); Chetty (2010); Chimutingiza (2011); Van Der Zenden and Reinert (2012). It is from the above assertions that the existence of a gap between earlier research on gradueness, employability and employer expectations have been realised. My quest was to understand the situation on the ground in order to possibly establish ways of coming up with an intervention.

The void created by the employer expectations and the higher education outcomes (graduates), threatens the expected cordial relationship between these two bodies, hence this study which explores the relationship between employer expectations and the graduate capabilities through **the analysis of the curricula, as well as the training and assessment strategies**. The issue can be clearly depicted unless a systematic way of assessing work readiness is implemented hence the need to revisit the criterion being used by effectively examining current graduate assessment practices. Steur et al. (2012) came up with a way of breaking down the issue of gradueness into domains/dimensions. Some of the domains include 'reflective thinking, scholarship, moral citizenship and lifelong learning' to mention a few. These domains refer "to some kind of transformation in students" (Steur et al. 2012:9). It is this change in an individual

that reflects gradueness. From the previous discussion, it is evident that there is need to reflect on whether today's graduates do exhibit these domains and if they do not, then there is need to establish the root cause of the continued disgruntlement by employers and how best to address it.

Harvey (2003); Cranmer (2006); Schneider (2010); Yorke and Knight (2006) among others have contributed to the employability agenda. In spite of the effort made, employers remain disgruntled by graduates as they feel their expectations are not being met. Chimutingiza et al. (2011); Van Der Zenden and Reinert (2012); Cilliers (2012) all concur that higher education is now not only expected to supply academically qualified individuals, but also graduates who are able to perform specific skills and attributes and meaningfully contribute to the world of work and society at large. This extra demand on higher education institutions has led to the birth of models illustrating the concept of graduate employability and gradueness. Institutions now make an effort to inculcate gradueness and employability in their curricula.

As stated earlier, the two concepts gradueness and employability have taken centre stage in academic debates for some time now and have been defined differently from various perspectives. Ross (1996); Chetty (2010, 2011); Steur et al. (2012); Glover et al. (2011) among others have contributed to the debate on gradueness. Models have been developed to explain the concept and clear the air around it. However, there is need to move on after having established what gradueness and employability is all about. A way of making gradueness and employability a part of higher education curricula need to be established while at the same time taking cognisance of what some scholars regard as an infringement of the functions of higher education. The issue of discipline specifications currently do not go in tandem with the dynamic technological times that exist today, since employer expectations are continually changing.

A discipline (which has been the focus of traditional university education) controls the mind yet industry calls for performance (competences). Innovation can only be effectively implemented by experts in a particular field. Reflecting competence entails going beyond the information given since not only the cognitive elements of an

individual are involved in the exercise, but also the psychomotor and the affective domains.

One can argue that the issue of gradueness calls for a paradigm shift from the traditional education based on what graduates should be taught (that is the traditional teacher-controlled learning where the subject matter is prescribed) to what students need to know focusing on individual capabilities at various levels of complexity. The student and the workplace should take centre stage (Cohen, 2005). It is this flexible graduate who is adaptable to varying situations and capable of marrying theory and practice that industry is looking for.

In Zimbabwe, as far back as the 1997 during a congress held by the National Manpower Advisory Council (NAMACO), it was resolved that a resolution pertaining to the issue be made. However, to date no authentic concrete steps have been made towards redressing the situation save for the 1998 launch of the Occupational Standards Project now Zimbabwe Occupational Standards Services (ZOSS). ZOSS was mandated with developing and piloting concepts, procedures and instruments for developing occupational standards. However, the issue is to establish how a link can be created that would link the occupational standards to training institution curriculum in order for graduates from training institutions to fit in with industry and commerce needs.

The purpose of this endeavour is to explore the domains of gradueness and employer expectations embedded in the curricula of the case under study. The study brings out some indicators that are to be used to craft a remedy to the complex situation through an appraisal of the instruction delivery strategies and assessment criteria. The remedy is meant to address the issue of gradueness and employability in the higher education curricula. The intention of the study is to establish ways of ascertaining a seamless interface between institutions of higher learning and the business community through the integration of curriculum development, teaching and assessment as a way of focusing on student learning and growth. Both curriculum design and implementation need to equip students with opportunities that enable intellectual growth that is observable beyond the classroom.

1.8 SIGNIFICANCE OF THE STUDY

The study aims to find ways of improving the already existing relationship between higher education and industry by embedding dimensions of gradueness in the curriculum and reviewing the assessment criteria. It is also the intention of the study to establish mechanisms that can contribute towards ensuring effective integration of theory and practice in a bid to improve the quality and relevance of the selected polytechnic's divisions and corresponding industries.

The research looks at gradueness and explores employability through an examination of the instruction delivery methodology and assessment tools currently in use. Based on the situation on the ground, the nature and implications of change in the training and assessment procedure to incorporate attributes that graduates need to be competent in the field of work would be established. By unpacking both gradueness and employability, the study hopes to make the relationship between the two more clear, expose the grey areas and map out a possible solution.

Lastly, the research sought to bring in a refinement to the training of manpower. In the words of Phillips and Pugh, (2000:65) "bring in new evidence on an old issue". I chose to put it that way because the gradueness and employability issues have been on the table for some time. It is my intention not to reinvent the wheel but just give it a polished surface by improving what already exists and by so doing make a contribution to existing knowledge. The study will provide important lessons which would help to inform the future development of training as we re-orient towards equipping graduates with the requisite knowledge and expertise. The research also aims to come up with a strategy that promotes through tertiary education the empowerment of graduates with gradueness attributes that will hopefully ensure better performance and employability. It is hoped that such an endeavour will help in mapping out a strategy that will strengthen the relationship between industry and higher education. The changing times call for new perspectives, thus the functions of university disciplines need to be aligned with societal needs. Higher education needs to take into cognisance the fact that by enrolling for various courses students hope to improve their prospects in life (Parkins, 2010, Todaro and Smith, 2011). There is need to revisit the curriculum and direct it

towards satisfying the needs and aspirations of the society. Different environments, situations and ideologies generate different curricula (Primrose and Alexander, 2013).

1.9 DELIMITATION OF THE STUDY

The study was limited to the Engineering Division of a polytechnic in Zimbabwe. Only two (2) departments under engineering were involved in the study. The streamlining was intended to give a deeper insight into the content covered, basic approaches used in delivering the content and the basic philosophical underpinning of the curricula.

1.10 LIMITATIONS

The sensitive nature of the research is that it entails getting into the daily activities of people in order to know how they go about their training, and the issue of official secrecy; in the light of this, respondents may not have been as honest and cooperative as expected. To overcome this limitation, however, I applied various data collection strategies to verify the information given by respondents. In chapter 3, the method used to triangulate data will be explained. Lastly, the fact that the study was limited to one polytechnic takes away the issue of generalisation.

1.11 THE CONTEXT OF THE STUDY

From the outset, it is important to explain that my being an educational practitioner at the institution under study did not in any way influence the outcomes of this study. All precautionary measures were taken to minimise bias. To ensure credibility in the study, triangulation and bracketing among other techniques were employed. However, deliberate effort was made to make the study as realistic and as professional as possible. Interaction with the institution on a daily basis enabled me to pick up nuances and other issues and activities linked to the study. This has prompted me to include observation as one of the methods that were used to collect data. That is, I opted to position herself as an ‘insider- outsider’ throughout the study. My closeness to the study

has in a way contributed to my use of the first person instead of referring to myself as the researcher. I was also motivated by Trafford and Leshem (2008:125) who argue that a relational style of writing enables one “to talk to the readers and so differs from the widely adopted academic tradition of writing at a distance from the readers”. That is, I made a deliberate effort to tell the story of my research journey.

1.12 DEFINITION OF TERMS

In the context of this study, the following terms and expressions are taken to mean the following:

- **Competence**

Competence is taken to refer to the ability by the graduate to perform “whole” work roles assigned to them regardless of the situation to the standard expected in employment. Focus is on one’s capability that is what is expected.

- **Curriculum**

Curriculum is taken in its entirety to mean the totality of experiences a student receives under the auspices of a centre of learning (Walklin, 2006:191). This inclusively covers the content, planned activities, intended learning outcomes, social reconstruction and even cultural reproduction.

- **Graduate**

In the study, the term is used inclusively to refer to students who have completed a certificate, diploma or degree at an institution of higher learning.

- **Graduateness**

Steur, Jansen and Hofman (2012:863) regard graduateness as implying transformation in students. In this study it is taken to refer to the specific stage in a student’s intellectual development that is likely to be achieved by the time the student graduates. Graduateness goes beyond graduate attributes. It includes an array of domains ranging from reflective thinking to the skills acquired which could be contextualised in the

occupation, profession or trade in which they are meant to work (Wheelahan 2004:4). In this study, gradueness is not only taken from an academic perspective but wholesomely to include professional prowess and excelling in one's trade of choice.

- **Employability**

The Higher Education Academy (HEA 2012) regards employability as comprising of a set of skills, and capabilities reflecting work readiness that enable graduates secure and maintain employment. In this study it is taken to mean the ability of graduates to enter the workplace at societal, national or international level. This requires flexibility and adaption to life situations which students may not have experienced during training.

- **Industrialist**

The term is used to refer to anyone in a management position or is in control of an industrial company. It is also used interchangeably with the expression 'captain of industry'. It is also used to refer to prospective employers.

- **Industry**

The term is used to refer to commerce and industry. In some instances it refers to prospective work place.

- **Work preparedness**

Harvey (2001) regards it as graduate employability. Harvey (2001) goes to take it as concerned with enhancing the capacity of a graduate's being better equipped and prepared for the world of work. The same meaning is adopted in this study.

- **Self-efficacy**

Self-efficacy entails the level of belief in the self as far as capabilities to carry out a given activity or execute a task in order to yield the desired result.

- **Assessment**

Assessment entails systematically gathering, reviewing and using data on educational programmes that are done in a bid to establish trends in student learning with the aim to

improve the learning process and student development. The term is also used to refer to final/terminal examinations meant for student placement and certification.

- **Instructional delivery**

This refers to all teaching methodologies employed to impart knowledge and skills to students during training. These include what is done on campus or off campus.

1.13 SUMMARY AND OVERVIEW OF THE STUDY

The chapter introduced the study by providing a background to the problem, statement of the problem, the research question as well as the significance of the study. It also looked at assumptions, delimitations and limitations, definition of terms as well as the research framework. It sought to shed light on the research as a whole.

Chapter two reviews literature that is relevant to the study. That is, the chapter focuses on the conceptual and theoretical lens of the study. This includes an attempt to unpack gradueness and employability. Current trends in higher education in the country under study are explored, as well as implications for curriculum designing. The Human Capital theory and the Social Learning theory are examined in the light of the current study.

Chapter three presents the research methodologies of the study. These include the research strategy, the research design, the paradigm, the data generation process and methodologies, data analysis procedures and ethical considerations.

Chapter four presents analyses and interprets the collected data. Data presentation was guided by themes emerging from the various sub-research questions. Document analysis was used to triangulate information presented by participants. The same was done for focus group discussions and observations.

Chapter five discusses the findings of the study. The presentation is done in accordance with the sub-research questions. A preliminary presentation of conclusions is done through the crafting of a framework that depicts forces that influence graduate quality.

Chapter six presents a summary of the findings, conclusions and recommendations. This chapter focuses on answering the research question, discuss implications of the answer(s) to the research question and also gives recommendations for further research, and an overview of the research journey.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

The chapter reviews related literature in a bid to justify the present study in light of the previous studies. The reviewed literature focuses on enhancing the academic, personal and professional development of students, in order to align them with demands of employers, society and the economy.

Griesel and Parker (2009), Coetzee (2012) concur that graduateness and employability have become important in today's economy worldwide. The dictates of today's technology call for a versatile workforce that is adaptive to different situations. The issue of graduateness exposes the need for universities to move from the traditional thrust on disciplines to ensure graduates are equipped with the necessary attributes in the world of work. The study tries to expose whether there is need for a paradigm shift or whether employers and higher education need to combine forces in order for them to speak with one voice. One school of thought purports "employers must play their part and not expect graduates to fit seamlessly into jobs without further training" (Purcell 2012). The route taken by previous works in the area opens up an array of ways that can be taken to address the matter. The present study argues that higher education and the world of work are two separate entities that should be cautiously brought together. Anecdotal evidence suggests that the curriculum can serve as a bridge between the two worlds. Hence, literature is explored to help expose ways to enable us to incorporate graduateness and employability in our products.

2.2 THE CONCEPTUAL FRAMEWORK

The study is based on the premise that graduateness goes beyond mere college graduation or employability. Griesel and Parker (2009); Cox and King (2006) assert that

the issue of gradueness and employability has brought in concerns from not only the graduates who venture into the world of employment, but also to institutions and governments. Scholars across the globe have researched widely on the issues of gradueness and employability. Universities are under pressure to produce graduates who 'fit' and are ready to enter the labour force (Pauw, Oosthuizen and Van Der Westhuizen, 2006). Various definitions have been put forth and efforts have been made to coin what it is that constitutes gradueness. Institutions have come up with models tailor-made to suit them in as far as gradueness and employability is concerned. These models in most cases reflect the institution's perception of gradueness and employability. These self-styled models which for most include a list of attributes and skills have not quelled the disgruntlement expressed by employers over gradueness. Curricula design and pedagogical challenges of preparing adults for work in an unknown, unpredictable and rapidly evolving 'super complex' future seem insurmountable because of contending influences (Kizito, 2011:1). Kizito, (2011) further elaborates that focusing on the University of South Africa (UNISA) alone, one might realise that each of the five (5) schools that make up the institution have its own peculiar definition, set of attributes and suggested modes of operation. The diversity reflected by just one institution reflects the maze that characterise the debate on gradueness and employability. Though usually treated separately, I maintain that splitting the two terms would wrongly portray the conditional dependence between the terms.

Coetzee (2012) maintains employability is in a way linked to gradueness in that it provides a sense of self-confidence and self-efficacy which are improved. This intrinsically motivates the graduate to secure employment linked to acquired personal attributes which in a way provides a sense of security. The concepts gradueness and employability take into cognisance the issue of skills or attributes. However, it should be observed that the issue of skills, attributes and competences is rooted more in technical education rather than education. In the academic arena, the battle of dichotomies between technical and general education have raged on for some time. Although rarely referred to of late, Walker, (1997) maintains that the battle has just diminished but is not yet over. The vocational versus academic and skills versus knowledge dichotomy still

exists and is still being played out. My intention is to make it clear that the use of the terms throughout this study is not influenced by this battle of dichotomies.

The research is motivated by the fact that scholars have defined the terms, have spelt out what it is and what it is not. However, very little has been done on taking employer expectations and perceptions of gradueness on board. The current study thus examines curricula, teaching and learning strategies and assessment criteria employed in higher education in a bid to establish whether domains of gradueness are embedded. Focus on the diverse definitions was made to enable an examination of the disgruntlement exhibited by the employers and ascertain whether the gap between employer expectations and the HE output can be redressed. Addressing the HE output entails a visit to the curriculum, the implementation as in the teaching/ learning and the assessment process in order to establish whether they reflect the dimensions of gradueness. Effort was also made on how to chart the way forward to ensure a smooth relationship between institutions and industry?

2.2.1 Gradueness in perspective

The term gradueness has been extensively researched in the international context. The divergent views have seen the term conceptualised and defined differently in various forums. Some of the definitions presented are briefly given below, with a view to highlight the fact that one's perception at any given time does influence the way one views things.

Chetty, (2010:1) took time to explain the concept of gradueness and revealed that it is more complex than it appears when we consider the surface meaning as it requires a broader and more nuanced understanding. Chetty, (2010) went on to explore various dimensions which encapsulate the concept. Allan, (2006) cited by Chetty, (2010:3) gave two sets of skills constituting gradueness as 'hard' and 'soft', 'generic' or 'transferable'. To distinguish between the two sets, hard skills are regarded as based on subject knowledge which makes them more inclined to the cognitive domain, while soft skills are associated with attitude and behaviour hence the affective domain.

Coetzee, (2010) took graduateness to mean the knowledge, skills, attributes and values we impart to our students with a view of them becoming competent and professional graduates who have the potential to make sustained positive contribution to society, to their professions and in the workplace. The University of South Africa (UNISA) coined its own working definition of graduateness. They regard it as the composite set of learning outcomes and attributes which students are expected to have achieved when they have completed their qualifications successfully. These include discipline specific knowledge, skills and competences which are more inclined towards one's trade, as well as broader attributes which equip graduates to exercise creativity and adaptiveness in the workplace as well as exhibit moral citizenry (Coetzee, 2010). The UNISA definition is broader and more encompassing. However, a closer look at the two definitions by Coetzee (2010) reflects commonalities especially around the issue of attributes and contribution not only to one's profession but to society at large.

Sutherland, (2013:4) regards graduateness as graduate capabilities. These he regards as including not only technical and specific course knowledge but a handsome portion of generic skills which graduates develop alongside. Some of these have been identified as the ability to apply knowledge and solve problems in a wide range of settings. Problem solving is peculiar to given situations; hence graduates should be able to interpret each situation accordingly. It also calls for one's ability to critically evaluate and make decisions. Communication skills in different contexts are also called for. Numerical and electronic literacy and ability to work as a team in various contexts and environments exhibiting social and cultural responsibility are part of the package that constitutes graduateness. This definition by Sutherland touches on several attributes which are not related to specific disciplines but would rather make one fit in the work environment and enable him/her adjust to any given organisational culture. In this regard, student graduateness implies that apart from the knowledge directly related to the graduate's specific field of study or discipline, graduates should demonstrate competences that denote capability as well. On the other hand, employability and work readiness is depicted by transferable and personal attributes (Wendlandt and Rochlen 2011). It is this second set that is elusive in graduates.

Glover, Law and Youngman (2002:293) regard gradueness as a “state after completion of a course”. In this regard, gradueness is taken as the final product denoted by knowledge, skills and attributes realised after one has undergone transformation through undertaking a higher education study. Bell, (1996) cited in Glover et al. (2002) uses the threshold model of gradueness which encompasses cultural, curriculum and cognitive aspects. The three aspects covered in the model touch on cultural values, body of knowledge and intellectual attributes respectively. Thus, for gradueness to be deemed present, one ought to illuminate his/her wholeness through the three aspects indicated in the threshold.

The question of the “standards” of degrees by a number of bodies (employers who complain that graduates were not being prepared sufficiently to meet their needs) in the UK in the 1990s led to the Higher Education Qualifications Committee (HEQC)’s 1995 launch of the “gradueness project”. The initial aim was defining and measuring the threshold for one to be deemed graduate. Ross (1996) presented a convincing critique of both the definition of gradueness and the validity of applying a ‘threshold’ approach. He argued that there is a widespread misunderstanding about the consequences of moving from elite to mass system of education. People tend to view mass education as lowering of standards.

Ross, (1996) quoted a December 1995 reports that the most promising approach to the issue of standards would be to explore the generic qualities deemed necessary in graduates. It is those aspects that constitute gradueness. However, it has been noted that institutions in their individual capacity have gone out of their way to try and foster the attributes that portray the aspects they think are relevant to gradueness. Therefore, in an effort to pin point the attributes, there is need to distinguish between those that are acquired as a result of exposure to higher education, with those qualities one is likely to acquire anywhere as they socialise outside the college environment. Examples of these are numeracy, literacy, computeracy and general knowledge. Ross, (1996); Cooper, Bryson and McHanwell, (2011); bemoan the lack of clarity on attributes purported in gradueness as confusion prevails between descriptive and prescriptive

properties. More so, the attributes tend to differ from institution to institution indicating lack of a common position.

Nevertheless, it should be noted that by ensuring that gradueness is achieved, graduates would have been groomed for the transition from college to work place. Such a transition would also equip them with skills to subsequently manage their work life and ensure continued employability (Wendlandt and Rochlen, 2011; Coetzee, 2011). Gradueness and employability work hand in glove. Employability is dependent on gradueness in that it takes a fully baked graduate to comfortably fit in the world of work.

The discussion on gradueness wouldn't be complete without reference to Steur, Hofman and Jansen (2012:2). In their contribution to the debate, they realised the diversity among disciplines, institutes and students as an impediment to a single definition of gradueness. The diversity has led to so many expressions being used to define gradueness ranging from key skills, attributes, competences plus a lot more. All these expressions are subject to another one hundred and one interpretations which according to Steur et al. (2012) still fail to capture the illusive refinement that is done to an individual by university education. They go on to argue that the essence of gradueness is typified in an intellectual development that is transformative. That is, the ability to make connections between conceptual understanding and skills as well as the difference between skill development and intellectual development. The transformation that occurs in graduates is far more than team working skills, literacy, attitudes and presentation skills.

In their definition of gradueness, Steur et al. (2012) borrowed the idea of transformation through university education from Perry's (1970) theory of academic development. To them gradueness refers to "a stage in the intellectual development of students". This stage is situated in the highest cluster of Perry's (1970) model of intellectual development and is characterised by what Van Rossum and Hamer (2010) interpret as 'widening horizons and growing self-awareness' (Steur et al. (2012:5). Finally, they regard reflective thinking as a key element to gradueness. By developing

the reflective ability, students would have gone a long way in the development of reflective attitudes which would assist them as professionals.

2.2.1.1 Domains of gradueness

In their article “Graduateness: an empirical examination of the formative function of university education;” Steur et al. (2012) discuss domains of graduateness. Four of these will be discussed below;

a) Reflective thinking

One of the domains of graduateness has been given as reflective thinking. It originates from Kitchener and King (1981)’s theory of reflective judgement in which they distinguished various stages from three clusters. These are “pre-reflective thinking, quasi-reflective thinking and reflective thinking” (Steur et al. 2012:7). The stage demands to recognise knowledge, interpret it and apply it to a variety of contexts and in each case reaching a befitting decision (King and Kitchener 1981). Graduateness is situated in this cluster which denotes that the academic process is not just about learning how to apply certain skills and knowledge. It is about acting in a situation in which it is unclear what the situation is and what information, capabilities and attitudes are necessary to tackle the given scenario (Steur et al. 2012:7). This element of graduateness alone is complex as it entails reflecting on a situation, then reflecting on the required instruments as well as application of such skills and knowledge based on one’s own judgement. If graduates possess the reflective thinking ability, flexibility and adaptability to any work situation can be easily attained.

b) Scholarship

Scholarship is not merely about basic research skills but about scholarly attitude. Boyer (1990); Schneider (2004) advocate for a scholarly attitude that cuts across life and enables one to develop a scholarly stance towards the world and not only restricted to academia. Professionals are confronted with complex situations that require more of the cognitive intuition and inquiry skills. Graduateness calls for this ability to apply basic and

functional knowledge to any situation and successfully solve each of the presented problems in a manner that is appropriate. Such situations are prevalent in organisations where analytical investigation is required when confronted with a situation, when proposing a solution and even after implementation since evaluation has to be done at various levels. A scholarly stance towards the world reflects gradueness.

c) Moral citizenship

According to Steur et al. (2012) moral citizenship entails the development of students' moral development and their responsibilities towards the society. This domain focuses on learning to question one's own beliefs. That is, the need to understand where their views stem from and how others view them. Social responsibility, civic engagement and good decisions entail understanding where one is coming from for him/her to master where he/she is going. This enables them to establish respectful communication and use appropriate registers when deliberating on matters of importance. This enables one to accept the views of others and adopt what is best without totally discarding one's own view. Understanding the beliefs of others enables graduates take other people for who they are. The domain covers moral reasoning, moral judgement and reflective judgement.

d) Lifelong learning

Lifelong learning entails a continuous process. Learning certain skills does not only ensure attainment of a qualification through the formal education system but also enables the graduate to adapt when future situations require knowledge and skills that are not yet known (Steur et al. 2012:8). Lifelong learning depicts that academic learning is not just a means to acquiring knowledge, skills and attributes but also represents certain attitudes towards knowledge, skills and attributes. This enables one to connect new knowledge to what has been learnt previously. Pintrich (2000) regards lifelong learning to represent the ability to master and control one's learning endeavours willingly. One takes the initiative and responsibility for his/her own learning. Jansen (2009) takes lifelong learning to enable one to identify his/her flaws in the knowledge

base or competences and then enables one to overcome these flaws through training and studying. That is, lifelong learning directs one's personal development.

Steur et al. (2012) argue that although these four domains contribute to gradueness, they can manifest in different ways, but a high level functioning in both reflective thinking and at least one of the other domains is required.

The above discussion presents the evasive nature of gradueness. If one concretises gradueness in the form of domains, ascertaining its existence in any situation can be easily achieved.

Throughout the current research, gradueness is taken to refer to the effects of intellectual development that is evident in graduates after exposure to higher education. I borrowed from Steur et al. (2012) who regard gradueness to imply transformation in students through personal growth. Thus, gradueness is the stage of intellectual development that is likely to be achieved by the time the students graduate. This intellectual development enables graduates to manipulate theoretical and functional knowledge to suit specific situations making them responsible citizens who contribute meaningfully to the labour market and society at large.

In the present study, domains of gradueness are handy in that they serve as the yardstick to set the standards expected by industry. In order for a graduate to be considered satisfying the demands of the labour market, he/she should illuminate the attributes/domains of gradueness. Thus, the domains are the visible characteristics that depict gradueness in graduates.

2.2.2 Employability in perspective

Though universally used, the term employability has no universal definition. Scholars give diverse views ranging from the ability to secure employment (Bridgstock, 2009) to acquisition of attributes, skills and competences that would enable graduates not only get employed but adapt to the work environment (Yorke, 2006; Tariq, 2009). This is reflective that the term employability can be defined from various perspectives. Taken

as a commodity, it tallies closely with the concept of Human Capital. Focus is on the graduate's ability to adapt to the rapidly changing requirements of a technologically driven labour market. This is regarded as important for the growth of the economy.

According to the Enhancing Student Employability Group (ESECT), employability can also be taken as skills, knowledge and attributes. Though the definition sounds reasonable, questions are raised as far as the issue of personal attributes is concerned since these are relative. The factors that make up personal attributes are heavily hinged on personality and other traits which the institution has no control over whether it is through the official or the hidden curriculum. Hence, such a definition negates the universality which should be embedded in the term as issues of personal attributes vary.

Another school of thought takes employability as the ability to meet employer needs. The disparity here is, whether there is a consensus between employers and higher education (HE). Graduates are expected to demonstrate skills that have completely nothing to do with their discipline of study. Importance has been moved from the graduate's actual area of study in favour of more general skills (Yorke, 2006). In this perspective significant value is placed on work experience and involvement in clubs. Curricula activities are regarded as having the same weighting as the knowledge and experiences acquired through the study of one's discipline.

While employers basically regard knowledge related to the field of study as vital, they do not consider it as a sufficient attribute to warrant recruitment (Yorke, 2006). In some cases the actual discipline knowledge is completely disregarded as employers opt for some other skills outside the discipline boundaries ('soft skills') which are regarded as vital in the process of graduate recruitment (Yorke 2006).

This is in line with the notion of regarding employability as a social construction of the personal capital. Aspects like work experience, one's hobbies, sporting activities as well as deportment, disposition and interrelation and interpersonal skills are all considered vital. Fahria Masum, (2010:8) asserts that personal capital in this regard goes beyond academic achievements as well as key skills. He goes on to argue that challenges affecting graduates cannot be ironed out by mere acquisition of a degree class or a set

of key personal skills. That is, it goes beyond “who you are and what you know” (Fahria Masum, 2010:8). Rather, graduates need to be equipped with the ability to confront each situation they might find themselves in, as each employer might have different expectations. Thus, flexibility and adaptiveness are vital in addressing the issue of graduates since they respond to different employer expectations which are as divergent as the job market. That is, the expectations vary from job to job. Higher education cannot solely fulfil these varying situations in the job market.

Cranmer (2006:172) takes the inclusive quality of employability and explores the tension within the employability agenda citing inherent difficulties to range from defining, measuring, developing and even transferring. The evasive nature of the concept makes it difficult to pin down hence the diverse definitions. He goes on to say definitions of employability are wide and varied. Besides mastery of their disciplines/trades, graduates should demonstrate an assortment of other skills. Knight (2001) considers employability as a chameleon concept. Reference to a chameleon depicts that it changes constantly. Many issues are linked to the term employability, resulting in it defying a single definition hence the analogy to a chameleon.

Cranmer (2006:169) purports that although earlier debates were concerned with the notion that education should be geared towards the betterment of the recipient’s social footing and more inclined towards societal roles, of late, focus has shifted to enhancing graduate employability. She concurs with Harvey (2003) who purports that employability is more than merely enabling graduates to secure a job and keep it. Both scholars are of the notion that emphasis must be placed on ability. This is in line with the thinking that employability should ensure the development of critical capabilities. Once the capabilities are developed, the learner will be in a more enhanced and empowered position.

Schneider (2010:2) maintains that vocational education and training (VET) should look beyond the confinements of employability. The skills that are emphasised in employability are more of ancillary skills when it comes to technical and vocational education. VET thrives on competences which ought to be well refined in order for one to execute his/her duties. Schneider (2010) goes on to argue that the VET policy should

concentrate on preparing students for the work place and actual industrial practices. The workplace preparation exercise should be catered for during curriculum designing, implementation as well as assessment level.

Pegg, Waldock, Hendy-Isaac and Lawton (2012), advocate for employability to be embedded in the teaching-learning process across disciplines. Rather employability refers to both 'skilful practices in context', as well as an element of career planning. This assertion reflects the compatibility of education and employability. The link between the two can be described as synergetic as one depends on the other.

It has been observed that even employers cannot explicitly point at the aspect they regard to constitute employability or give the full portrayal of what the graduate intending to join the world of work should be in possession of. However, there are broader definitions of employability. McQuid and Lindsay (2005) advocate for conceptualisations which touch on broader approaches which take cognisance of the labour market and personal characteristics. Barrie (2004, 2006) touches on disciplinary differences. Emphasis is placed on the focus of different disciplines and their contributions to knowledge. Rychen and Salganik (2003) place work in context within the individual's life. Focus is on the contribution employability makes to one's life and whether one's needs are fulfilled or not. Bridgstock (2009:34) goes on to cite the Kirby Report (Department of Education, Employment and Training 2000:37) which describes employability as a construct which encompasses one's belief in the self, leading to securing and keeping employment. Employability also involves the ability to improve one's earnings through productivity and successfully marketing one's potential. This can only be possible when one is able to adapt to new situations.

The broadness of the above definition is indicative of the discourse that surrounds employability and why Knight (2001) has presented it as a chameleon concept. Depending on which perspective you want to view it from, it perfectly fits into the assertion as different meanings are attached to the term in different forums. However, in this study, we are guided by the premise that the definition of employability should be more inclusive and wholesome. I find notions from Rychen & Salganik (2005) very appealing as they suggest that in order to establish a well functional society, there are

three broad categories of competences that are vital. These include an element of reflective thinking and lifelong learning. They give these as, “use of tools,’ ‘acting autonomously’ and ‘interacting in heterogeneous groups” (Rychen & Salganik 2005:4); these categories touch all other skills, attributes and even attitudes given by other scholars.

The use of tools/(application of knowledge) call for competences and abilities to be prevalent in the incumbent. One can only act autonomously if he/she is capable of making decisions and also by nature, man does not exist in a vacuum. He interacts with nature and the environment around him. Cognisance need to be taken of the environment, hence the need to interact as part of a heterogeneous group. Scholars like Barrie (2004); Tariq (2009); Cranmer (2006) and Akanmu (2011) have given the following attributes in separate definitions: communication, skills, attitudes, attributes literacy, numeracy, information technology etc. The attributes are viewed as a prerequisite to employability. In this regard, we are left wondering whether higher education should re-orient to include these attributes, rather than being discipline oriented. Questions are posed whether acquisition of these skills is not part of the secondary school package.

2.2.2.1 Employability dimensions

Amundson (2003) makes reference to a four dimensional employability framework that was developed by the Human Resources Development Canada (HRDC), in an effort to understand and come to terms with issues raised by people, as work can be synchronised into their lives. The HRDC Employability frameworks take into cognisance four key aspects. A brief discussion of each dimension is given below.

a). Career exploration – The first category within the framework focuses on both the person and the occupation. Effort is made for one to weigh his/her options against the capabilities and choose what is best for him/her. It involves an introspection of personal skills and values. In so doing, one is bound to get a deeper understanding of the self.

Thus, it is only when one is armed with increased self-awareness that one can try to ascertain the occupation that is more befitting.

b). Skill enhancement – The second category focuses on the need to develop the requisite skills for the chosen occupation. For one to claim expertise in a trade or field, he/she ought to be conversant with the demands of that particular field. Hence skills enhancement is a deliberate endeavour to equip oneself for the job market. That is, it is vital to acquire the essential skills for the trade. This can be done through formal learning, that is enrolling with a college or university or it can be done through mentoring and coaching relationships.

c). Job Search Enhancement – The stage involves the art of looking for employment. Depending on the type of occupation, various strategies and skills need to be applied when looking for work. The art is dependent on whether it involves part-time, contract work or a full-time position. Familiarising with the correct skill whether it is an interview or proposal writing puts someone a gear up. However, these skills change with time, thus, there is need to constantly update oneself.

d). Job / Work Maintenance – The stage involves the ability to maintain the job. One ought to develop the right attitude for the job in order to keep it. There are certain skills that are vital like interpersonal skills, being a team player, being self motivated and the interrelation skills. Positive skills and attitudes will enable one to ensure continuity. Understanding the work place and the people one works with will enable good relations to prevail.

e). Career growth –This last stage focuses on transferability of skills. As one gets established in his/her work place, there are shortcomings and strengths that one gets to notice. Career growth is about addressing such issues. It might involve systematic planning or the desire to change workplaces. One might even make the decision to broaden his/her horizon in that particular trade. In some instances one can be totally taken aback and might want to change fields entirely.

Although these dimensions were developed within the career development programme, they can also be useful when it comes to addressing the employability problem. The

present study finds the domains useful in that they seek to explore ways of enhancing the employability of graduates. All the five domains can be incorporated in the curriculum, just like any other skills in a bid to empower the trainees.

2.2.2.2 Employability in the context of the research

In line with the current study, merely defining employability will not suffice. Most definitions appear to be just scratching the dust without getting to the core of the term. I find the term employability, rather complex and its wide misrepresentation for employment has been widely overlooked. Employability is not just a once off event about getting a job. It is a continuing process that goes beyond establishing how many graduates have “graduate-level” jobs six months post graduation (Glover et al, 2002). Rather getting a job is determined more by the forces in the labour market.

Inspired by Yorke, (2006)’s analysis of employability: what it is - what it is not. I endeavour to explore the diverse interpretations in the hope that it can unfold vital information. Yorke, (2006) juxtaposes what the Pierce Commission, (2002) regards as key elements to employability vis-a-vis the ESECT elements. These are outlined in the table below.

PIERCE, 2002	ESECT
Graduates obtaining jobs (measurable to some extent through first destination survey).	Getting a (graduate) job.
Students being prepared for employment.	Possession of vocational degree.
Student gaining work experience (formal or informal, structured or not).	Formal work experience.
Vocational (relevance)	Good use of non-formal work experience and/or voluntary work.
Students becoming equipped with a defined range of skills	Possession of key 'skills' or such like.
	Skilful career planning and interview technique.
	A mix of cognitive and non-cognitive achievements and representations.

Adapted from Yorke (2006:6)

Yorke (2006) purports that the table above can arguably portray three constructs of employability, these are obtaining a job, exposure to higher education as portrayed by the curricula, and possession of relevant achievement (and implicit potential). Each of these constructs alone is not adequate to define employability as it will tend to point at only one of the multiple aspects embedded in employability. Brown et al. (2002) cited by Yorke (2006:9) criticises the idea of aligning employability with securing a job. The notion negates other factors that are actively involved like the dictates of the local, national, regional, and international labour markets. The performance of the economy is a powerful determinant to employment creation and securing of jobs. This perspective

can only be valid if one equates employability with employment, a thing that has been discarded as wrong earlier on in the study.

The second construct is also inadequate in that, the curricula can cover the required aspects. Like in the case above, it can provide experience through experiential learning but does not guarantee that the student acquires the various prerequisites (affective and cognitive, psychomotor skills) for success in employment (Yorke, 2006). Realistically, the student cannot be highly employable based on curricula provisions alone. The context-dependence embedded in equating employability with achievement and/or potential is insufficient for some specific situations, as a mere list of attributes and achievements might fail to yield anything since they are rather too general (Yorke, 2006:8).

The preceding discussion has revealed that a smooth definition for employability is yet to be found. For this study, the working definition crafted by The Higher Education Academy, will be adopted. Employability will be taken to mean;

“A set of achievements– skills, understandings and personal attributes- that makes graduates more likely to gain employment and to be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy” (Yorke 2006:8).

Although, effort was made to broaden the definition, it is far from perfect as the very academy that crafted it came up with arguments against it.

Yorke and Knight (2006) developed the notion of USEM which drew on the idea of capability. However, Cooper, Bryson & McHanwell (2011:4 -5) argue that capability is an idealist notion as it is not based on any empirical evidence or theory, but has a certain “ring of truth”. They go on to explain that capable people have confidence in what they are capable of doing effectively. They are able to take appropriate action and stand their ground to explain what it is all about. Team work comes naturally as their interrelation skills and interpersonal skills are well developed. To them learning is an on-going process, as they continue to learn from their experience and everything around them. As alluded in Bandura (1997)’s self-efficacy, capable people are confident and

are fully aware of their potential. They know what they can do and how good they are at it. Application of knowledge at varying degrees to yield different outcomes is not a problem. Personal development geared towards developing their specialist knowledge further is continually done. Thus, capability as an integral component of specialist expertise entails continuous refinement of one's competences.

The **USEM** consists of four constructs on graduate employment presented as follows:

Understanding (the knowledge and values) required to engage in that work).

Skilful practices in context. Academic learning might not be meaningful after some useful disciplinary practice (e.g. use of a complex technique), but it is performance in a work situation which is what this is really about.

Efficacy and personal qualities – how one goes about their work in order to achieve good outcomes.

Meta-cognition – deep thinking, but in a professional context (the key to which is reflecting in, on and for practice).

However, the USEM constructs are not in tandem with the higher education on quality assurance through assessment. The USEM model befits a work environment not a learning situation. Focusing on USEM brings back the question; how far higher education is expected to go as far as the employability agenda is concerned. Eraut (2004:804) advocates for integration in order to achieve a virtuous professional behaviour.

Integration is called for due to the elusive nature of some skills as they are not amenable to metrics and easy assessment (since they subsume a range of achievements). The issue of skills/attributes was watered down by Yorke (2009) who argues that academic and employment practices are qualitatively different. Integration brings together implicit learning, tacit knowledge and functional knowledge which is more contextualised and is linked to experience.

The lack of consensus on what really employability entails gave birth to what Holmes (2001) regards as appropriate behaviour. The argument being what employers sought from employees is not just appropriate behaviours that will result in strong performance, but “the right sort of person rather than a set of skills” (Cooper, Bryson & McHanwell, 2011:6). The rationale for Holmes (2001)’s argument is the fact that strong performance stems from actual work experience. Those can be achieved by engaging in the practices of that occupation arena in an explicit manner. To get the work experience, there is need to give students a feel of the real practice through exposure to their respective fields of work. The level of practice is heavily dependent on the nature of the degree. Disciplines with a technical and vocational education and training (TVET) bias like medicine can easily have practicals lined up. Students can be given tasks (in assessment) which represent the practice within an occupational arena. In non-vocational disciplines, it may be possible to rehearse ‘having a go at a practice’ to enable students to articulate their claims on their prospective graduate identity (Holmes 2001:118).

From the above argument, it is evident that in spite of all effort to unpack employability, the issue remains complex. Different things are attached to it in different forums. For the sake of this study, the evasive term will be taken to mean empowering the learner to enable him/her adapt to the job situation through the development of critical requisite skills, with the intention of enhancing the individual’s capacity. Employability therefore is taken to mean exhibiting capabilities that enable one to secure and maintain employment. Maintenance here entails adaptability to varying situations in the labour market. That is, being able to change with technology and the demands of the society. Focus is placed on the graduate’s ability to adjust to the needs of the labour market which are constantly changing. Just like gradueness, employability allies closely with the concept of Human Capital if it is taken as a commodity. In the context of higher education, employability entails producing graduates that are competent and command expertise in their areas. Employability entails learning as well as learning how to learn. It also involves the process that underpins lifelong learning, since the intention is not just to produce an employable product.

2.2.3 Distinction between gradueness and employability

It is generally agreed and the previously cited works have demonstrated that the terms gradueness and employability, though widely used, have diverse definitions. For the purposes of this study we will distinguish them as follows:

Employability refers to “an enhanced capacity to secure employment” (Glover et al. 2002:294). Employability is a process and not a state. It involves not only a series of ripple actions which involve the development of learners or helping them acquire knowledge and understanding needed for specific jobs but also the ability to maintain the job. What graduates need, in order for them to perceive their areas of specialisation more effectively, involves knowledge acquisition and the ability to meaningfully apply the learnt concepts to various contexts, in order to yield the required results. Skills like communication, team working and critical thinking among others are said to enhance employability prospects of an individual, and are consistent with the outcomes of “good learning.”

On the other hand, gradueness is the effect of knowledge, skills and attributes of having undertaken a higher education study programme. Gradueness instils an intellectual transformation within an individual. The ability is grounded in both the discipline and functioning knowledge. It enables graduates through an intellectual transformation, to bring value to their employment through the development of leadership roles, to articulate innovations, cope with the change as well as sustain that change (Smith 2004). This is further affirmed by Johnson & Hager, (2008) in Coetzee (2010:3) who purport that gradueness entails “committing to a form of lifelong learning.” It implies that the prerequisites for professional practice and functioning knowledge are deemed dynamic. They keep on growing as one gets exposed in the field through individual learning and unlearning. This builds throughout their working life, as they are exposed to new and unfamiliar situations, hence accumulating ever increasing knowledge. Walker, (1997) alludes a capable graduate can be noticed by a number of qualities that will be prevalent. These include adequate knowledge and capability to operate efficiently. Use of skills expertly and the application of knowledge

with a clear awareness of how the action will socially, intellectually and morally impact on others and the environment, are some of the qualities sought after. Thus, capability though elusive, helps in contextualising key skills that make up gradueness.

2.2.3.1 Connection between gradueness and employability

Gradueness and employability, though the terms are widely different, they are closely related. The link between the two is that of dependency as one cannot do without the other. Gradueness is the end result or rather the product that comes into being after an individual has been exposed to higher education. As eluded by Steur et al. (2012), some kind of transformation takes place within the individual. This change is centred on the intellectual development of an individual influencing the reflective thinking, moral citizenship, scholarship and lifelong learning among other domains. Each of the four aspects leaves a mark on the graduate which will influence his/her day to day living.

Employability comes in through the fact that once an individual has mastered the expected gradueness, then he/she would have improved his/her employability levels. Thus, gradueness entails employability. The more gradueness an individual is, the better his/her employability prospects are. Employability is about capability. It entwines the processes of continued lifelong learning. These processes enable continued refinement of competences, thus making the graduate more marketable (Reid & Fitzgerald 2012). The same dimensions/attributes that are expected in gradueness also manifest in employability.

2.2.4 World initiatives

Zimbabwe is not the only nation battling to align higher education with the world of employment. Initiatives have been ventured into at different forums and levels. For instance, in Australia, graduates are expected to undertake a “generally accepted” set of attributes. In New Zealand, various measures to address the issue have been developed. A National Qualifications Framework (NQF) has been put in place in

consultation with educational institutions and commerce and industry. Canada and the USA have seen a large number of universities introduce “critical skills” which are considered as vital for their workforce to satisfactorily execute its duties. Assessment has been adopted as a tool to ensure that work-based related learning takes place by both Canada and the USA. Other countries that have made significant strides include Denmark, Finland and South Africa. Although the countries above may tackle the issue of employability differently, the intention remains the same universally.

Little (2003) argues that different nations from the industrialised societies are instituting policies that are meant to enhance employability. This is in line with the argument put forward by educational economists that a good educational base contributes to national development. Hence the synergy between higher education and industry cannot be over emphasised. Focus should however be given to the type of institution one would be looking at any given time since in HE, there are some universities with a purely academic bias and some with a vocational bias. The impartation of these transferable skills certainly differs. This was proven by Cranmer (2006) in a study covering three (3) different universities. The findings reflect that while substantial amounts were being spent on initiatives to enhance employability through development of skills in the classroom, it had not been established whether the effort had yielded positively on the labour market (Mason et al. 2003). Further findings revealed that there was a disparity between what students are taught in class and the actual demands of employers. Mason et al. (2003:107) assert that this disparity can indicate the shortcomings in trying to impart the skills at college rather than within a workplace.

Mason et al. (2003) carried out a survey in which managers were asked to give their opinion on graduate recruits. In instances where managers were interviewed, they said graduates only had a fraction of the attributes and expertise demanded in their trades. In some cases they claimed that the graduates would be totally blank. However, when called upon to specify these, it was evident that the purported deficiencies were technical and/or vocational in nature. That is, the skills and knowledge in question called for advanced application that could only be attained through practice in a real working

environment. The study established that to some extent, the initiatives were yielding positive results as the skills enabled graduates secure employment at graduate level.

From the afore discussion, it is evident that employer perceptions of employability are in discord as they fail to explicitly point out what it is that they expect from graduates. “There is no significant difference between skills possessed by graduates and skills required in graduate jobs” (Little, 2003:22). She goes on to say this could be suggestive that the ‘problem’ may not be one of mismatch, but rather one of transition from college life into the labour market. Graduates need to be equipped to adjust from college life to the world of work. Henceforth, Little (2003) asserts that it is logical for universities and colleges to channel more resources towards work based learning, rather than trying to impart the requisite skills in the classroom.

2.3 EMPLOYER PERCEPTIONS OF GRADUATES

It is often alleged by employers that graduates often lack basic expertise, skills and attitudes expected of them when they join the labour market (Ross, 1996). Van Der Zenden and Reinert, (2012) carried out a study to evaluate *attitudes and perceptions of employers who had hired Iowa State University graduates*. Focus was on graduate readiness when joining the workforce and their abilities to perform assigned tasks. Of the various recommendations made, it was also noted that improvement was needed in the area of internships. One of the respondents wrote “Hands-on practical experience during the summer internships that last for a few months would help them gain skills and also see if the work is something they will enjoy in the long run” (Van Der Zenden & Reinert, 2012:8). The overall results of the survey revealed that commerce and industry expect more than the basic solid technical expertise. They require far more, including interpersonal skills which have nothing to do with the discipline or trade studied at university (Van Der Zenden & Reinert, 2012:8).

Another study carried out by Chimutingiza et al. (2011) on *stakeholders’ perceptions on structure, relevance, adequacy and balance of the courses, quality of lecture delivery and graduate employability* revealed that there were issues that need to be addressed regarding the above spelt out issues. These include the existence of gaps identified in

the curriculum. Of interest however is the fact that while lecturers were satisfied by the curriculum and lesson delivery, the stakeholders' comments reflected the importance that they attach to industrial attachment (Chimutingiza et al. 2011). It is the industrial attachment that is believed to give "students a competitive edge in the industry (Chimutingiza et al. 2011:3)". The findings concur with those of several other studies which advocate for the adoption of experiential learning as part of the HE curriculum (Heaton et al. 2008; Archer & Davison, 2008).

Chetty, (2010:5) argues that considerable focus in HE has been placed on the 'gap' between what graduates have and the expectation of employers in the world market. She goes on to cite Harvey et al. (1997) as claiming that while employers prefer a workforce that fit hand and glove to their needs, they also expect a high level of intelligence. The incumbent is expected to have depth of understanding, self motivated, accountable and willing to be part of a team. Thus, graduates should be able to relate their knowledge to real work situations. That is, apply knowledge meaningfully and not merely hold paper qualifications.

Inspired by Bowers-Brown and Harvey, (2004)'s concerns, I kept wondering to what extent, can HE bridge the gap between its outcomes and employer expectations, taking into cognisance the fact that the world of work is constantly changing and each organisation is a dynamic and independent entity. Griesel & Parker, (2009) advocate that employers need not just express dissatisfaction but consider their own role in providing experiential learning and continuous development of the workforce.

Maher & Nield, (2005) point out that employers have sometimes expressed dissatisfaction about graduate work readiness. They cited a study in which 49% of the managers under study pointed out that graduates were not adequately prepared for their roles in the workplace, while 39% of the managers revealed lack of interpersonal skills among graduates. The key areas of concern given by employers were 'diplomacy' and team spirit.

Leon, (2002) cited in Maher & Nield (2005) carried out a survey on the graduates and the graduates personally expressed that they have challenges with communication at

various levels, time management and 'task juggling'. They also highlighted that transferable and critical reasoning skills causes no problems since they are often taught, practiced and assessed in HE. However, the cases of graduate inability to apply them in real life are indicative of a need that should be addressed.

In further examining prior literature, several studies have shown that there is need to effect changes which re-align the curriculum in order to enable the enhancement of student learning and adequately equip graduates with relevant skills for employment (Bloom, 2010; Van Der Zenden and Reinert, 2012; Arquero, Byrne, Flood & Gonzalez, 2009). In my view, the inclusion of curriculum interventions that facilitate students' transition through linking what is studied and work are called for. This will help them realise the relevance of their studies to their intended employment.

Archer & Davison (2008:13) recommend that in a bid to address issues of gradueness and employability, employer involvement is needed. Employers should seriously consider the appropriate move to be made in order to relay their specific needs to institutions or even team up with them so that they add value to the graduates. Both 'large' and 'small' employers need to be involved as a way of expanding global horizons in student experiences. Discrepancies for satisfaction with commercial awareness and relevant work experience can be minimised by building student learning oriented links with business (Archer & Davison, 2008).

Generic skills and attributes are highly regarded by employers as they consider them to signify an employee's gradueness. These transferable skills are vitally important to their business and therefore expect graduates to be in possession of these when they enter the job market (Raftapoulous et al. 2009; Griesel and Parker, 2009). In the context of a knowledge driven business economy, the generic skills and attributes that contribute to employees' gradueness are considered by industry as important in creating a workplace culture that is characterised by the thriving of innovation, initiative and flexibility (Thompson et al. 2008; Van Dam, 2004).

Thus, the employer perceptions provide a footing to this study. Armed with these perceptions one can ascertain whether the current graduates meet the grade. Some of

the perceptions reflect the employers' desires in their workforce hence, they serve as a yardstick for training institutions.

2.4 THEORETICAL LENS OF THE STUDY

2.4.1 The Human Capital Theory

The study is guided by the Human Capital Theory (HCT). The authorities behind the theory include Becker (1993), Schultz (1961) and Bowles (2000). An offhand definition of human capital regards it as a stock of knowledge or characteristic the worker has, that has a bearing towards to his/her productivity. HCT is based on the premise that the productive capacity of an individual or a nation is highly determined by the level of formal education. "Human capital theory emphasises how education increases the productivity and efficiency of workers, by increasing the level of cognitive stock of economically productive human capability, which is a product of innate abilities and investment in human beings" (Almendarez; 2011:2). Proponents of the theory maintain that people who are educated are a highly productive people, as such; they perceive education as an investment in human capital and not consumption. The proponents consider that investment in human capital just as worthwhile as investing in physical capital (Woodhall, 1997; Todaro & Smith, 2011). Becker (1993:17) argues that "education and training are the most important investments in Human Capital---the earnings of more educated people are almost always well above average".

Almendarez, (2011) regards investing in human capital as more important than in tangible assets. He goes on to explain why he considers people and education to take the centre stage in issues concerning a nation's economic success. Thus, education is highly regarded as a major determinant of economic performance.

At first, the field of human capital gave birth to two conflicting schools of thought. The first of these conflicting ideas differentiated between acquired tangible/physical possessions regarded as capital, while people were not taken as such. The second

view took in human beings as capital. The modern HCT claims that the way man behaves is determined by personal economic interest of individuals as they operate within the competitive markets. However, the advent of the HCT shifted the importance of education and training to being vital in the global economy. According to Babalola (2003) cited in Almendarez (2011:3), the rationale behind investing in human capital rest on three lines of thinking:

Firstly, the present generation should benefit from the relevant parts of knowledge which has already been gathered by previous generations.

Secondly, the present generation should be equipped with knowledge and how to use that knowledge to develop new products, processes, production methods and social services.

Thirdly, people must take initiative to develop entirely new ideas, products, processes and methods through creative approaches.

The above discussion is trying to highlight the passive and active factors of production. In this regard, the human resources are taken as the passive factors of production, while human beings are the active agencies who accumulate capital, exploit natural resources, build social, economic and political organisations and carry forward national development.

Studies have shown that improvements in education increase productivity and enhance technological development, as a result improving human capital. Almendarez (2011:4) posits “that education has positive benefits in that if we educate part of the community, the whole of it would benefit”. The idea stems from Smith (1976) who asserts that a society immensely benefits from educating its people. The argument being that the greater the exposure to learning, the less dependent one is on superstition. Educated people are regarded as always more decent and more organised than those not exposed to education. Smith goes on to view education as having external factors that are essential for the smooth functioning of both the economy and society at large.

Human development through education goes beyond being an extension of human capabilities. It triggers the promotion of investment through human beings since it is considered to enhance skills, work productivity and creativity (Becker, 1993; Almendarez, 2011). Consequently, the resultant development of the three forms of capital namely human, physical and natural is regarded as a way of promoting economic development. Zidan (2001) asserts that if the human capital is trained, educated and developed within the parameters of a particular system/organisation, the levels of production achieved by the organisations through the expertise of its workforce would be enhanced.

Applying the theory of human capital to the educational systems will promote human development in the entire society. By so doing, productivity based on an enhanced and diversified labour force is increased and maintained. Babalola (2003) points out that the contribution of education to economic growth and development can be envisaged through the enhancement of the productive capacity of a labour force.

The role played by education in the economy of a nation cannot be overemphasised. What is spent on education is considered as a form of investment. In the long run the investment will not only benefit society through a greater output, but also the individual through improved earnings. That is, through enhanced chances of employment an individual is empowered to reap financial and non-financial returns. Significant chances for job mobility are enhanced. Thus, education does several things for the individual; it liberates, stimulates and informs. This is in tune with the notion of gradueness and employability. Through gradueness, effort is made to polish up the human capital by stressing that schooling alone does not make one a valuable asset in society. Effort should be made at considering one's worth after graduation. From a macro-economic point of view, the building up of human capital over time enhances labour productivity, enables technological innovations and eventually promotes more sustainable growth. It is at the macro-economic level that human capital is regarded as an important component of production in the economy. Hence, the need to examine the gradueness of graduates leaving universities.

It should be borne in mind that the global higher education environment and the labour market have taken centre stage for some time now. The motivation being the re-examination of the role that institutions of higher learning can play in the new knowledge-based economy, which is driven by highly skilled, competent and innovative manpower (Chetty, 2010:1).

Employability also comes in the HCT in the sense that from a micro-economic point of view, education enhances the chances of getting employed in the productive labour market and boosts probable earning capacity. It is at this level that human capital is regarded as that aspect of education that enhances one's labour productivity and earnings, while at the same time being an essential part of an organisation's production (Becker, 1993).

Human capital therefore entails the capability and efficiency of a society to transform raw materials and capital into goods and services. It is generally agreed that the expertise required can be acquired through an educational system. The issue of 'efficiency' needs perfection and refinement. It calls for more than simply what schooling can offer. Various attributes, attitudes and skills are called for, as a result employability prospects are enhanced.

At this juncture, one might reflect on the link between institutions of higher learning and the economy. According to Yorke, Higher Education Academy, (2006), the connection is a long standing one going back to the Robbins Report (Robbins: 1963). In recent years the Dearing Report (NCIHE, 1997) has drawn attention to the part that these institutions of higher learning play in a modern economy. Yorke: Higher Education Academy (2006:3) points out that the attention being given to employability is indicative of an acceptance of the human capital theory.

Griesel and Parker (2009) maintain that the part played by higher education in human capital development and economic growth is not a new phenomenon. It has been noted that the economic drive is more essential than the pursuit of knowledge. Also, students do not consider instrumentalism directed towards employment as an adequate basis for furthering personal and institutional investment and hoped for achievement in a highly

competitive, versatile and universally responsive, environment (Glover et al. 2002:293). Hence, it is imperative to highly consider the extension of the partnership between institutions of higher learning and employers.

2.4.2 Bandura: Social Learning Theory (SLT)

The research takes into cognisance the Social Learning Theory (SLT) developed by Bandura (1977). In the Social Learning Theory, Bandura (1977) states that, behaviour is learned from the environment through the process of observational learning. Both the people and their environment are reciprocal determinants of each other. The children (students) pay attention to some models and encode their behaviour. They later imitate the observed behaviour. The people around the child respond to the imitated behaviour with either reinforcement or punishment. If rewarded for a modelled behaviour, chances are the child is very likely to continue performing the behaviour. McLeod (2011) asserts that reinforcement can be external or internal and can be positive or negative. Positive (or negative) reinforcement will have little impact if the reinforcement offered externally does not match with an individual's needs. The important factor is that it usually leads to a change in a person's behaviour (McLeod 2011). The child will also take into account what happens to other people before imitating behaviour. This is known as "vicarious reinforcement" (McLeod 2011:1). The motivation to identify with a particular model is that they have a quality which the individual would like to possess.

Evans (1989:4) points out how Bandura was attracted to Miller and Dollard's work on the assumption that human development requires a much more powerful mode of transmitting competences than does trial and error. Miller and Dollard (1941:26-42) purport that the social learning and imitation theory suggest that people obtain competences and new modes of behaviour through response consequences. The essence of Bandura's argument is that observable learning is also known as imitation or modelling. In this process learning occurs when individuals observe and imitate the other's behaviour. There are four components/processes influenced by the observer's behaviour after he/she has been exposed to models. The components are given as: attention, retention, motor reproduction and motivation (Bandura 1975:24-28).

Attention is the first component of observable learning. In order for an individual to learn by observation he/she needs to perceive and attend to the significant features of the modelled behaviour.

Secondly, retention takes place. This entails coding the information into the long term memory so that the information will be retrieved. Memory is a cognitive process since it involves one's intellect.

The third stage in observational learning is motor reproduction. The observer must be able to reproduce the model's behaviour. That is, the observer must learn and produce the physical capabilities of the modelled behaviour. Once behaviour is learnt through attention and retention, the observer must process the physical capabilities to produce the aggressive act.

The final process in observable learning is motivation. The observer expects to be motivated by getting positive reinforcements for the copied behaviour.

The environment is also an influence of social learning. Bandura argues "that people who live in high crime rate areas are more likely to act violently than those who dwell in low- crime areas" (Bandura 1976:207). Similarly, if students are exposed to an industrial set up during their college days, they are likely to be modelled along those lines hence develop competences that are relevant to industry.

The social learning theory has important implications, particularly in the acquisition of practical skills and attitudes. The central concept in this theory is modelling, and it is claimed that most learning occurs as a result of observation and imitation of a role model. By the use of demonstrations as a teaching method and by generally displaying a high standard of skills and professionalism, learning is enhanced. Evidence suggest that skills are more likely to be acquired if the model is competent and of high status. Jeffrey (cited by Bandura, 1997) found that the highest level of learning was achieved when the modelled behaviour was rehearsed several times. Secondly, the motivation of the learner to achieve the desired behaviour is also very important. Whilst external rewards like praises enhance the behaviour, self-reinforcement where the learner

rewards himself, is vital in social learning. Attitude too, can be learnt by following the example of a role model hence endeavour to team up students with seasoned workers.

In relation to the present study, the social learning theory fits well in that students learn through socialisation. Subject mastery, might be done through usual learning ways. However, refinement of competences entails mixing and mingling which is tantamount to socialisation.

However, presenting the Social cognitive theory alone negating the mention of 'self-efficacy' is tantamount to presenting a half-baked cake. Self-efficacy involves people's belief in themselves, that they are capable of successfully performing certain behaviour (Bandura, 1977, 1986 and 1997). Self-efficacy is involved with perceived capability rather than actual capability. Walker and Avanti (2005) assert that the history of self-efficacy begins with Bandura's (1977) social learning theory later renamed the social cognitive theory in 1986. According to theory and research (Bandura, 1995), self-efficacy makes a difference in how people feel, think, behave and motivate themselves. If we are to consider feelings, a low sense of self-efficiency is associated with stress, depression, anxiety and helplessness. Such individuals also have low self-esteem and become pessimistic about their accomplishments and personal development. On the other hand, it can be argued that a strong sense of self-efficacy facilitates more rapid cognitive processes and performance in a variety of settings, and can lead to improved decision making and academic achievements. Self-efficacy can influence people's choice of activities. Self-efficacy levels can increase or hamper motivation. People with high self- efficacy are self driven and approach difficult tasks as challenges and do not try to avoid them. In Bandura's (1989:1176) words "People's self-efficacy beliefs determine their levels of motivation, as reflected in how much effort they will exert in an endeavour and how long they will persevere in the face of obstacles".

Walker and Avanti (2005:95) argue that self-efficacy implies "a conscious awareness of one's ability to be effective and control action". This stems from the notion that the self-denotes the identity of a person, while efficacy is defined as the power to produce effort. Thus, self- efficacy is underlined by cognitive processes, affective processes and locus of control attributes. Bandura (1989:1175) asserts that "human behaviour is regulated

by forethought embodying recognised goals, and personal goal setting influenced by self appraisal of capabilities”. People with high levels of self-efficacy are more likely to set higher goals, commit to challenges that are more difficult, and strive to meet those goals. “A major function of thought is to enable people to predict the occurrence of events and to create means for exercising control over those that affect their daily lives” (Bandura 1989:1176). Affective processes come into being in that “people’s belief in their capabilities affects how much stress and depression they experience in threatening or taxing situations, as well as their level of motivation” (Ibid :1177). People who believe they can manage challenges are less disturbed by them. Hence, they can lower their stress and anxiety thereby exercising control. Lastly, locus of control comes in that, a person with a high level of self-efficacy believes in the utilisation of cognitive and affective processes to obtain desired outcomes.

The implications for this particular study are not farfetched. Self-efficacy points at attributes which make up the roots of gradueness. The issue of cognitive and affective processes touches on all four domains of gradueness as attributed by Steur et al. (2012). Thus, the basis for promoting self-efficacy is to encourage students to learn new behaviour through modelling or learning to change existing negative behaviour through positive reinforcement. Personal achievements involve practicing the behaviour and prior experiences of a situation or task. Since practice relies on the actual personal experience, it is the most important source of self-efficacy. The success of experiences improves self-efficacy. The theory therefore is an indispensable link for learning institutions if gradueness and employability are to be achieved. Thus, the theory proves to be an indispensable link for learning institutions if gradueness and employability are to be achieved. In this study, it has been discovered that the SLT and HCT are complementary because in order to achieve economic growth (which emanates from HCT), we need to enhance acquisition of the requisite skills (through STL).

2.5 CURRENT TRENDS IN HIGHER EDUCATION

For a fuller portrayal of trends in higher education, I am of the opinion that a brief reflection of the basic education of the country under study will help us illuminate the topic under discussion. The discussion progresses from basic education to higher education to enable the reader get a full view of what the situation on the ground is really like.

2.5.1 The Zimbabwean model

From an educational economist perspective, education unyokes communities and individuals from the shackles of poverty (Todaro and Smith 2011). That is, education can serve as an instrument for servicing the developmental needs of societies. Curriculum reform has been at the centre of activities deemed vital to transform society and raise student learning and achievement. The Zimbabwean education system has not been an exception to this phenomenon.

Since the attainment of independence in April 1980, there has been effort to make the curriculum more responsive to the country's needs in terms of sending out functional and articulate school graduates. The first step has been the pronouncement of mass education as part of the national ideology. A number of policies were put in place to ensure that there was a redress in the education system since prior to 1980, Black Zimbabweans were disadvantaged as far as education was concerned, since they were prone to the bottle neck type of education. The then government, wanted to ensure a continuous supply of cheap labour hence most children were denied the opportunity to go to school. On attainment of independence, education was declared a right for every child irrespective of race, colour or creed (Zimbabwe Constitution, 1980:6). This shift witnessed massive expansion in the education system as new schools were built. Night schools were introduced for the adults who could not be part of the formal system. Thus, the platform was created for everyone to access basic education. Effort was also made through a number of reforms to ensure students were adequately equipped when they left school. Munikwa (2011:24) points out some of the reforms as Education with

Production which was introduced in the early nineteen eighties (1980s) and was designed to marry theory with practice in every subject through the notion of “schools on the shop floor” (Munikwa 2011:24). In the early nineteen nineties (1990s) effort was made to link schools with the work place through the vocationalisation of the school curriculum (Education Act 1996). However, this was met with resistance from the key stakeholders. Education with Production had a natural death due to resistance by implementers and the general populace (Nziramasanga 1999, Mavhunga 2002).

Government effort to vocationalise secondary education by twinning schools with factories was only taken aboard by a few urban schools who managed to establish links with industries (Nziramasanga 1999). As pointed out by Munikwa (2011), the 1996 Education Act did not yield much. Thus, from the above scenario, it can be argued that the initiatives were undertaken to broaden the secondary school curriculum in a bid to cater for the various interests and aptitudes of students with very little success.

In a bid to redress the situation, the Zimbabwean government tasked the Nziramasanga Commission of 1999 which came up with recommendations to revitalise the system. One of the recommendations was the ‘Two Pathway’ secondary school structure geared to accommodate academic and vocational education (in a parallel manner), in order to cater for the different interests, aptitude and requirements of the world of work. Mahere (2006) and Munikwa (2011) point out that the two pathway system was implemented in 2006 by the Ministry of Education Sport and Culture as both people and government were seeking an education system that would benefit the nation.

The Two Pathway system entails channelling of students basing on continuous assessment from form 1 and 2 (Mahere 2006:2). At form 3 level, a student is expected to settle for one of the two options below:

“Option1; General/Academic core subjects (Business/Commercial as a major (at least two subjects) and one subject (elective) from Technical-Vocational)

Option 2; General/Academic core subjects (Technical/Vocational as a major (at least two subjects) and one subject (elective) from Business/Commercial

All forms 3 & 4 students however are expected to do a course in computer studies” (Mahere 2006:3). Students can major in Business/Commercial or Technical–Vocational. This gives room to students to pursue areas of their strengths. It can be acknowledged that the options are to guarantee an all round education for learners, bringing in some degree of diversity and relevance into the secondary school curriculum. The academic core subjects are English, Mathematics, Science, a local language (Shona or Ndebele) and History (Education Act 1996; Nziramasanga 1999). In line with the above set up, an average ‘Ordinary’ level student should take at least nine (9) subjects distributed as five (5) core and four (4) elective.

Mahere (2006) states that the implementation of the Two Pathway education systems means that all students will leave school with at least one subject from either the commercial or vocational pathway. Bowora (2007) elaborates that the choice of subjects from the skills area is based on the availability of resources. The Zimbabwe School Examination Council has provision for thirteen (13) subjects from the Skills Area. This alone reflects a commendable variety of subjects and an effective tool for meeting the demands of a varied labour market.

Curriculum issues are national policy decisions and in Zimbabwe they have been enunciated through circulars for schools to implement. However, Munikwa (2011:26) cites a series of failed attempts to educational reforms since Zimbabwe attained independence. Fullan (1999); Wilson and Davies (1995); Hoban (2002) and Venn and Skutack (2005) attribute the main cause of failed curriculum reform efforts to a mechanistic approaches that intend to change independent components of schooling such as teaching, curriculum, budgeting, governance or resources in isolation from other components. These scholars project that in order for change efforts to yield positive results, adopting a holistic system design which brings together researchers and practitioners and facilitate interaction so as to generate a progressive discourse is necessary.

From the above argument, it can be deduced that education reform should take on board decision makers, practitioners and environmental factors before it is implemented and that teachers are an indispensable asset of curriculum reform who should be

consulted with due respect in all stages (Munikwa 2011:26). Having implementers who are unsure of their role is detrimental to the implementation of any programme. Hence, the need to embrace a holistic education reform paradigm.

Polytechnics in Zimbabwe are making an effort to align themselves with the current global trends in education, as well as the economic situation prevailing in the country (Nziramasa, 2008:16). However, the situation has prompted the arm of the Ministry of Higher and Tertiary Education (MoHTE) Standards Development and Qualification Authority (SDEQA) through its subsidiary responsible for research namely the Standard Development and Research Unit (SDERU) to consider a curriculum path that might yield the desired results utilising locally available resources. Steps have been taken to fully implement the competence based education and training (CBET) model in all polytechnics. The question remains, whether this model will close the gap between employer expectations and HE outputs?

The model was adopted after wide consultations which started in 1998. Prior to that there was and still is criticism from industry and commerce that training institutions are churning out graduates who are not competent in the real world of work. Comments on the “irrelevance of training programmes to the needs of industry” and/or portrayal of “graduates from local training institutions as half-baked puddings” (meaning that they have theoretical knowledge, but lack practical competences) have been directed at HE (Permanent Secretary’s report 2013). Institutions are implored to teach what industry and commerce want. This has resulted in the 1997 National Manpower Advisory Council (NAMACO) Congress resolving that;

- A systematic demand – led by human resources development system be established and fully utilised by all stakeholders.
- A comprehensive curriculum review be conducted to determine its effectiveness in satisfying the needs of the economy, as well as the citizens.
- Industry be more active in identifying training needs and standards of competences for incorporation in the curriculum.

In 1998 steps were taken to implement the resolutions through the launch of Zimbabwe Occupational Standards Services (ZOSS). ZOSS was mandated to ensure graduates from training institutions fit in with industry and commerce and that they should be equipped with key competences of a particular job. A link was to be created by linking these occupational standards to training institution curriculum. Thus, it was after these consultations that recommendations through the 'Developing a Curriculum' (DACUM) process that the TVET/CBET approach was settled for. The CBET approach is explained below. The adoption of CBET meant an overhaul of the Higher Education Examination Council (HEXCO), the body that oversees examinations, in order to bring in the issue of competences in the assessment system.

2.5.2 Competence based education and training (CBET): What it is.

CBET can be defined as an outcome based education. It is an approach to training which concentrates on the graduates being in possession of skills, knowledge and values (abilities) which relate directly to the needs of employment (Bow Valley College Canada, 2006). CBET characteristics include being result oriented, spelling out exactly what students should do, provision of high quality instruction and requiring each trainee to demonstrate competency. Competence here is taken to refer to the ability to carry out "whole" work simulations to the standard expected in the world of work.

Parry (1996:50) regards "competences as a cluster of related knowledge, skills and attitudes that affect a major part of one's job (role or responsibility) that correlates with performance on the job that can be measured against well accepted standards, and can be improved through training and development". Competence based education and training refers to an occupational analysis to identify, organise and design curriculum. This process identifies competences and establishes standards (Sullivan, 1995). It recognises levels of performances on any skill using the workplace as the benchmark. It ensures marriage between theory and practice.

Foyster, (1990); Delker, (1990) and Norton, (1987) concur that competence based programmes possess particular characteristics. These include the fact that

competences are cautiously chosen. The theory component should be integrated with skills practice. That is, vital information is learnt to support the acquisition of skills. Detailed training resources ought to be linked to the competences to be acquired and in most instances these are meant to reinforce the acquisition of knowledge and skills. Teaching methods should focus on mastery learning; the premise considered being that every student can master the expected skills and knowledge as long as they are allowed ample time and relevant teaching methods are used. Participants are assessed as they enter the programme in order to establish the skills and knowledge they already have. The rationale behind the assessment is to consider where to start from as those with prior knowledge are exempted in relevant areas. One school of thought advocates the, acknowledging and accrediting of prior learning. In CBET, learning should be self paced. That is, learning ought to be individualised. Training strategies should be relevant to the situation at hand. That is, programmes should be designed for large groups, small groups or individuals in order to accommodate all types of learners. Thus, time spent in a programme may differ depending on the individual. What counts in the end for one to be regarded as having completed training, is based on the acquisition of all scheduled competences.

These characteristics together with assertions made by Cohen (2005) and Sullivan (1995) who regards CBET as that education that focuses on what students can do, rather than what they can learn about reflects a shift from the traditional learning that focuses on what curriculum designers spell out for students to learn (Instructor-centred), to what students are expected to know and competently perform by the dictates of the workplace (Trainee or workplace based). Sullivan (1995) argues that continual adherence to time based approaches to education is an “ineffective system when the goal is to train individuals to perform specific job related skills”. Focus need to be shifted to ensuring that the students can satisfactorily perform assigned tasks with expertise.

Norton (1987) and Foyster (1990) concur that competence based training is more appropriate as opposed to time based training. They argue that using the conventional model for training is inadequate, while Watson (1990) after a thorough examination of the competence based model concluded that the competence based model is ideal for

training in industry. The strategy is outcome focused and critical thinking is promoted. Trainers are entrusted with the responsibility of establishing a conducive learning environment as facilitators of learning not the fountain of knowledge. Ecclestone (1997) asserts that CBET may be an empowering tool to unleash economic independence.

2.5.3 The link between CBET and this study

Research supports a clear link between the quality of instruction and student gradueness (Cohen, 2005; Kouwenhoven, 2003). The issue of gradueness and employability cannot be exhausted without reference to Competence based Education and Training (CBET). CBET operates on the premise that education should move away from concentrating on what is prescribed for graduates by curriculum designers and concentrate on what is needed by the students and industry. Focus should be on the student and the workplace as they are the key players. There is need for institutions to refrain from prescribing what students should be taught in stipulated times. CBET entails that student work be self paced since mastery of competences cannot be done at the same pace. The competences which are the focal point in CBET are related to the workplace needs as spelt out by commerce and industry. Since the outcomes are not derived from low-level objectives, a more complex assessment procedure calls for experiential learning assessment in field experience, the involvement of portfolios, demonstrations in varying contexts, role play and the like.

Large sets of skills are categorised and packaged in the order in which they ought to be covered. A logical progression is called for to enable coherence in the skills acquisition. There is need to start with the low order skills, moving up to the more complex skills. However, competence required in different contexts may demand different packages of skills, knowledge and attitudes. It should be left to the dictates of the situation to ascertain the groups of competence needed in order to yield the best results. A challenge likely to be experienced is crafting learning activities that accommodate all students as they practice in a self-paced style, since each one of them would be

operating in a different context. The idea is to make these practising sessions as realistic as possible. However, in a real work situation, tasks are guided by the situation at hand and this cannot be predicted. Nonetheless, practice is vital for complete mastery of the defined competence in order to improve performance and enable assessment to be done in a variety of contexts. In essence, CBET is a process. The process is characterised by varying degrees of complexity.

Although in CBET learning is self pace-setting, the continuous assessment involved depicts the relationship between learning, training and assessment reflecting an avenue that can be pursued in order to embed employability in the curriculum. Sullivan (1997:5) goes on to argue that for effective CBET implementation, educators “require studying various teaching and learning theories that focus on learning outcomes with specific measurable definitions of knowledge, skill and learner behaviour” Competences are a group of skills, or behaviours that one is expected to have mastered in order to carry out any assigned tasks or activities in commerce and industry. Effective adoption of CBET entails a synergy between all stakeholders. Constant interaction and team work between the subject experts, the trainers, participants and the business community is called for. Business and other community members would be able to identify what it is they expect the graduates to be able to do. These become the external standards for success. The subject expert will understand what competences can be attained within the confines of the content; the instructor will know the teaching methodology for the content so that the competences are attainable. These become the educational standards. The model below helps explain the concept of CBET.

The fact that all institutions of higher learning in the country allow students to go for on-the-job training is indicative of the desire to ensure acquisition of job related competences. However, emphasis has been given to polytechnics because besides being the case used in the study, the national examination board for polytechnics (HEXCO) explicitly call for the implementation of the CBET model.

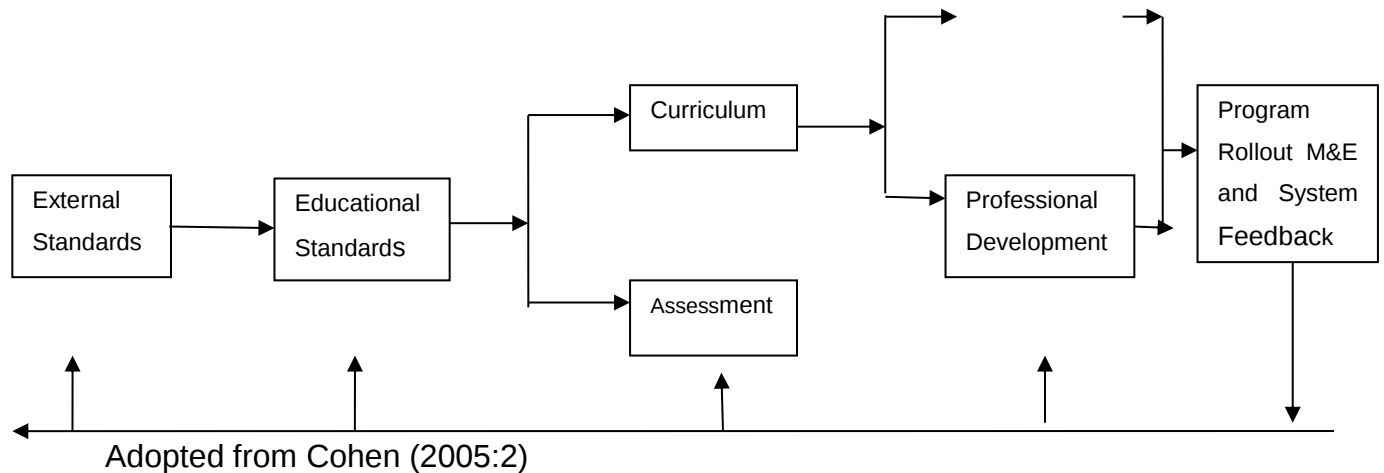
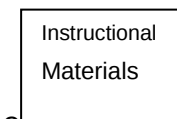


Figure 2-1: Model for competence based education



The above model explains how the external standards and the educational standards can influence both the curriculum and the assessment criteria which will resultantly influence instructional material to be used and consequently the professional development process.

The link between CBET and the present study should not be overlooked. It should be borne in mind that the model was adopted by the nation under study to drive Manpower development programmes. There is need to assess how it dovetails into the graduateness employability debate. The questions that can be asked is: does CBET provide the solution to employer disgruntlement by equipping graduates with the necessary skills or is it yet another failed attempt at addressing the issue?

In spite of the implementation of CBET, the industrialist remain dissatisfied by the output of polytechnics as evidenced by the 2010, 2011 and 2012 unpublished symposium minutes of the college under study. The events are held in order for captains of industry and commerce to familiarise themselves with the services and products that are offered by the institution. According to the minutes dated 15 July 2010, captains of industry who attended the expo held at college appreciated the work being done at the institution. However, they were quick to point out some grey areas that needed attention in order for both students and products to be more marketable. These include lack of refinement

in some projects and the example given was that of the Hydraulic bearing extractor and the groundnut Sheller. They also pointed out that students need to be exposed to the latest technologies in the industry. Obsolete machinery should be replaced with the latest on the market and students need to be well versed in these by the time they leave college. Another suggestion made was ensuring trainees are well versed in servicing their own machinery, as well as exercising safety precautions that are in line with their respective trades so that they are multi skilled when they join industry.

Considering that the problem is not peculiar to one institution but is a universal one, there is need for a redress hence the present study.

2.5.4 Latest Government initiative

Presently, the Ministry of Higher and Tertiary Education has in 2013 launched a Graduate Entrepreneurial and Employment Promotion Programme (GEEPP). The programme is geared towards entrepreneurial skills development to enable the Graduate Youths to start their own business enterprises and enhance their job-related skills through possible placements and attachments. The programme, which is meant to complement the already existing youth development initiatives, is a national response to the high level of unemployment among the Zimbabwean youths who have and will qualify from local and external Higher and Tertiary Education Institutions (Permanent Secretary of HE:2013). The programme aims at reducing graduate unemployment by pursuing different strategies which include the following;

- Equipping unemployed graduates with the appropriate entrepreneurial aptitude and competences through mentorships by institutions and companies. These will provide structured entrepreneurial training and development programmes.
- Providing unemployed graduates with start up capital and technical assistance to enable them to participate in business ventures either as individuals or as consortiums.
- Facilitate the transfer of skills and employment of qualified graduates in SADC countries on bilateral government arrangements.

- Facilitating top-up training and/or educational programmes to facilitate the graduates from vocational youth training centres' entry into higher educational/ training institutions or directly into the job market.
- Assisting qualified unemployed nurses to set up clinics in marginalised areas, particularly remote communal and new resettlement areas under supervision by the Ministry of Health and Child Welfare.
- Providing requisite life skills to unemployed youths through the expanded Integrated Skills Outreach Programme (ISOP) and at Small and Medium Enterprise (SME) Incubation centres (Perm Sec's minutes on background to the programme: 2013).

2.5.5 Graduate Entrepreneurial and Employment Promotion Programme (GEEPP)'s link to the study

The Graduate Entrepreneurial and Employment Promotion Programme come against the back drop of a growing problem of graduate unemployment. Of major concern is the fact that only 10% to 15% of the annual local graduate output secures appropriate employment. The rest remain out of employment as perpetual dependents or engage in all sorts of odd jobs as semi-skilled or unskilled workers (Perm Sec, 2013). In his report, the Permanent Secretary of Higher Education in Zimbabwe presented the output of graduates from local universities and polytechnics between 2009 and 2011 as follows:

Table 2-1: graduates from local universities and polytechnics between 2009 and 2011

YEAR	UNIVERSITIES	POLYTECHNICS
2009	14211	7474
2010	14005	6180
2011	14512	7210
TOTAL	42728	20864

(adopted from the Permanent secretary's report, 2013)

To be added to the above figures of the unemployed are graduates from the Presidential Scholarship Programme. These are Zimbabwean citizens sponsored to

receive education in other countries. The sluggish economic growth resulting in a constricted labour market together with the incompatibility between the curriculum and the needs of industry, impacts against the absorption of most youthful graduates from the country's higher and tertiary institutions.

When the graduates cannot put into practice the skills and knowledge they have acquired in their areas of specialisation, the huge investment made by Government, parents and guardians into the education of these graduates is wasted (Todaro and Smith, 2011). When a country undertakes a project of the GEEPP magnitude which is not only Inter-Ministerial but also directly involving the office of The President, it is a sign that Zimbabwe, like other African countries, has felt the pinch of graduate unemployment and is determined to address the situation. In spite of all the undertakings being implemented, there are indicators that the gap pertaining to the incompatibility between the curriculum and the needs of industry has not been addressed as yet.

2.6 CURRICULUM DEVELOPMENT

Discussing curriculum issues without the mention of key authors in curriculum development is an oversight. Tanner & Tanner (1980:6) define curriculum as an outline of "the planned and guided learning experience and intended learning outcomes designed through the systematic reconstruction of knowledge and experiences under the guidance of an institution of learning, to enable the learners' continuous and wilful growth in personal social competence". By this, reference is made to the totality of experience that a student receives inside or outside the classroom as long as it is done under the guidance of a school or college. Thus, it is through the curriculum that all work to be covered by students is laid down. The Tyler (1949) and the Taba (1962) models to curriculum development will be constantly referred to throughout this study.

2.6.1 The Tyler Model

The Tyler model (1949) propounded by Ralph W. Tyler is centred on three main aspects. These are the nature and structure of knowledge, the needs of the society and the needs of the learner. The rationale behind the model is establishing answers to the following key questions;

- a) What educational purposes should the curriculum seek to attain?
- b) What educational experiences can be provided that are likely to attain these purposes?
- c) How can these educational experiences be effectively organised?
- d) How can we determine whether and to what extent these purposes are being attained?

The model itemises the four main components in the curriculum process as purposes, content, teaching methods and assessment and evaluation. The essence of the model is to portray the curriculum planning process as a logical and sequential activity characterised by careful consideration and follow up. Cheng-Man Lau (2001) argues that the four components propounded by Tyler resonate with the basic management functions namely; planning, organising, leading and controlling. Key to Tyler's model is purpose. Tyler (1949:3) maintains;

"These educational objectives are criteria by which materials are selected, content is outlined, instructional procedures are developed and tests and examinations are prepared. All aspects of the educational program are really means to accomplish educational purposes".

However, by ignoring the politics in curriculum development, Tyler overlooked several issues and assumed that curriculum planning is neutral and self-justifiable.

2.6.2 The Taba Model

Taba (1962) maintains that curriculum designing should follow a stipulated order. She posits that instructors should be actively involved in curriculum designing. This has led her to coming up with a seven staged model which she claims involves the grass-root.

The rationale behind her argument is that Tyler's model is more on the administrative side and yet she argues that teachers should have a major input. The model is hinged on seven steps which are presented as follows;

Diagnosis of needs: The teacher-cum curriculum designer begins by identifying the specific needs of students. (That is, one could start by picking on those areas presenting challenges to most students).

Formulation of objectives: After the identification of the needs to be addressed, the teacher formulates the objectives to be accomplished.

Selection of content: The formulated objectives should be relevant to the curriculum. However, there is also need to determine the validity and significance of the content chosen. That is, ascertain the relevance and significance of content.

Organisation of content: The selected content should be sequentially organised taking into cognisance the maturity of the learners, their academic level as well as their interests.

Selection of learning experiences: Presentation of content to students should be done in such a manner that ensures students are engaged with the content. That is, when selecting teaching methods, the teacher should consider the methods that will involve the students with the content.

Organisation of learning activities: Learning activities must be sequenced and organised in just the same way as the content. Although it is often agreed that the sequence of the learning activities is determined by the content, the teacher should keep in mind the peculiar requirements of the students whom he/she will be teaching.

Evaluation and means of evaluation: The fifth stage entails the curriculum planner must determine which objectives have been achieved. The evaluation procedures should be designed to evaluate learning outcomes.

The five steps in the model entail identifying the needs of students, developing objectives, selecting instructional methods, organising learning experiences and

evaluating. In the study, some components of the Taba model were blended with some of the suggestions made by Tyler in order to bring out a wholesome curriculum that encompasses all the requirements of institutions and industry.

2.7 IMPLICATIONS FOR CURRICULUM DESIGN AND PEDAGOGICAL PRACTICE

Embedding gradueness and employability onto the curriculum has far reaching implications, as it cuts across too many internal boundaries which include; territorial, ideological, pedagogical and administrative (Walker,1997:7). Walker (1997) goes on to argue that although it takes considerable energy and collective intelligence, the task is doable. The attention received by the issue of gradueness and employability calls for a united front from all the stake holders. The contextualisation of skills/attributes affects employers, professional bodies, instructors, institutions and above all the student.

Jackson and Davis, (2000:7) propose the integration of curriculum development, teaching and assessment as a way of focusing on student learning and growth. They go on to argue that “curriculum and instruction need to provide students with opportunities to engage in authentic, intellectual work that has significance beyond the classroom” (ibid:8). This entails moving away from the textbook–based instruction toward a project–based curriculum that includes a wide range of instructional materials and approaches and promotes challenging intellectual work that connects to the real work situations. Project–based instruction promotes enhanced opportunities for students to engage in authentic, intellectual work and enables a shift in the traditional teacher’s role in that students’ work is more self-paced.

Jackson and Davis (2000:8) further allude that “curriculum based on authentic, intellectual work is among other things; purposeful, rigorous and related to the real world. It focuses on developing complex and critical thinking skills. It also balances depth and breadth of material and explores relationships and connections as well as integrates information across disciplines”. In a survey carried out by Janicki et al. (2004) on the Information System (IS) curriculum, it was established that the IS model had problems of continually lagging behind the technological changes. Surveys of employers’ technological needs were used in the design and development of pertinent

curriculum. A curriculum built from the employers' point of view encompassing job skills was needed rather than focusing on surveys from the academic side which prescribe what courses should be delivered. In their conclusion, Janicki et al. (2004) indicated that graduates should possess fundamental knowledge of their discipline as well as management skills. Another important aspect to be considered by the curriculum developer is to explicitly consider individual job skills indicated by the profession.

In another survey, Lee et al. (2002) concluded that academicians' understanding of the required knowledge and skills is not in line with the demands of industry. Scot et al. (2002) completed another study where they contrasted employer expectations with student skills. However, their overall conclusion was that there were significant gaps in the knowledge that the graduates had and that which was expected by employers.

Jaeger (2003) pointed out that empirical research produced evidence revealing that the ability to assess, regulate and utilise emotions is vital to the performance of workers. Yet, there still are a few graduate programme curricula that adequately address the intrapersonal and interpersonal skills that prospective employers want most in their employees and which the employees rely on during the execution of their work. Jaeger, (2003:616) cites Hoberman and Mailick (1994) who note that graduate students do not learn how to integrate the competences needed to run an organisation and relate to people. Professional school graduates are frequently seen as lacking appropriate skills to deal with their own emotions and those of others, are unable to adapt to change, and are inept at effective group work.

Waterfield & West (2010:3) expressed that it is no longer enough for graduates to acquire the elusive status of 'graduateness', but to attain employability and become employable in graduate entry employment. Higher Education now has the functional responsibility for inculcating employability skills. The challenge is that employers are not clear about their expectations of the new model graduate. Being work savvy entails capability in a whole range of generic and career specific requirements. Under present circumstances, the challenge remains that there is emerging evidence that employers are unclear themselves and at times give conflicting views about the explicit qualities they expect to see in graduates. With vocational subjects, it can be easily traced.

Graduateness encompasses generic skills like good team playing, effective communication, initiative and conversance in information technology. For this to be attained there is need to revisit the assessment criteria. Empirical research has revealed that the appropriateness of the assessment exercise encouraging and measuring the attributes that an employer might wish for can only be attained through combining subject specific and generic skill. However, this is likely to bring in complications to an already complex situation. Nonetheless, the need for transparency remains apparent.

It is incumbent upon curriculum designers to adopt an understanding of how best to reflect the relationship between learning and assessment. There is need to reconsider the roles of formative and summative evaluation and redefine when and how it should be done. It is once again necessary, to ask a bigger question: is our assessment criterion in tandem with the demands of industry as is evident in employer expectations?

Yorke, (2006) purports that the curriculum design offers an opportunity for students to attain employability. Fahria Masum, (2010:9) regard employability “as a slow growing crop which is not ideally served by short term curricular intervention”. Embedding employability into the curricula alone is not adequate as extra-curricula activities are important tools in the development of generic characteristics (Fahria Masum, 2010:9). It should be borne in mind that some schools of thought regard development of generic characteristics to include personal qualities. Although this line of thinking might bring in a new dispensation, it helps unfold the fact that embedding employability in the curriculum is a complex undertaking which should reflect an understanding that the low rate of employment does not necessarily imply the existence of a low level of employability. It should be observed that the mismatch between limited supply of workforce and demand for labour market is not due to lack of relevant skills and knowledge of the graduates, but due to a maze of factors. Hence, the need to dig deeper and pose the question what do labour markets want from higher education?

Dacre Pool and Sewell (2007) regard employability as having inherent skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure employment in which they can be satisfied and successful. The

issue of choice mentioned herewith is determined by one's ability and the moment we talk of capabilities, then we are looking at gradueness. However, Reid & Fitzgerald (2012) stress that employability should not be regarded as skills, neither should it be confused with employment nor should it be equated with measures such as the classification of a degree. Rather employability encompasses a number of achievements as represented in the USEM model.

The question therefore takes us back to the USEM model. Understanding (knowledge) is a key outcome of higher education. It entails depth of knowledge, indicating the development of relevant subject knowledge. Skills are a key element of employability. Skilful practice entails the application of skills in task oriented exercises be it in academia, employment or life in general. For example, in order for someone to be regarded as a skilful communicator, his/her communication skills need to be assessed in a number of contexts. Efficacy beliefs reflect the learner's impression of the self. That is, their self-belief, self-confidence and the potential for self-initiated development. Yorke (2003) explains efficacy as the student's recognition that they have potential to do better things. While academic intelligence (IQ) might be fixed, practical intelligence, which deals with challenging problems in life may be attained in due course. Thus, the E component of USEM deals with the acquisition of both knowledge and skilful competences. Meta-cognition complements efficacy and deals with the notion of self awareness through knowing what you know, how the knowledge can be used and how to acquire new knowledge. Meta-cognition provides the reflective or strategic thinking and it contributes to the continued learning and professional growth to keep abreast with changes in their work specifications (Robson, 1998:10).

It is these very attributes reflected in meta-cognition that constitute gradueness. Knowledge is not just mastered for its own sake but should be applied in various situations and complexities in order to solve workplace challenges. This paves the way for scholarship, moral citizenship and lifelong learning but clearly depicts reflective thinking. Jansen (2009) maintains that lifelong learning enables one to identify his/her flaws in the knowledge base or competences and then enables one to overcome these flaws. Thus, personal development comes about through lifelong learning.

The above discussion reflects that the USEM model covers not only employability but graduateness as well. Knight and Yorke (2003) are of the opinion that employability and good learning are closely related, therefore, embedding employability into the curriculum is in no way against or detrimental to the original mandate of the institution towards student development. However, the pedagogic implications of employability have been deliberated on in many forums. Among others, Reid & Fitzgerald (2012) purport that employability is not about what we teach, but how we teach. Emphasis is placed on the strategies employed as they are considered to have a bearing on the final product.

An issue that needs ironing out pertaining assessment of competences is establishing whether the competences required in education matches the ones that are deemed important in the world of work. Havnes and McDowell (2008) regard education and work as belonging to two separate worlds with separate cultures, and contextual diversity. Assessment certifies that individuals can progress from education to professional practice. It also focuses on the common trends and disparities between education and work. Since lifelong learning is now considered an aspect of work, there is need for education to align assessment practice to the requirements for learning in the work place. In addition to continuous and terminal assessment, there is also need to encompass assessment for lifelong learning. That is, the ability to master the practical attributes requires that students develop vicariously through the assessment process.

Curriculum designing in HE needs to take into cognisance envisaged labour markets and institutional traditions. The best institutions can do, is to adopt/design employability-oriented curricula. The following options can be taken into consideration;

2.7.1 Models for embedding employability in the curriculum

In a bid to ensure that students are equipped with employability attributes during training, I found it necessary to look at some of the models that can be enshrined in the curriculum. These include the following;

Employability through the whole curriculum: this entails that the students need to develop a wide spectrum of abilities throughout the curriculum. Examples can be gotten from Alverno College USA, University of North London and University of Luton (Page, 1998; Atlay and Harris, 2000). The focus of the programme is to equip students with ample skills to fall back on in life.

Employability in the core curriculum; the model calls for informing core modules in the curricula. That is embedding the USEM through acquisition of skills plus carrying out projects.

Incorporation of work related learning; in this model substantial placement is built into the curriculum structure in a bid to incorporate learning through work experience.

Employability related module(s) within the curriculum; this entails inclusion of study components that contribute to employability. For instance, the 'study modules can be given at the start of the programme and the fruits can be realised even during the course of study as students' autonomy would manifest through independent learning (Abramson and Jones, 2001).

Work based learning in parallel with curriculum; this is depicted in instances when a student takes up part-time work in order to support themselves financially while taking up a full-time study. The work can be a valuable source of employability related learning if the student capitalises on it when applying for a job in future.

The existence of a wide array of models that institutions can adopt in order to enhance employability equally reflects on the long standing problem with assessment. Awareness has it that "some curriculum designs have inadvertently proved inimical to formative assessments and consequently to student learning" (Fahria Masum, 2010:12).

Gullikers et al. (2008:78) show the "Five Dimensional Framework (5DF) for authentic assessment". The dimensions of authenticity are identified as the task, the physical context, the social context, form of assessment and the criteria. They argue that for assessment to be regarded as authentic there is need to equate what should be assessed in terms of structure, with the actual professional stuff encountered in the real

world. The task must present a situation that is likely to confront students in the field, and must require them to integrate knowledge, skills and attitudes as professionals do. Thus, the crux is the fact that students should perceive the assessment task to be relevant to the real working environment and see the purpose of assessment as a useful skills transferable to their professional practice. The task should reflect real decision making circumstances that may be encountered in their field of practice. It is argued that employers should work together with higher education institutions in developing assessment tasks and processes that are satisfactory to all involved.

Simulating the physical context can be problematic. However, effort should be made to make the environment as realistic as possible. Trainees should not only be equipped with available equipments and resources, but also the assessment should be reflective of the real time challenges that may be experienced in the work place. Increased use of simulated practice grants the opportunity for more challenging technology based simulations. This type of assessment would prepare graduates for the heavy production schedules that are expected in the real field.

The social context takes into cognisance social processes that are real. For instance, if the basis of the practice is team working, so should the assessment. Also, in the event of individual decision making the crux of the profession, so too should the assessment in order to give ample practice. The inclusion of service users in the assessment process can enhance the learning to be directed to the acquisition of the skills and capabilities that are regarded as essential by users of the end product. An example that comes to mind is of 'Marketing Management' students who can market a brand product to the community. Thus, to authenticate the assessment, the involvement of employers, practitioners, service users and trainees is imperative.

Criteria refer to standards against which performance will be measured. The standards ought to be clear and transparent to students since they are the 'would be' employees. Though presented at the end, this dimension should guide the other four dimensions in the framework.

2.8 GRADUATENESS, EMPLOYABILITY AND ASSESSMENT

2.8.1 Assessment

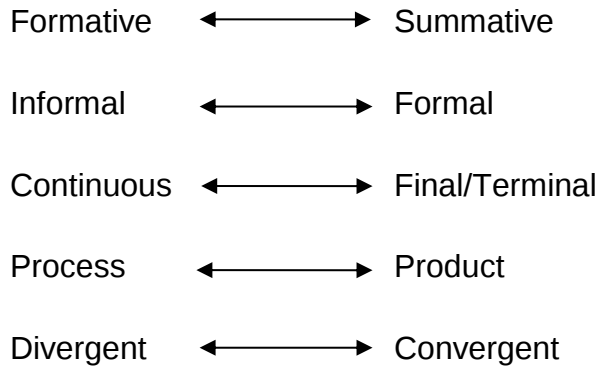
Kizlik (2012:1) regards assessment “as a process by which information is obtained relative to some known objective or goal. Assessment is a broad term that includes testing”. As observed by McAlpine (2002), learner assessment can be regarded as a form of two-way communication in which feedback on the educational process or product is presented to its key stakeholders. That is, it communicates to teachers, students, parents, curriculum designers and administrators.

2.8.2 Importance of assessment

Assessment helps in providing all interested parties in the learning processes with relevant feedback concerning student progress and achievements as expected by the curriculum. It should be regarded as a way of providing information to improve student achievements. Assessment may take different forms ranging from lower order to higher order skills. Assessment strategies that demand critical thinking or creative problem solving are more likely to realise a higher level of student performance or achievement. More so, as purported by Angelo and Cross (1993), good assessment can help students become more effective self-directed learners. Well selected assessment approaches can also play a critical role in educational decision making and are an important component of ongoing quality improvement initiatives at the lesson, course or curriculum level. Thus, the key role of assessment is to motivate and direct learning.

2.8.3 Types of assessment

There are several types of assessments which can be looked at individually or comparatively. These include the following;



Although the above types are somewhat arbitrary, it is of help to view the terms as representing the dichotomous poles (McAlpine, 2002). For the purposes of this study only two sets will be discussed.

Formative versus Summative Assessment: “Formative assessment is designed to assist the learning process by providing feedback to the learner, which can be used to identify strengths and weaknesses and hence improve future performance” (Kizlik, 2012:6). On the other hand, summative assessment is used to collect information against which decisions will be made for grading or determine readiness for progression. It comes at the end of the learning process and is designed to assess the learner’s overall performance. Summative assessment is also used to communicate student’s abilities to external stakeholders.

Continuous versus Final/Terminal Assessment: continuous assessment occurs during the course of a learning experience (intermittent). Continuous assessment is most appropriate in providing student and or instructor with information on the progress or achievement that is needed to determine the subsequent progression or sequence of activities. It supplies both the student and teacher with information needed to enhance a teaching/learning process. Terminal assessment takes place at the end of a learning activity. It is most appropriate when learning can only be assessed as a complete whole rather than as constituent parts. Thus, final assessment is used for summative decision making (Kizlik, 2012:6).

2.8.4 The link between the study and assessment

The link between gradueness, employability and assessment cannot be over emphasised. Assessment procedures are an integral part of the learning process. The educational objectives and the methods and results of assessment must be considered as integral to the instructional process as a whole. Palomba and Banta (1999) in their article "Assessment Essentials: planning, implementing and improving assessment in higher education" regard assessment as the systematic collection, review and use of information about educational programmes undertaken for the purpose of improving student learning and development. Assessment not only confirms the knowledge acquisition and performance of the students, it also relays messages to students about their intended goals and how they should go about their learning. The link between assessment and gradueness is not farfetched. Gradueness is evident in the transformation undergone by a student after exposure to higher education. Assessment on the other hand also carries a transformative aspect that can influence the development of the students' personal attributes and foster emotional intelligence that will enhance employability. It is congruent with Knight and Yorke (2006)'s notion of efficacy.

By being increasingly functional, higher education curricula have seen students going through a process of expertise development to become competent within the specialised discourse of a discipline or profession. It is important to consider addressing the transformative opportunities and work towards adopting assessment processes that develop the self, whilst also assessing the required technical components vital to the professions. In this way, a well-rounded cadre is developed, with practical and cognitive skills, efficacy and metacognition required for professional competence in his/her trade together with lifelong learning skills ideal for the enhancement of their on-going employability. The assessment criteria adopted therefore, may influence the student's personal development and self (the product namely the graduate). This way the resultant graduate, will not only exhibit gradueness and enhanced employability but also confidence in the self (Bandura, 1995).

It should be borne in mind that to be most effective, there is need to build assessment strategies in the curricula, strategically aligning assessment processes that promote personal development with those that test the technical aspects of the subject. A way of going about it is through the introduction of self, peer and group assessment approaches with varying levels of complexity and sophistication throughout the programme and presenting students with the opportunity to confront the often difficult and uncomfortable learning that can arise in these approaches. The learning should be self-paced hence compelling the student to cover as much as possible, as such promoting the type of learning that will enhance their self efficacy and emotional intelligence.

2.8.5 Work-based learning

Another way of improving graduateness and employability is through the incorporation of work-based learning. Loosely defined, work-based learning entails linking learning to the work role. This alone can be interpreted in a number of ways. This may include focusing on performance or task related learning. Another angle might take it to be problem based learning, usually associated with attempting problems of production or management. Work-based learning can also be taken to be concerned with performance enhancement and team building. Team building comes in the sense that tackling problems often demands effective cooperation between people with different roles and expertise. From the afore mentioned, it is clear that separating work and learning can be taxing as work-based learning is innovation-centred as it creates opportunities for learning as well as providing experience of managing change.

Little and Brennan, (1996:3) looked at various meanings attached to work-based learning including the works of Levy et al. 1989 and Seagraves et al. 1996. Levy et al. (1989) as cited by Little and Brennan, (1996:2) “identified three inter-related components each of which provided an essential contribution to the learning namely, a) structuring learning in the workplace, b) providing appropriate on job training/learning

opportunities, c) identifying and providing relevant off job learning opportunities”. Focus here is on workplace learning. That is, learning closely bound to the work role.

Another research team looked at diverse ways of linking learning to what the real jobs expect of people, and came up with three categories namely; learning for work, learning at work, and learning through work (Seagraves et al. 1996). The research team regarded learning for work as basically encompassing everything that is vocational, while learning at work focuses more on training and development offered by the employing organisation. Lastly, learning through work is integrated in the job. Learning through work includes some aspects of job-related learning and application of the skills and knowledge acquired in the course of actually doing the job. The learning through work strand can be seen to encompass the other two categories (Little and Brennan, 1996:4).

Although teaching and learning in higher education is about more than equipping students with skills they need in their work life, such learning is an integral part of the aims and objectives of particular programmes of study. In higher education terms, learning for work may well include elements of learning *at* work and learning through work.

Little and Brennan, (1996:4) go on to argue that “teaching and learning in higher education is about more than learning for work”. The elements are overlapping as learning for work may well include elements of learning at work and learning through work. In the Zimbabwean context, there are some courses that are mandatory for students to cover regardless of their discipline of study. The sandwich courses are in line with national policy and examples of these are Entrepreneurial Skills Development, National and strategic studies, as well as a significant work placement element which many view as work-based learning. In order for a student to be awarded any qualification in Zimbabwean polytechnics, there should be evidence of having covered these compulsory courses. At the heart of learning through work, is the process of actually performing a piece of work in a real job situation. The learning derived from that endeavour provided it can be proved and assessed, is the basis for many work-based learning developments within higher education. Such experiential learning, may be

combined with instruction led learning (may either be delivered by an organisation or through college) in order to provide a basis for work- based learning.

These elements of work-based learning can be associated with the changing relationship between higher education and society, as well as higher education and industry. Little and Brennan (1996:6) assert that it can lead “to developing a notion of learning organisations in the context of flexible systems of manufacturing and production, to the concept of lifelong learning and notions of the ‘learning society’”. However, these notions infringe on the traditional academic assumptions as well as social assumption (Scott 1995:157). It should be borne in mind that those proponents of work-based learning responsible for designing the curriculum, often have to challenge these ‘inherent values’ and seek to extend the boundary of the validity of knowledge, skills and understanding in order to justify the awarding of academic credits.

Consequently, while work-based learning entails linking learning to the work role, it should be noted that it does not mean preparing for a specific job. Little and Brennan (1996:13) allude that of late many higher education institutions have attempted to modify their curricula in line with the needs of their graduates. However, although this emphasis was mainly present in institutions with a technical thrust, it is now widely spread. The duality of the ‘academic and the practical’, of the nature and value of learning in the workplace and the nature and value of learning in the classroom or lecture theatre have been well received, with studies indicating various ways in which higher education curricula can be redefined to meet perceived employment needs in diverse disciplines (Little and Brennan 1996:13). They go further to argue that “the pervasive idea that learning in the classroom is of greater value than learning in the workplace is now being challenged” (Ibid: 22).

2.8.6 Lifelong learning

Closely linked to work-based learning is lifelong learning. Lifelong learning maybe broadly defined as learning that is pursued throughout life. That is, learning that is flexible, diverse and available at different times and in different places. Lifelong learning

therefore crosses sectors, promoting learning beyond traditional schooling and throughout adult life.

Lifelong learning is underpinned by 'learning to learn'. It can instil creativity, initiative and responsiveness in people thereby enabling them to show adaptability in post industrial society through promoting skills to manage any situation and communicate effectively in any situation and with anyone regardless of cultural background as well as negotiate conflict. The premise surrounding lifelong learning is the ability to keep on learning for a lifetime. Lifelong learning is hinged on four pillars of education as propounded by Delors (1996). That is, learning which entails mastering the essential toolkit to learning rather than acquisition of structural knowledge. Learning to do, is learning which focuses on learning geared towards equipping people for their present type of work, as well as what they would do in future including innovation and adaptation to any environment that might prevail in future. Learning to live together, and with others includes peacefully resolving conflict, discovering other people and their cultures, fostering community capacity, individual competence and capacity, economic resilience and social inclusion. Learning to be entails education contributing to a person's complete development: namely, the mind and body, intelligence, sensitivity, aesthetic appreciation and spirituality.

The literature reviewed has defined graduateness and employability as described in the preceding sections. It has also been noted that the terms have diverse definitions. Steur et al. (2012) have given a variety of attributes expected in graduates. Most of these also manifest in employability. The HCT emphasise how education increases the productivity and efficiency of workers hence, education is considered an investment in human capital and therefore immensely contribute to economic growth. The consulted literature has guided the study by exposing the attributes that can be identified to ascertain graduateness. Once graduateness is established, employability opportunities are enhanced. In the study, the domains were used as yardsticks to determine whether the graduates channelled to the labour market met the standards.

2.9 SUMMARY OF THE CHAPTER

The chapter provided a comprehensive review of gradueness and employability. The concepts were defined from various perspectives. The link between the Human Capital Theory and gradueness was explored. The Social Learning Theory and its relationship to employability were discussed. Focus was also given to the education system in the country under study and the steps taken in a bid to make education more meaningful to current demands in industry. Finally, the link between gradueness, employability and assessment was also examined. The next chapter focuses on the research design, the philosophical foundations and the methodology applied during the research process.

CHAPTER THREE

THE RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The chapter specifies and justifies the research design and methodology used in the study. It describes the research instruments and data gathering strategies used for the study, namely document analysis, focus groups and interviews. Justification for each of the methods chosen for the study is given. The chapter then describes the population, sample and sampling techniques used in the study. Procedures for data collection, analysis, presentation and interpretation are also explained. Ethical considerations are also explained.

3.2 THE RESEARCH PARADIGM

Conducting the study qualitatively presented several advantages. Qualitative research is a systematic inquiry that seeks to construct a holistic, largely narrative, description to inform the researcher's understanding of a social or cultural phenomenon. The research takes place in a natural setting. McMillan and Schumacher (1993:479) define "qualitative research as primarily an inductive process of organising data into categories and identifying patterns (relationships) among categories". The implication here is that data and meaning emerge naturally from the research. This is reinforced by Goethals, Sorenson and McGregor (2004:4) who assert that qualitative research entails "inquiry from inside". The researcher's complete involvement in terms of direct contact with the participants and presence in the setting gives me a holistic picture enabling the use of an inductive mode and "letting the data speak" (Ibid). Shank (2002:11) metaphorically regards qualitative research as the "lantern" which "shed light in dark corners", hence making qualitative researchers "discoverers and reconcilers of meaning where no meaning has been clearly understood before."

Wiersma (1995:211) purports that qualitative research rests on the underlying assumption that the researcher's part is to capture data as it unfolds in what he/she observes and/or collects data in their organic environment. Phenomena are taken as a whole or holistically. Reality is seen through the eyes of the subjects since researchers just record fully, accurately and unbiased. Thus, qualitative research enables the subjects under study to respond to the researcher's questions in depth and may give valuable insights which might have been issued by any other method. It helps therefore to try to "understand" any social phenomenon from the point of view of the people involved, rather than explaining it from the outside.

I used a hybrid of explorative and descriptive research designs. An explorative approach is critical "for finding out what is happening, to seek new insights, to ask questions and to assess phenomena in a new light" (Robson 2002:59). It helps clarify one's understanding of the problem. Explorative research enables the selection of the best research design, data collection method and selection of subjects. In simpler terms, explorative research allows an investigation into a problem or situation which provides insights to the researcher. It is often carried out because a problem has not yet been addressed or is as yet unclear. It allows the researcher to familiarise with the problem or concept to be studied. The type of research is renowned for determining the best research design, data collection methods and selection of subjects and at times even providing a null result. It can be quite informal, relying on secondary research such as reviewing available literature, data or qualitative approaches such as informal discussions with subjects of different backgrounds. Formal approaches which include in-depth interviews focus groups, projective methods, case studies or pilot studies can also be used.

Explorative research was used in finding out about the training strategies. That is, the strengths and limitations of the current approaches to training and assessment tools in addressing the issue of gradueness and employability. This included an examination of both the official curriculum and the hidden curriculum.

Students were observed during training to ascertain the relevance of what the college is exposing them to, against the needs of industry. Observations were carried out at two

levels namely; during class and during 'attachment' in order to experience what the students are exposed to during on the job training. Selected organisations were also visited. Evans, Hawksley, Holland and Caillan (2008) postulate that the students under training acquire subject knowledge in a number of highly individualistic ways revealing that the training model in use only explains the basics of what is happening in practice. This points out to the fact that observation enabled me to realise the actual skills exhibited by the lecturers, trainees and the industrial experts.

From the hidden curriculum, I was opportuned to witness how life-skills are imparted to students and the subsequent 'expected behaviour change'. The hidden curriculum entails the organisational norms, values and culture indirectly conveyed to students through socialisation, the styles of teaching, unarticulated assumptions in pedagogic materials and organisational characteristics of educational institutions. The culture of the institution indirectly shapes the movement or the activities of students, as a result, observation helped the researcher take note of the unfolding scenes both inside and outside the classroom. Explorative research was therefore used to assess and find out if there is behaviour change in students during and after training. Any changes in behaviour were assessed against the domains of gradueness. That is, my intention was to ascertain whether the transformation expected through intellectual development manifests in the students, since gradueness can manifest through the exhibition of competences.

In the study, descriptive research is handy for determining people's views on a matter, exploring attitudes, doing a confirming study, testing a concept or investigating a phenomenon. It is a type of research method that is used when one wants to attain information on the present position of a person or an object. It is used to describe what is in existence in the context of conditions or variables within a given situation. Herewith observations are noted without any influence or disturbance in the phenomenon.

Descriptive research is used to describe qualities of a population or phenomenon under study. It does not concentrate on the how/what/why of a particular event or characteristics occurred. Its key focus is on addressing the "what" question. Descriptive categories are used to portray the situation under study. This refers to the type of

research questions, design and data analysis that would be applied to a given topic. It can either be quantitative or qualitative. However, in this particular research, it was strictly qualitative. It is in line with the above explanation that I centred on descriptive research in order to get information on the current trends in training.

The descriptive research element comes in through the use of semi-structured interviews, focus group interviews and document analysis. Interviews gave the researcher an opportunity to interact face to face with the industrialist and get their misgivings directly from the horse's mouth. Lecturers throughout their hierarchy up to the Vice Principal in charge of training gave their own side of the story. The intention was to juxtapose these findings to clearly establish the missing link in a bid to chart a way forward.

3.2.1 The Interpretive Paradigm

Saunders et al. (2011:118) considers a paradigm as “a way of examining social phenomenon from which particular understanding of these phenomena can be gained and explanations attempted”.

Alison (2009) regards paradigms as “coherent belief structures or lens through which to view the world”. He goes on to describe a paradigm as a bundle of assumptions about the nature of reality, the state of human knowledge and the kinds of methods that can be used to answer the research questions. The significance of paradigms is that they shape how we view the world and are strengthened by those around us (Williams 1998 accessed on 07/18/2012).

An interpretive approach was adopted. The interpretivist model centres on the way in which human beings perceive of their subjective reality and attach meaning to it (Cohen and Manion 2007:38). Interpretivism takes cognisance of the individual differences among human subjects as they carry out their roles as social actors. This emphasises the difference between conducting research among people rather than objects. The expression 'social actors' denotes that we consciously or unconsciously play a part on the stage of human life. The actor's role in theatrical productions is interpreted either

from their perspective or that of the director. In the same way, we attach meaning to our every day roles in accordance with the labels we give to these roles. We also interpret the social roles of others in accordance with our own set of meaning (Saunders et al. 2011).

Saunders et al. (2009:116) explain that interpretivism comes from “phenomenology and symbolic interactionism. Phenomenology refers to the way in which humans make sense of the world around us. In symbolic interactionism we are in a continual process of interpreting the social world around us. We interpret the actions of others with whom we interact and this interpretation leads to adjustments of our own meanings and actions”.

I selected Interpretivism as a paradigm of this study because it enables one to interpret meanings and actions of respondents in accordance with their own subjective frames of reference. Through observations, I tried to make sense of the trainees’ actions and language within their natural settings. Cognisance was taken of how the organisational tone and climate influence the day to day operations in the institution. Crucial to the interpretivist philosophy is that I had the privilege to adopt an empathic stance. The philosophy enabled me to enter the social world of the research participants and try to perceive their world from their point of view. In some cases, in spite of the need to retain the integrity of the phenomenon being investigated, this might present a challenge.

“In symbolic Interactionism, the individual derives a sense of identity from interaction and communication with others. Through interaction and communication, the individual responds to others and adjust his/her understanding and behaviour as a shared sense of order and reality is negotiated with others” (Saunders et al. 2009:290). At the centre of the thinking is the idea that people continually change as a result of the social circumstances in which they find themselves. The individual’s sense of identity is constantly being defined and redefined as he/she moves through changing social contexts and confronts different situations and different people.

Delbridge and Kirkpatrick (1994:37) cited in Saunders et al. (2009) consider “that participant observation is about attempting to learn the (respondent’s) symbolic world”.

It is a quest for understanding the identity of the individual, but, more importantly, it is about trying to get to the bottom of the process by which the individual constantly constructs and reconstructs his/her identity. It is used as a means of gaining social acceptance by a foreign culture or foreign group so as to better attain comprehensive understanding of the internal structure of the society. Thus, in the study, it assisted in the breaking down of complex concepts into simpler and understandable facts.

Kelliher (2008) purports Interpretivism “promotes the value of qualitative data in pursuit of knowledge”. Husserl, Heidegger and Merleau-Ponty (2009) support the above idea by stating that “in essence, this research paradigm is concerned with the uniqueness of a particular situation, contributing to the underlying pursuit of contextual depth”. This explains that in this study, quality was a priority hence those who were directly involved in the study, were chosen using meritocracy as a guideline. By so doing, the knowledge gained (experiential reality) was treated as phenomenon which distinctifies the study. I also ensured that research reliability and research validity were maintained.

Research reliability refers to the consistency or stability of a measure. It is under this phenomenon where I employed triangulation in order to authenticate information. From an interpretive point of view, Eisenhardt (1989:52) recommends that, “the researcher starts with a broad research question, establish systematic data collection and ensure ease access to create strong triangulated measures”. It is true that qualitative research findings can be consolidated in this way, and this is what was done during the course of the study.

As alluded by Stake (1995), qualitative research depends on the presentation of solid descriptive data to enable the researcher to lead the reader to a deep comprehension of the meaning of the experience under study, In this study, in order to ensure validity, I interacted with the trainees, lecturers and captains of industry to whom I had to explain theories and implications that might surface as we progress. The explanation was to serve as a stop gap measure to ensure that we operate on the same wave length in order to extract solid information that is helpful. Remenyi et al. (1998) suggest that relying on several data sources, establishing a chain of evidence, and having a draft reviewed several times strengthens construct validity in this regard. This ensured that

the study is networked from a number of data collection activities and sources of data and knowledge. The use of multiple data sources enabled triangulation to take place.

3.2.2 Phenomenology

Guided by the qualitative nature of the research and the philosophy, I made a conscious decision to carry out a phenomenological research. Phenomenological research attempts to understand the structure of lived experience rather than explain it. It requires the researcher to collect “verbal or written protocols describing the experience” (McLeod, 2011:89). Tony Merry (2002) argues each of us lives in our own subjective world which cannot be fully and completely understood by anyone else. The way we experience the world determines how we respond and is based on our own mixture of needs, history and expectations. That is, the aim in phenomenological research is to ascertain what the experience means for the people who have gone through that experience. The original data is usually comprised of ‘naive descriptions’ obtained through open-ended questions and dialogue (Moustakas, 1994). In the study, described the structure of the experience based on a reflection and interpretation of what the research participant presented.

Phenomenological research is an attempt by the researcher to describe the subjective experience of participants by following a procedure in which units of meaning are identified and common themes integrated into an exhaustive description of the phenomenon (William 2005). It entails identification of a shared experience. It attempts to locate the universal nature of an experience. Phenomenology also attempts to identify shared experience among various individuals experiencing shared phenomena. It attempts to locate the essence of an experience. That is, what was experienced and how the participant experienced it. It is a study of the lived experiences of persons and this experience is taken as a conscious process. The development of interpretations of the essence of these experiences may lead to the asking of the question; how do we go about interpreting?

It is in light of the above explanation that I found phenomenology very relevant to this study. Although participants were drawn from the same institution, they are different, and they exhibited different personalities and perspectives as well as interacted differently with the subjects. Thus, each subject was analysed and interpreted as was befitting but, operating within the realms of interpretative phenomenological analysis (IPA).

3.2.3 Interpretative Phenomenological Analysis (IPA)

Interpretative phenomenological analysis considers phenomenological inquiry as an interpretative process. That is, IPA is concerned with trying to perceive reality from the perspective of participants. The participants on one hand will be trying to understand and make sense of their personal and social world while on the other hand; the researcher would be trying to make sense of the participants.

Interpretative phenomenological analysis (IPA) is an experiential qualitative approach to research. IPA takes a central position between a phenomenological view and a symbolic interactionist view (Buysse and Smith, 2009:1). IPA is concerned with trying to understand what participants experience and with how participants themselves interpret their experiences. Thus, it is overall concerned with the meaning which those experiences hold for the participants.

In this study I engaged research informants who are experienced in their trades. In this regard only those who have been actively involved in their trades for five years and above were considered. I considered IPA's theoretical underpinnings of all pedagogies and andragogies and this would stem from the phenomenology, which attempts to construct a philosophical science of consciousness, with the theory of interpretation (hermeneutics) which stipulates that, the meanings an individual ascribes to events are of central concern but are only accessible through an interpretive process (Deborah 2008).

IPA is phenomenological in the sense that it wishes to explore an individual's personal perception or account of an event or state as opposed to attempting to produce an

objective record of the event or state itself. One important touchstone for IPA is phenomenology, which originated with Husserl (1964)'s attempts to construct a philosophical science of consciousness. At the same time, while trying to get access to the participant's personal world, IPA considers that there are limitations as one cannot do this directly or completely. Access is dependent on the researcher's own conceptions which are required to make sense of that other personal world of the participants through a process of interpretative activity. Hence, a second important theoretical current for IPA is hermeneutic - (the theory of interpretation).

IPA is also a strong idiographic approach concerned with a thorough analysis of the case either as an end in itself or as a prelude to similarly detailed analysis of other cases. In this qualitative research study, it was used to insights into how a given person, in a given context makes sense of a given phenomenon. In normal circumstances, the given phenomenon would be in relation to experiences of some personal significance such as the training received by a trainee in a stipulated timeframe. Herewith, the researcher would closely examine the experiences and meaning attached to activities by the few participants sampled as respondents.

IPA was also used in the data collection through interviews and focus groups. Also, IPA was used to reflect upon my conceptions about the data and attempts to suspend my preconceptions in order to focus on capturing the experiential world of the research participant (Husserl et al 2009). After the data was transcribed, I worked thoroughly and intensively with the text, annotating it closely in order to draw insights into the participants' experience and view on their world. This ensured that I realised the set objectives of the research as well as understood data as it was presented by the participants.

3.3 RESEARCH DESIGN

I used a case study as a research design (Creswell, 2008:12). Hancock (2002:6) argues that as a research design, the case study "claims to offer a richness and depth of information not usually offered by other methods". It is a highly flexible research method and employs any or all methods of data gathering (Ibid). My intention was to make the

study an instrumental case as this according to Berg (2009:326) is ideal for providing insight into an issue or refine a theoretical explanation making it more generalisable. In this regard, generalisability is only referred to because polytechnics in Zimbabwe are under one examination board. Curriculum planning is centralised hence chances of uniformity are high otherwise case studies are peculiar to those cases. However, cognisance was taken of the fact that a case study as a research design is criticised for not being representative of similar cases and because of the ungeneralisability of the results. In this particular research, I reiterated the purpose of case study, so as to describe that particular case in detail. It is particularistic and contextual (Hancock, 2002:7). Special emphasis was given to a Polytechnic of choice in Zimbabwe and special attention was given to its Engineering Division therewith. Three companies namely; Sable Chemicals, Delta and Fridgequip were involved in order to get insight into the opinions of industrialists. The case study was thus used at these four organisations.

When endeavouring to understand the phenomenon being studied in depth, case studies are a very good method to use. They allow the researcher to familiarise with the data in its natural settings and fully appreciate the context (Punch, 1978). In regard to this study, a college does not operate as an isolated variable; especially in relation to curriculum development, curriculum implementation and assessment. Polytechnics in Zimbabwe follow a centralised curriculum and examinations are run by a national board.

The college was treated as an independent case study with the following characteristics consistent with Punch (1978);

- 1) The boundaries of the case were defined by the college. Even though the wider community and parents have an influence on the way things are done, it is only the students, teaching staff and administrators handling assessment issues whose beliefs and opinions and interpretations of policy that were examined throughout the study. Representatives of commerce and industry who work closely with the college were also involved. The trimming was done to make the research was manageable.

2) The data from the college was analysed with the unique context of the college in mind. That is, everything was taken in its natural setting in order to bring out the peculiarity of the institution.

Berg (2009:320) argues that case studies can be used to generate theory (grounded theory) and follow a pattern similar to theory after research. It is my contention that this particular case study reveals information that can be useful in charting a way forward on furthering graduateness and employability issues.

3.4 POPULATION AND SAMPLING

3.4.1 Population

A population is any wholesome or theoretically specified aggregation of study elements. It is usually the ideal population against which research results are drawn. Best and Khan (1993:13) define a population as “any group of individuals that have one or more characteristics in common that are of interest to the researcher”. The population for the study was drawn from the community of a Polytechnic in Zimbabwe. The study was limited to the chosen polytechnic and three companies only. It is only the staff (at various levels) and students from the institution under study and captains of industry who were considered for the study.

3.4.2 Sampling

A sample is a fraction or some part of a larger body specially selected to represent the whole. Sampling entails the researcher selects participants to work with. Sampling is taking any portion of the population or universe as representing that population or that universe. The main objective of drawing a sample is to make inferences about the larger population from the smaller sample. Haralambos and Holborn (1991) define a sample as the actual individual to be studied and as such part of a large population. In this study, the purposive sampling technique was employed. Given (2008) purports purposive sampling signifies that the researcher sees sampling as a series of strategic

choices about whom, where and how to do one's research. Two things are implicit in that statement. First is that the way that one selects a sample has to be tied to the objectives. Second, that the 'best' sampling strategy depends on the context in which one is working and the nature of the objectives.

Purposive sampling according to Cohen and Manion (2007:103) enables the researcher to identify various factors of interest and handpick participants on the basis of one's judgment of their typicality. Purposive sampling enables one to use his/her judgment to select cases that best enables one to answer the research question(s) and to meet objectives. Proportionality of sampling is not necessary. It is a type of non-probability sampling where the researcher consciously chooses particular elements or subjects for inclusion in a study in order to make sure that the elements would have certain characteristics pertinent to the study. Purposive sampling normally targets a particular group of people and is often used when working with very small sample, such as in a case study research and when the researcher wishes to select cases that are particularly informative (Neumann 2005). Selection of cases for purposive sampling should be dependent on the research question and objectives. Patton (2002) emphasises this point by contrasting the need to select information-rich cases in purposive sampling, with the need to be statistically representative in probability sampling.

Purposive sampling reflects a range of situations, the researcher has to consider. Qualitative research is in no way interested in asking about central tendencies in a large group. Rather, it focuses on why particular people (or group) feel the way they do, and the processes by which these attributes are constructed and the part they play in the dynamic processes within the organisation or group. Embedded in this form of sample is the notion that a person is taken for who he/she is and where that person is located within a group, unlike in other forms of research where participants are regarded as essentially interchangeable. By settling for purposive sampling, I took cognisance of the fact that research participants are not always created equal. The inherent differences among participants can manifest in the course of the research. One well-placed

articulate informant will often advance the research better than any randomly chosen sample of fifty.

I adopted the heterogeneous/maximum variation version of purposive sampling. This version enables one to collect data to describe and explain the key themes that can be observed. Although this might appear a contradiction, as a small sample may contain cases that are completely different, Patton (2002) argues that this is in fact strength. Any patterns that do emerge are likely to be of particular interest and value and represent the key themes. The data collected should enable one to document uniqueness. To ensure maximum variation within a sample, Patton (2002) suggests the researcher identifies the diverse characteristics (simple selection criteria) prior to selecting the sample.

Thus, I settled for what Given (2008) refers to as expert sampling. That is in this study, only individuals who have particular expertise that is only those who have the capacity to further my own cause by most likely advancing my interests and potentially open new doors were considered. The general principle in purposive sampling implores that we think of the person or place or situation that has the largest potential for advancing our understanding and look there (Given, 2008; Patton, 1990).

3.4.3 Sample size

Sample size relates to how many people to pick for the study. As the architects of the study, the strategy is adopted to enable us access to people who are vital to the study only. Considering the need to study the group in great depth, I settled for a small sample drawn from different groups. The population sample was drawn as follows; the Vice Principal, the Examination Coordinator, one (1) Head of Division, two (2) Heads of department, five (5) lecturers, ten (10) students and three (3) industrialists. The total number of respondents was twenty three (23).

The total sample size of twenty three (23) was directly involved in the study and participants were not engaged once but as many times as possible, as long as there was need to inform the research. The participants were chosen on meritocracy which

includes qualifications, position and experience in the concerned organisation. I decided to settle for such this sample size because it is a workable size.

The above sample size was reached through my discretion. The participants were chosen on the basis of their length of stay in the organisation and their qualifications and position held in the organisation. This was done so as to ensure that there is rigorous and thorough engagement, resulting in the realisation of the objectives of the study (Patton, (1990); Suri, (2011). The student participants were also systematically picked. Focus was given to students who could contribute to the graduateness and employability case. Hence, students sought were expected to have graduated from a tertiary institution and enrolled for the Bachelor of Technology programme. These students are holders of at least a National certificate in an engineering trade and a practising certificate. The industrialist participants were picked on the basis of proximity to the said institution and whether they attach students or recruit graduates from the polytechnic.

I am of the conviction that limiting the research to vital participants only enables a rich deep study through continuous probing. Secondly, limiting the number of participants also enables depth and quality in the analysis.

3.5 DATA COLLECTION METHODS

Ethnographic methods of collecting data namely; document analysis, focus groups as well as semi-structured interviews were employed. Observations came in as an inevitable act during interviews. Ethnography is centred on naturalism. Naturalism proposes that the social world should be studied in its 'natural' state, without being disturbed by the researcher (Hamersley & Atkinson, 1989). The type of research entails that it should be carried out in ways that are sensitive to the nature of the setting. More so, naturalism demands that the researcher adopt an attitude of 'respect' or 'appreciation' towards the social world. Fox (1989) clarifies that ethnography is pivotal in the development of theory and is also flexible.

Fox (1989:4) asserts that “according to naturalism, in order to understand people’s behaviour, we must use an approach that gives access to the meaning that guides that behaviour”. The methods used in the study were complementary and served as a centre of the triangulation exercise.

3.5.1 Interviews

Semi-structured interviews were conducted. Semi-structured interviews involve a series of open ended questions based on the topic areas that the researcher wants to cover. The open ended nature of the questions defines the topic under investigation, but provides opportunities for both interviewer and interviewee to discuss some topics in more detail (Bernard, 1988). That is, the interviewee is allowed enough room to bring out issues that are linked to the subject which the researcher might not have been aware of. In a semi-structured interview, the interviewer also has the opportunity to probe the interviewee to elaborate on the original response or to follow a line of inquiry introduced by the interviewee.

Unstructured interviews have very little structure as the interviewer goes in the interview with the aim of discussing a limited number of topics. Most of the subsequent questions are framed on the basis of the interviews. Although only one or two topics are discussed they are covered in great detail. (Hancock 2002).

In the study a combination of semi-structured and unstructured interviews were used in separate incidents. The semi structured interviews were used for the administration personnel in the form of the Vice Principal, Examination Coordinator and the heads of division and departments. Interviews provide an opportunity for both interviewer and interviewee to discuss some topics in more detail. For the focus groups, the interviews remained unstructured to enable participants say out as much as they could. Moderation was employed as a way of controlling the participants to ensure that they remain focused on the topic.

3.5.2 Focus Groups

Rabiee (2004) describes a focus group as a technique involving the use of in-depth interviews in which the participants are selected because they are purposive, although not necessarily representative sampling of a specific population. That is, the group can be a further selection from the initial sample. This group is 'focused' on a given topic that might have emerged from earlier interviews. Participants in this type of group are selected on the criteria that they have something to say on the topic. Burrows & Kendall (1997) maintain that participants in the group are selected on the basis of their knowledge of the study area. Focus groups can reveal a wealth of rich information and deep insight. When well executed, a focus group creates an enabling environment that gives participants the freedom to allow them to thoughtfully answer questions in their own words and add meaning to their answers. Thomas et al. (1995) assert that one of the distinct features of focus group interviews is its group dynamics, hence the type range of data generated through the social interaction of the group are often deeper and richer than those obtained from one to one interviews. This is re-echoed by Rabiee (2004:656) who asserts the uniqueness of a focus group is its ability to generate data based on the synergy of the group interaction. Krueger (2004) believes rich data can only be generated if individuals in the group are prepared to engage fully in the discussion and for this reason, advocates the use of a homogenous group.

Focus group interviews have no stipulated number. One school of thought is of the opinion that the size of a focus group be anything between 5 and 10 people. The other opts for 6 to 8 people. Although the exact figure cannot be established the rationale remains that the group needs to be large enough to generate rich discussion but not so large that some participants are left out. The session is led by a skilled moderator. Focus groups are structured around a set of carefully predetermined questions. The discussion is usually free-flowing. Ideally participants' comments will stimulate and influence the thinking and sharing of others. At times people change their thoughts and opinion during a focus group discussion. Again, the number of interviews to be held is determined by the information given by the participants. Krueger (2004) suggests continuing with focus group interviews until a clear system props up and subsequent

groups confer only repetitious information. That is, one ought to get to a point of theoretical saturation.

Kitzinger (2010:2) regards focus groups as a forum of group interviews that capitalises on communication between the research participants in order to generate data. Focus groups allow for an in depth discussion on a specific topic. Focus groups enable the researcher to have a greater perception of what may lie behind an opinion or how people approach an issue. In the study, two focus groups were used one for the lecturers and the other for students.

In this study, the focus groups were presented with recurrent themes. The discussions were generated from these issues that were brought up in the initial interview but were not fully resolved. Thus, pertinent highlights served as the starting point and the mediator only intervened when it was necessary. No structured questions were given to the participants except in instances when the theme to be discussed was introduced.

3.5.3 Document Analysis

A document is a written text. It is something authentic that we can read and which relates to some aspect of the social world. Official documents should be read as objective statements of fact, but they are themselves socially produced. Guba & Lincoln (1981:228) define a document as “any written material other than a record that was prepared specifically in response to some request from the investigator”. Documents must be studied as socially situated products (Scot, 1990:34).

Document analysis is a social research technique that is used as an instrument for obtaining authentic documentary evidence to support and validate facts stated in a research. Bowen, (2009) explains that document analysis is a vital research instrument which in its own right and is an invaluable part of most schemes of triangulation.

“Methods of handling documentary sources are not different from those applied to other areas of social research” (Ahmed, 2010:3). The exercise involves analytic reading and review of volumes of written material. It involves a thorough analysis of documents

produced within the confines of social practices, taking different forms from the written word to the visual image. The importance of the document may be found in the item and also the social functions, interpretations, effects and uses that may be associated with them. Thus, document interpretation by the researcher is made to attach voice and meaning to a topic. An analysis of documents entails transforming content into themes familiar to how focus group or interview transcripts are analysed. This is valuable to the researcher to extract the relevant portions that can be deemed as statements of facts to validate individual objectives.

Analysis of documents within the institution was done throughout the research. I analysed among other things policy statements, minutes of meetings (especially meetings held with industry), the curricula and circulars. Information drawn from the document analysis was triangulated with information from interviews.

3.5.4 Observations

Observations are a fundamental way of finding out about the world around us. Observation is more than looking hence, it should be done systematically. That is, the observer should selectively attend to what is perceived. It should be recorded to allow the information to be analysed and interpreted. Fox (1998) states that observation is not just recording of data from the environment. When we observe, we are active and alert, not passive recipients of data like a tape recorder or video camera. Our brains are engaged as well as our eyes and ears, organising data so that we can make sense of it. Thus, the ability to perceive is part of our human observation (Fox, 1998). Observation measures behaviour directly, not reports of behaviour or intentions.

In observations, the objective is to collect data in a natural setting. The observer notes things such as what people say, do, their location or even mannerism. Observations are unavoidable as the researcher would involuntarily interact with phenomenon of interest. Observation can yield information which people are normally unwilling or unable to provide (Kumar and Ranjit (2005), Dawson (2002). As an observer, I interacted with the participants and took note of any non-verbal cues that were made by the participants

during interviews. I did not intend to carry out a complete participant observation. However, care was taken to ensure objectivity. I used observations in studying human behaviour in their personal and professional capacities. Conclusions were drawn from these observations in order to trigger proper explanations and understandings and in order to come up with predictions (Kelly 2006). Again, information gathered through observations was for triangulation purposes.

Kelly (2006) emphasises that when conducting a study, we need to go beyond the subjective and the impressionistic. However, we need to be wary of and, if possible, thrush out bias by being logical and critical about our procedures so as to subject them for public scrutiny hence enable others check the bases upon which we reach our conclusions. To augment what Kelly (2006) advocated for, I tried as much as possible to be professional and approach everything without bias. This was also done during document analysis.

3.6 PROCEDURES OF ENHANCING TRUSTWORTHINESS AND CREDIBILITY

Validity in qualitative research aims to ascertain the worthiness, accuracy in reflecting the situation and certainty in establishing whether research findings are supported by evidence. Savenye and Robinson (2003) argue that holding variables in constant in “natural” settings is rather a mammoth task. Hence, the importance of giving a full description of the research site and subjects, data collection devices and procedures as internal validity can be ascertained through interpretive validity and trustworthiness. In this study triangulation and bracketing were brought in to complement interpretive validity and truthfulness.

3.6.1 Interpretive validity

Interpretive validity refers to the degree of accuracy attached to the data interpretation and conclusions so as to portray the subject or phenomenon’s ‘reality’. Altheide and Johnson, (1994) refer to four dimensions to interpretive validity namely; worthiness,

contextual fullness, research positioning and reporting style. The validity of the researcher's interpretation is ascertained by the level of acceptance it gets from other researchers.

I ensured that interpretive validity is achieved through presentation of solid descriptive data. Also, triangulation was used as a tool to solidify the validation since no cross case comparison was made (Denzin and Lincoln 2003). This was done in the midst of contemplation that several participants were examined and in some instances without the consideration of a comparative analysis. Remeyi et al. (1998) suggest that construct validity can be enhanced through the use of multiple data sources, establishing an identifiable chain of evidence, and having a draft reviewed by the key informants. It is in this aftermath, that a variable number of key informants were placed under study and cross examined and observed at the same time. Thus, in order to ensure validity, triangulation was done.

3.6.2 Trustworthiness

Guba & Lincoln (1985) argue that trustworthiness of a research study is vital in assessing its worth. Trustworthiness entails establishing the following four constructs. Credibility; (which entails confidence in the facts of the findings), Transferability; (revealing that the research findings can be applied in other circles), Dependability; (the findings are consistent and could be repeated), and Confirmability; (referring to a level of neutrality portrayed in the findings and how far the findings were not influenced by the researcher's personal interests, bias or motivation).

To achieve the outlined criteria, I opted for the use of triangulation in order to ascertain credibility and Confirmability. Transferability was achieved through a thick description. Shenton (2004) endorsed the above constructs outlined by Guba & Lincoln (1985). The credibility given to a study is improved through the triangulation of data analysis and conclusions. Also participants' perceptions were verified in a systematic manner; and the project's data chain of evidence was established (Gall, Borg and Gall 1996).

3.6.3 Triangulation

Triangulation is a technique used in qualitative research to check and ascertain validity through a multi-dimensional question analysis approach. Patton (2002) advises that there is a common misconception that the aim of triangulation is to arrive at consistency through data sources or approaches. In Patton's view, these inconsistencies should not be seen as diluting the evidence, but should be viewed as a platform to unearth deeper meaning in the data. Richards (2006:91) and Cohen and Manion (2007:269) regard triangulation as a process by which two or more strategies of data collection are used in a study of some component of human behaviour.

Richards (2006:91) describes triangulation as the technique by which "several methods (data sources, theories or researchers) are used in the study of one phenomenon". He goes on to argue that there are four different forms of triangulation. These are triangulation of data, investigators, theories and methodologies. In this research, I undertook to use a combination of data triangulation and methodological triangulation. Data triangulation involves using different sources of information in order to increase the validity of a study. These sources were staff, students and industrialists. Interviews were conducted with each of these groups to gain insight into their perspectives on programme outcomes. During the analysis stage, information given by the various groups was cross examined with that from another group, to determine whether there were any conflicting notions or whether they were all in agreement.

Methodological triangulation calls for the use of several different methods to study the programme. For instance, results from focus groups and interviews were compared to see if similar results were being produced. If the conclusions from each of the methods are the same, then validity is established. I settled for using methodological triangulation in its two main form; Within-method (intra-method) triangulation and between-method (across method or inter-method) triangulation. Maxwell (2005:8) maintains "within method triangulation, a researcher adopts different strategies but stays within a single paradigm; for instance, participant observation and open-ended interviews can be used

together in one study”. The between-method triangulation is used to confirm the findings generated through one particular method by another.

I compared findings from document analysis with findings from participant interviews, focus groups and observations. This was done in order to improve validity and trash out biases inherent in one perspective. The benefits of triangulation include enhancing confidence in research data, creating innovative ways of understanding a phenomenon exposing unique findings, challenge or integrating theories and depicting a clearer understanding of the problems (Thurmond, 2001:254). These benefits largely result from the diversity and quantity of data that can be used for analysis.

3.6.4 Bracketing

Tacking into cognisance the fact that I am stationed at the institution under study, it was necessary to take all precautionary measures to curb any bias that might manifest in the study. As Simon, (2011) puts it, one’s cognitive responses cannot be fully discarded when carrying out an investigation however, bracketing was employed to minimise bias. Bracketing is a process where you create a distance from previously held theories and assumptions in order to become a non-participatory observer of conscious experiences of the world (Bertelsen, 2005 cited in Simon, (2011). From the Husserlean (Thurmond 2001) philosophical stance, only from the mindset of suspended judgment can inquiry progress unchecked from covered assumptions about the nature of the phenomenon and conditions that are observed. Thus, bracketing can be taken as an ability to view an experience as it presents itself without using pre- conceived ideas to look at it.

According to Stewart and Mickunas (1974:36), “the researcher should not base insights on traditional or well established theories (or prior conclusions) but on immediate insights into the phenomena themselves”. It is the total involvement with a phenomenon that not only allows one to be objective, but represents the purest, richest form of objectivity (Husserl, 1964 cited in Stewart and Mickunas 1974). Thus, bracketing

involves a phenomenological reduction. That is a process to establish a non-judgmental study that will not hamper the perception of the phenomenon at the centre of the study. My position has been explained in chapter one and it has been taken to ensure validity is enhanced.

3.7 DATA ANALYSIS

The research was prone to qualitative analysis processes. Saunders et al. (2009:490) maintain that because of the diverse nature, there is no standardised procedure for analysing such data. Despite the rigour, it is still possible to group data into three (3) main types of processes namely; summarising (condensation) of meaning, categorisation (grouping) of meaning, structuring (ordering) of meaning.

I adopted a thematic analysis of the documents, semi-structured interviews and focus group interviews. Creation of data sets, themes, categorising responses and discerning conclusions was done. To create categories for the thematic analysis, transcripts were read several times and texts that show commonalities were noted for category development. A list of broad categories was developed and expanded or narrowed as the analysis progressed (Thody 2006:84). To assign data to categories, texts that closely resemble the category meaning were used as the unit of coding. Data generation, data analysis and the development and verification of propositions was taken as very much an interconnected and interactive processes (Saunders et al. 2009:488).

3.7.1 Inductive Approach to Research

Data analysis can either be inductive or deductive or a combination of the two. Because of the qualitative nature of the research, I settled for inductively based analytical procedures.

Induction entails “gaining an understanding of the meanings humans attach to events, a close understanding of the research context, a more flexible structure to permit changes of research emphasis as the research progresses and a realization that the researcher

is part of the process” (Saunders et al. 2009:127). The analysis strategy involves collecting data and then exploring to take note of which themes or issues to follow up and concentrate on (Glaser and Strauss, 1967; Strauss and Corbin, 2008; Yin, 2003). Inductively based analytical procedures include data display and analysis, template analysis, analytic induction, grounded theory, discourse analysis and narrative analysis.

In this research, I employed analytic induction and narrative analysis. Inductive analysis, was used when analysing verbal and written material, and this was done through a cluster of codes to minimise volumes of verbal or print material into more manageable certain behaviour patterns and gain insight. I went through all the processes of data collection, developed analysis and organised the presentation of research findings. Explanations and specifications of individuals under study were presented so as to ensure that lessons are drawn on whether graduateness and employability are observed.

3.7.2 Analytic Induction

Yin (2003) equates analytic induction to explanation building which entails attempts to develop an explication during data collection and analysis rather than testing a predicted explanation. Johnson (2004:165) defines analytic induction as “the intensive examination of a strategically selected numbers of cases so as to empirically establish the causes of a specific phenomenon”. As a way of analysing qualitative data, an inductively led approach starts with a less defined explanation of the phenomenon to be explored. The explanation used as the basis is not based on an established theory. The proposed explanation is then tested through a purposively selected case study that allows the phenomenon to be explored. Because of the loosely defined nature of the explanation which needs to be reconstructed or that the scope of the phenomenon to be explained will be reduced, the cycle is started all over again. The process may go on until a refined explanation is derived that reasonably defines the phenomenon in relevant cases where you collected and analysed data.

As an inductive way of collecting and analysing data qualitatively this, process has the capability of leading to the development of well-grounded explanations. In this way, analytic induction encourages the collection of data that are thorough and rich and based on the explored actions and meanings of those who participate in this process, whether through in-depth interviews or observations, or some combination of these methods.

Although the approach yields a thorough and rich study, it is likely to be highly time consuming and resource intensive. In order to contain this, I cut short some interviews and reduced the number of interview questions addressed to each participant. However, the depth of the questions was not compromised and consistence was maintained throughout the interviews. A shoe-tight budget was also implemented where material, human, finance and time was maximised in their use and as in human resources, and experts were consulted to ensure no delays were made to get to the bottom of the issue under discussion.

The approach may take a long period of time and can be expensive in terms of resources. It is also likely that this approach combines some elements of a deductive approach as one seeks to develop and test the applicability of a theoretical position through subsequent data collection and analysis. Thus, in practice a combination of the inductive and the deductive elements is likely to prevail.

3.7.3 Narrative analysis

A narrative is regarded as an account of an experience that is told in a sequenced way, depicting a sequence of related events that when grouped together, are essential for the narrator and which convey meaning to the researcher (Coffey and Atkinson 1996). The narrative structuring ensures that the data are organised both temporally of the research participant (Kvale 1996).

Narrative analysis focuses upon the stories told during the interviews, working on their structures and plots. The analysis can also be used to create a coherent story from the data collected during an interview. Narrative analysis therefore allows the nature of

participant's engagement, the actions that they took, the consequences of these and the relationship between the events that followed to be retained within the narrative flow of the account without losing the significance of the social or organisation context within which these events occurred (Saunders et al. 2009:497). Narrative structuring as a story has a beginning, middle and end, and usually follows a traceable structure. The following elements are prevalent, what the story is about that arose from this, the significance of these events, and final outcome (Coffey and Atkinson, 1996; Kvale 1996).

Saunders et al. (2009:514) point out that narrative analysis may serve as a way to explore linkages, relationships and socially constructed explanations that naturally emanate within narrative accounts, where splitting of these into categories and themes would therefore be rendered unnecessary. Researchers, who consider the fragmentation of data to be inappropriate, advocate that the researcher should retain originality of the data that they collect and start analysis using verbatim transcript or complete sets of notes that are produced (Musson, 2004). The structural elements that are present in narratives may assist one to make an analysis of each narrative account and perhaps to compare the course of events in different narratives, where there is likely to be some analytical benefit in comparing these. Gabriel and Griffiths (2004) point out that stories and storytelling have been often used in organisational research in recent years.

In this study, story and storytelling was used to understand users and to communicate the respondents' and the researcher's real experiences in the study. Storytelling is a powerful and enduring means of communicating that has widespread appeal. In the study, it enabled the presentation of participants' utterances and gestures noted through observation.

3.8 ETHICAL CONSIDERATIONS

Saunders, Lewis and Thornhill (2009:183) state that research ethics refer to the appropriateness of one's attitude and behaviour in relation to the rights of those who become the subject of your work or are affected by it. Cooper and Schindler (2008:34)

define ethics “as the norms or standards of behaviour that guide moral choice about our behaviour and our relationship with others”. Research ethics therefore relate to ideas on how we formulate and clarify our research topic, design our research and gain access, collect data, process and store our data, analyse data and write up our research findings in a moral, sound and responsible way. Research should be both methodically sound and morally defensible to all those who are involved. Social norms indicate the type of behaviour that a person ought to adopt in a particular situation (Robson 2002; Zikmund 2000).

According to Churchill (2004:1039) ethics is a concern with the enhancement of moral standards by which situations can be judged ...in which there is a danger of actual or potential harm to an individual or group. I addressed all general ethical issues which include observing the privacy of possible and actual participants, voluntary nature of participants, getting consent and not to force anyone to participate. Participant information was kept confidential and they remained anonymous according to the stipulations of Churchill (2004:54), Coolican (2009:594). Effort was made not deceive respondents through misidentification or falsifying the purpose of the study (Strydom, 2000:25).

I took cognisance of what Saunders et al. (2009:195) refers to as the pitfalls of internal/practitioner researchers. One of these focuses on the way I need to relate with those from whom I need to gain cooperation in order for them to open up to my request for accessing their data. Any status difference (whether one is relatively junior or more senior) can have a negative impact on the intended data collection. Examples of these shortcomings are organising focus groups through one's managerial status, or observing interactions during meetings without declaring one's research interest. One needs to ask whether the approach will produce trustworthy data, than declaring one's real purpose and acting overtly. Other issues considered were the existing nature of one's relationships with those from whom data would be collected, prevailing management style within the organisation and the time and opportunity that one has to attempt to develop the trust and confidence of those intended participants so as to gain their cooperation.

I took into account all ethical considerations spelt out in the University of Fort Hare (UFH) Education Faculty handbook and the Goven Mbeki Research Development Centre (GMRDC) ethics policy. Over and above everything pertaining to ethical issues, the following considerations were strictly observed:

- a) Informed consent; before participants participated in the research project, I got their informed consent. Herein, participants were expected to be informed or given instructions. This means that I made sure that they all knew exactly what they were being asked to do, and what the risks were before they agreed to make the undertaking. An information sheet with all the instructions was given to participants and they were requested to sign the consent form.
- b) No pressure on individuals to participate; I did not offer incentives to participants. If by any chance the participants failed to meet for a scheduled appointment, I politely requested and re-arranged for another appointment if they were still interested. However, the participants were not pestered and were free to opt out when they felt like doing so.
- c) Respect for individual autonomy; even if participants had signed consent forms, they were free to do as they pleased. That is, no restrictions were made to those who want to opt out. They could also request that the data they had given be removed from the study.
- d) Avoid causing harm; I made sure that participants were not harmed in any way and that the study was not jeopardised.
- e) Maintain anonymity and confidentiality; effort was made to ensure that the participants' names and information rendered were not disclosed to anyone else since I had noted that other information can help to identify people. For example, job titles and age could be used to identify participants, as such, inscriptions of such information were not written on the interview questions. To distract attention on length of service, I made a deliberate effort to mix senior and junior members. Information which was included in the biographic data is that information which is privy to a few individuals and is not for public consumption. For example, rarely do people worry about the length of service of students. In the study, I

considered the information vital as it can authenticate some claims participants make during interviews.

3.9 METHODOLOGICAL CHALLENGES

Misconceptions of study concepts: the major perceived challenge for the study is the fundamental, introductory concepts which were difficult to explicate with clarity to the participants. The concepts gradueness and employability caused problems with the participants who had their own definitions which are not in accord with the ones in the study.

Interviews proved to be time consuming. The high level of probing expected during the interview in order to get to the bottom of the matter needed patience. The time factor was another limitation. It was exacerbated by the manipulation of all the research instruments of the study, and the huge volume of records to be dealt with during the data collection, analysis and compilation exercise. In accordance with Bernard, (1988), I opted to stick to the core instruments, used a tape recorder and set time schedules, however, at times some tapes would not play or were inaudible during transcription and I had to go back to the field. The thematic analysis needed time and after reading through a transcript several times I realised the need to engage a private coder and cross check whether what he came up with was in tandem with my own findings.

Although I managed to access the documents I needed for analysis, some of the custodians of these documents were not very cooperative. It took quite some time before the documents were released. Lastly, the fact that I am stationed at the institution where the study was conducted presented limitations. Anticipating challenges in the form of bias, all contingent measures were taken care of and in order for the study to be as professionally as could be. However, as Saunders et al. (2009) put it, 'the internal researcher' plight caught up with me in that some participants were too familiar me that they failed to accept that I was interviewing them in a different capacity than the one they know.

3.10 CONCLUSION

The chapter outlined the research methodology used for the study. The qualitative nature of the study called for relevant approaches such as the IPA, the data collection strategies such as interviews, observations, focus groups and document analysis to be used and these were discussed in depth in the chapter. Blending the techniques helped reduce the inherent shortfalls of the methods to improve on validity and reliability. Challenges surrounding the methodology used including the analysis tools were also explained. The population and sampling strategies were spelt out. In the next chapter, the collected data is presented, analysed and interpreted.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

Chapter 3 discussed the research design, data collection methods, as well as the analysis strategies for this study. Chapter 4 presents analyses and interprets the collected data. That is, the chapter synthesises data collected from the three sets of participants in the sample. This includes information from observations and document analysis. Although interviews and focus group discussions for the three groups were held separately, the thematic analysis overrides the distinction between the groups of participants. Group identity can only be ascertained from the code names given to all participants. That can only be so in cases when the participant's direct words were used. In cases where information is presented in the form of a graph, table or chart, the meaning of the presented data is outlined and from it valid generalised comments and conclusions are drawn vis-a-vis the conceptual and theoretical framework of the study. Analysis and interpretation of data takes into cognisance the research question.

4.2 BACKGROUND TO PARTICIPANTS

The issue of gradueness and employability cannot be thrown to any man. It is a topic best dealt by the informed or rather the technocrats in the field. It is this line of thinking that has propelled the need to provide a biographical profile of the participants. I am of the opinion that knowing a little more about the interviewee enables us to perceive them in a different light. That is, we begin to realise the contribution made by these people either in industry or in education, thus through the biographical data, a better perspective is portrayed. To the ordinary reader, it may appear as if the information has no bearing on the research topic but, serious considerations have been made and I have seen it fit to include the background information. It is assumed that the attributes of

the participants influence their behaviour and answers to the interview questions. As already alluded, knowing a little about the participant influences the perception one has about the participant and gradually the interpretation made in relation to the question.

In order to get vital information that covers the field in full, I worked with three distinct groups namely; college staff; comprising of the lecturers, the institutional examination coordinator and the Vice Principal. The second group was made up of students and the third group was made up of captains of industry and commerce. The profile of participants is looked upon in terms of group, gender, educational attainment and length of stay in the organisation.

4.2.1 Participants by group

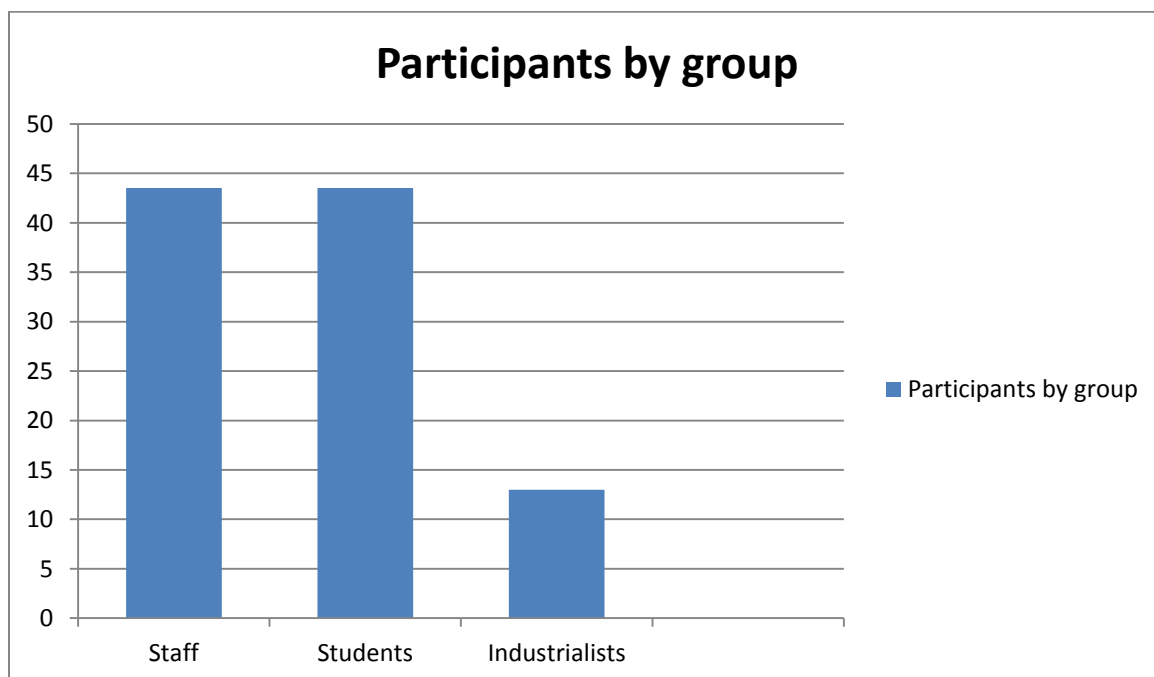


Figure 4-1: Participants by group

The three groups were handled separately. The rationale behind coming up with these groups was to collect data from different perspectives hence, be exhaustive in the analysis. Although students are key players in the research, I felt that involving both the

representatives of higher education (staff) and the 'employer representatives' (industrialists), would give the research a balanced look.

Although it may appear like there is a balance between the staff and the student sample, it should be borne in mind that staff covers the lecturers, the examination coordinator and the Vice Principal. The latter was brought in because according to the structure of the institution under study, it is the Vice Principal who oversees all academic issues. The mere fact that the research touches on curriculum issues automatically meant his involvement.

Similarly, selection of student participants followed a particular criterion that would enable them fit into the study. The research sought to ascertain gradueness and employability hence the need to carefully select participants. I consciously settled for Bachelor of Technology students for no other reason other than the fact that these students are already polytechnic graduates. In order for one to be enrolled for Bachelor of Technology, one ought to have graduated at National Certificate (NC), National Diploma (ND) or Higher National Diploma (HND) level. These artisans are already trade tested and hold practising certificates. The decision was made on the premise that it takes a graduate to discuss issues of gradueness and employability, and the topic is equally best dealt with by those who at one time have been employed. Taking students enrolled for lower courses would create a complication in that they are not graduates and secondly, most of them have never been employed, as such, may not be able to talk about things like employer expectations.

The sample representing industry and commerce was interviewed and these were picked from local established companies within the college catchment area. These organisations take students for attachment and also recruit college graduates. The participants were in a position to make contributions that can be referred to several years back. I picked on seasoned artisans with more than ten (10) years in service.

4.2.2 Participants by Gender

Table 4-1: Participants by Gender

GROUP	MALE	FEMALE	TOTAL
Staff	8	2	10
Students	6	4	10
Industrialists	2	1	3
TOTAL	14	6	23

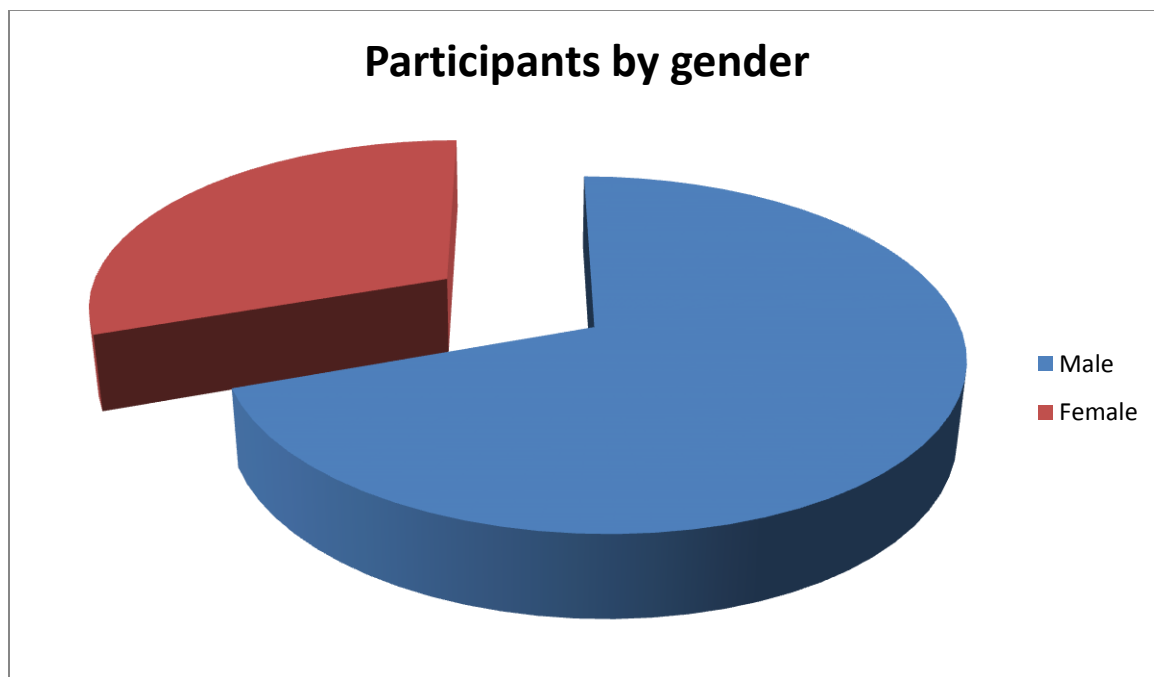


Figure 4-2: Participants by gender

I found it necessary to include this background information on gender about the participants in order to dispel the notion that engineering is a domain for males only. Participants were not selected by gender, but criterion set which intends to pick out the

best and the richest in information. The fact that in all three groups women were represented reflects that they are now playing a pivotal role in engineering.

4.2.3 Staff participants by qualification

I chose to include the qualifications of participants based on anecdotal but widely practised observation that people tend to listen differently when they know the qualification one holds. In many circles when one speaks in public, the audience usually asks 'who is he'? The implication in most cases is what does he hold or what does he do in life? Focus was given to the lecturers and relevant administration staff. The institution under study specialises in technical and vocational education. All the lecturers that were interviewed hold Journeymen class 1 certificate, training qualifications plus others. The distribution is as follows; Three (3) participants had Masters Degrees. Four (4) had Bachelor of Technology degrees, Two (2) held National Diplomas and only one (1) had a National Certificate.

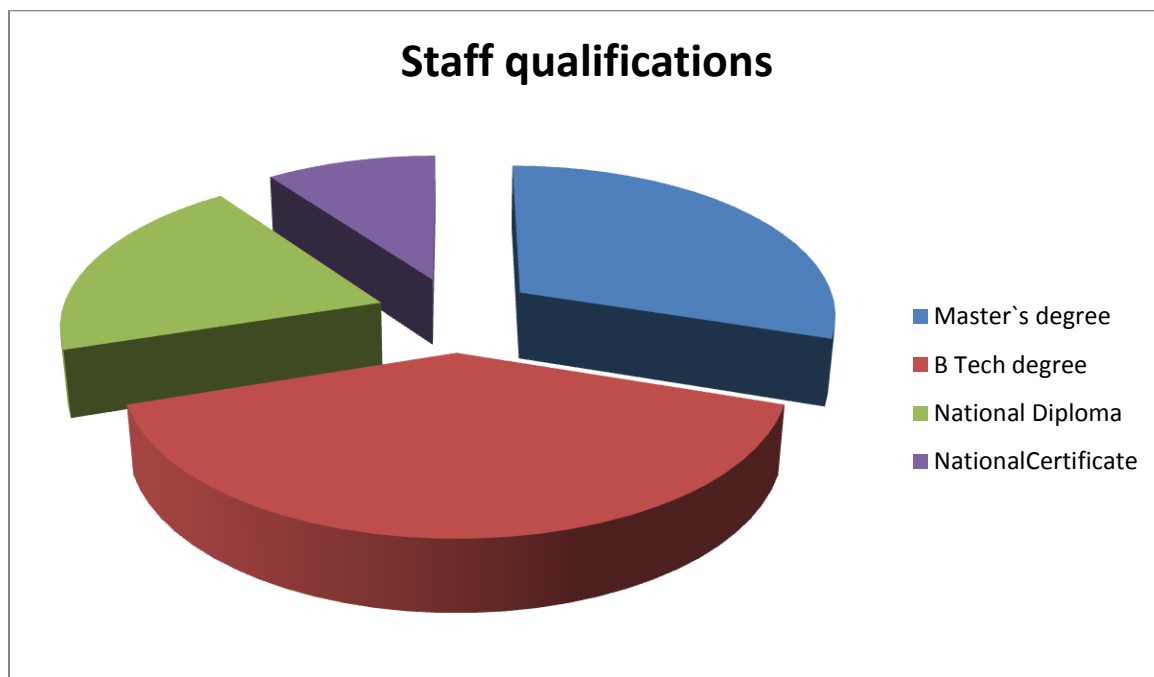


Figure 4-3: Staff qualifications

4.2.4 Industrialist/Captains of industry by qualifications

In order for the research to be balanced, I purposively picked on Industrialists to represent the employers. Only those in management positions were chosen on the basis of their ability to influence the employment of graduates. Qualifications were varied. However, qualifications of interest to the study were engineering qualifications all other qualifications were not noted as they do not have a bearing on the study. Hence, only these qualifications are reflected as I felt that they might aid in providing information about the discipline under study.

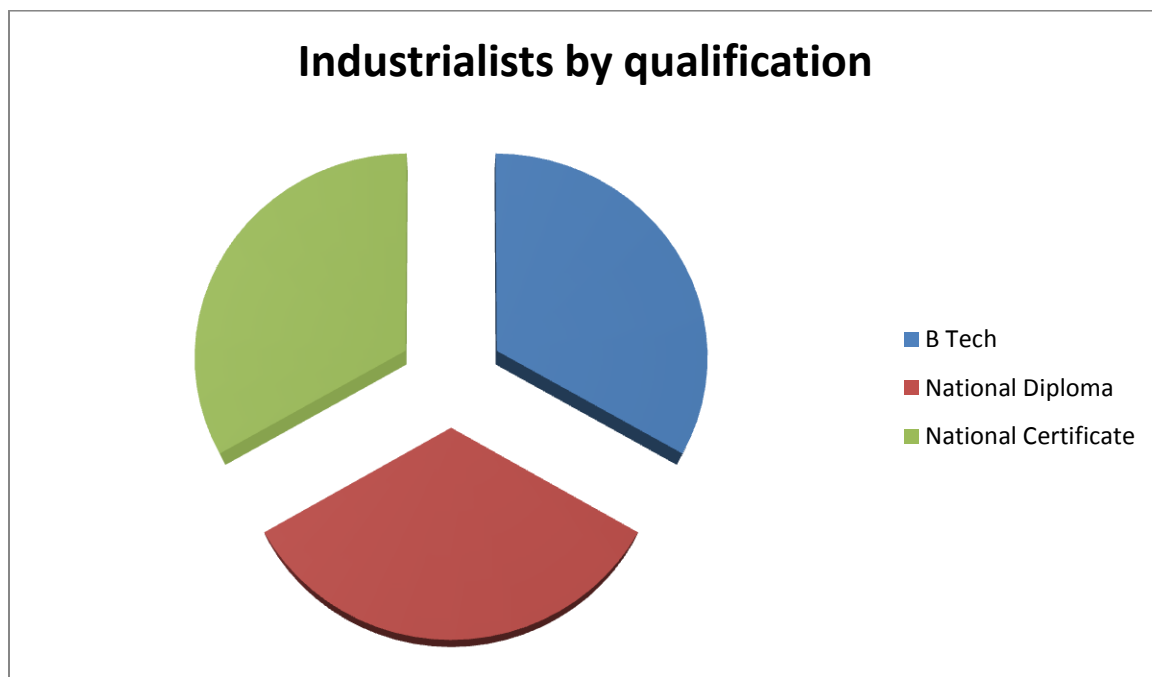


Figure 4-4: Industrialists by qualifications

4.2.5 Staff participants by experience

Length of service was looked at from two angles. Firstly, service in higher education and secondly, service in industry (trade related occupation).

The participants, who are represented by letters A1 up to A10, have vast experience ranging from five (5) years to twenty five (25) years. It is hoped that the experience is indicative of the richness of contribution made to the research.

The first column for each participant represents the time the participant has served under the Ministry of Higher and Tertiary Education in a lecturing or administrative position. The shadow in the same table reflects the experience of those same participants in occupations related to their trades (industry). It reflects that they have worked in industry and are experienced to talk about production because they have been in it. However in some instances because of the critical shortages in the trade, some people were recruited without industrial experience.

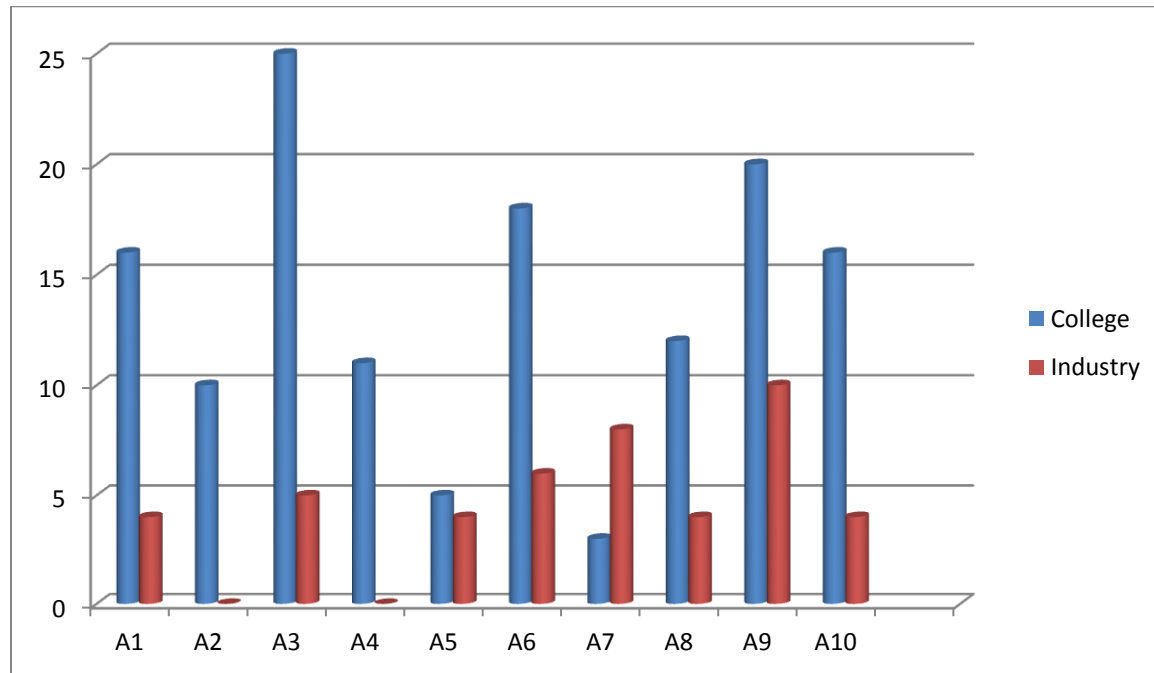


Figure 4-5: Staff participants by experience

4.2.6 Student participants by trade

The biographical data for the student participants reflect a vastness of experience. The students are from various fields ranging from electrical engineering, automotive engineering, and mechanical engineering and civil and construction engineering. The

broadness of the fields was deliberately made in order to bring in a diverse pool of experience

Table 4-2: Student Participants

Participants	Gender	Years of training	Trade
B1	Male	4	Fitter machinist
B2	Female	4	Turner machinist
B3	Female	3	Refrigeration
B4	Female	3	Electrician
B5	Male	4	Auto - electrician
B6	Female	4	Vehicle body builder
B7	Male	4	Precision machinist
B8	Male	3	Electric power
B9	Male	4	Construction
B10	Male	3	Motor mechanic

The information pertaining to trades can also be presented graphically in order to reflect how the participants represent the various engineering disciplines within the institution. Mechanical engineering had three participants distributed as; turner machinist, refrigeration and fitter machinist. In automotive engineering we had a motor mechanic, precision machinist, a vehicle body builder and an auto-electrician. Only one participant was picked to represent the Civil and Construction industry. The two students under electrical engineering represented electric power and instrumentation. This information is presented in the diagram below.

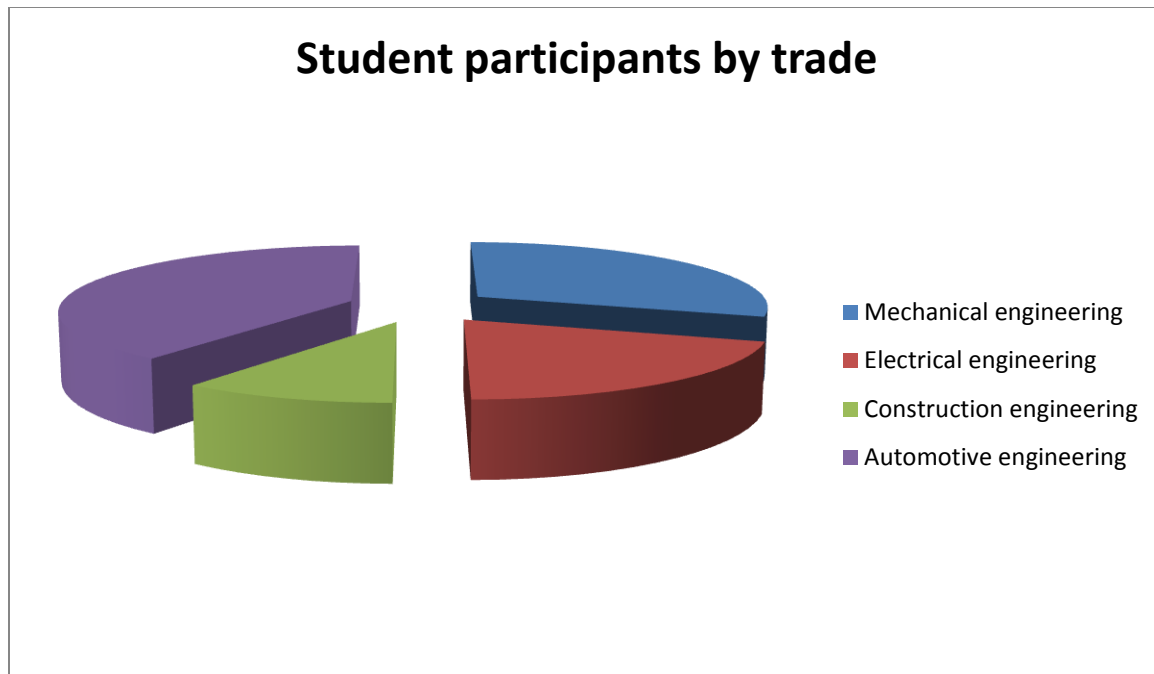


Figure 4-6: Students participants by trade

It should be noted that the participants hold other qualifications besides their areas of specialisation. However, common among all participants is the fact that they hold practising certificates and all of them have been classified as class 1 journeymen. For one to be awarded a journeyman status, he/she would have completed training and have been awarded a certificate by the National examination board for higher education. The incumbent is then trade tested by the department of industrial trade testing and awarded a first class certificate.

All student participants were tasked to ascertain the duration of the training they had received from tertiary institutions of learning. Interest in this aspect was necessitated by the fact that the level at which the research was pitched for the participants, expects one to have received initial training and trade testing. This is in line with purposive sampling which allows conscious selection of participants (Cohen and Manion, 2007; Given, 2008). This means that all the participants were qualified artisans who also hold class 1 skilled worker certificates. The reasons for picking on this group of students was to enable us trace their gradueness since they had gone through the system and graduated. Through purposive sampling, we are of the opinion that the level at which these students are studying gives them a certain maturity that is not found in under

graduates (Cohen and Manion, 2007; Given, 2008). More so, most of them come for the degree programme after meaningfully serving in their trades for some time. Thus, the students have college exposure at two levels. Firstly, when they first enrolled for initial training and then when they enrolled for the degree programme. At the same time these students were employed mostly in industry. They were conversant with the system in industry and fully understand the expected levels of production. This was important because, when questions directed at employability were asked, these students fully appreciated the depth expected from employees by the employers.

The table below reflects the time in years that the ten (10) participants had been attached to an institution of higher learning. It might not necessarily be at the institution under study, but a combination of where they received their initial training and the present.

Table 4-3: Number of years in HE

Participant	Time in years
B1	2
B2	5
B3	6
B4	11
B5	16
B6	7
B7	7
B8	7
B9	10
B10	12

The table reflects that some students have been in the institution longer than others. This is because these people are employed by the institution. Thus, are familiar with the system as students and as lecturers. This is an advantage to the one carrying out the research in that these participants can provide rich information as some of them have

contributed to the moulding of some policies governing the institution and currently influencing training. Presented graphically, the information is as follows:

4.2.7 Students' length of stay at college

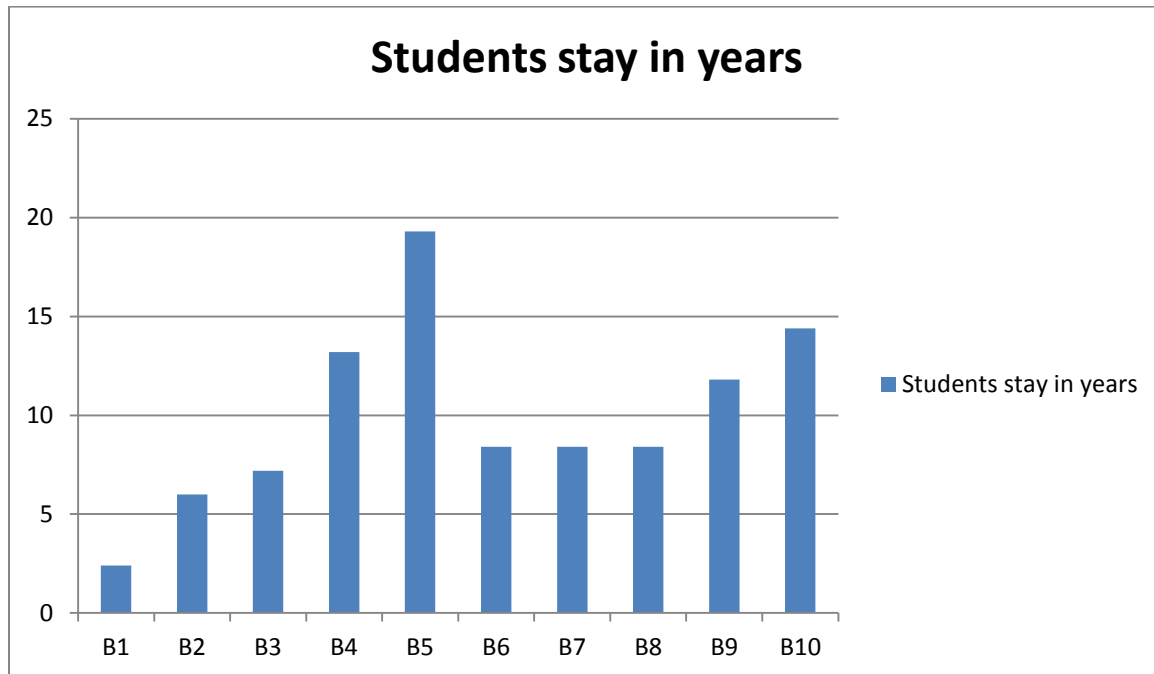


Figure 4-7: Students' length of stay at college

The graph reflects the vastness of experience among the students. Some of the students serve at various levels in industry.

4.2.8 Captains of industry by experience

In a bid to fully appreciate the contributions made by the participants, I felt it was necessary to know the person I was interviewing. The biographical information of the participants is presented in the form of graphs for quick appraisal.

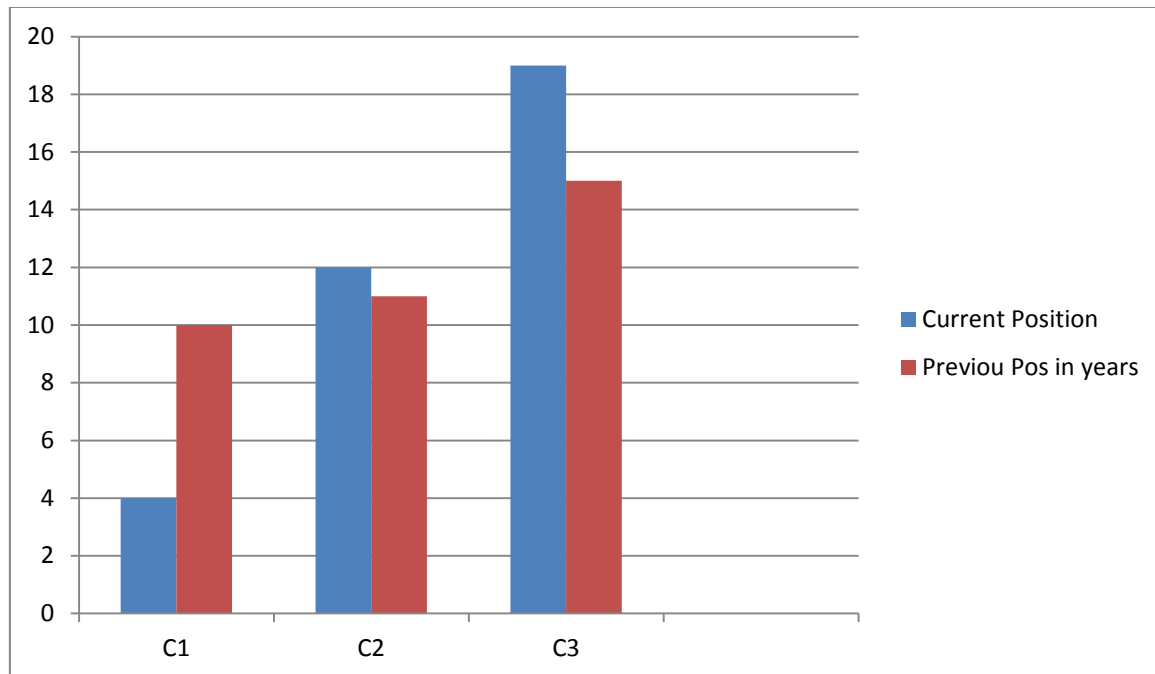


Figure 4-8: Captains of industry by experience

To get each participant's total work experience, one simply has to add the number of years for each participant's two columns.

4.2.9 Overview

It is against the above given background that semi-structured interviews were conducted in a bid to find answers to the research questions. The interviews were semi-structured to give the interviewees the opportunity to speak out and give out all the vital information they might have (Bernard, 1988). The key research question is "How can instructional delivery strategies and assessment tools embed domains of gradueness and employer expectations to ensure a balance between gradueness and employability?"

Data collected in this study, provides insights into answering the research question. In order to do justice to the question, the following sub-questions were used as stepping stones;

- 1) What are the strengths and limitations of current approaches to training and assessment in addressing the issue of gradueness and employability?
- 2) In what way does the curriculum (and assessment) take into consideration the acquisition of the gradueness attributes?
- 3) In what way does curriculum contribute to the perceived under preparedness of students for employment?
- 4) What is the link/connection/relationship between employer expectations and the outcomes of higher education in relation to employability?
- 5) What remedies can be implemented to ensure integration of discipline mastery, employer expectations and the empowerment of the graduate to contribute meaningfully to the world of work?

The sampling technique employed for the study was purposive sampling. The rationale behind the choice of sample was to pick participants that would be able to provide rich and deep information. Cohen and Manion (2007) maintain the strategy enables the researcher to identify various factors of interest and hand pick participants on the basis of their judgement and typicality. Purposive sampling enables the researcher to use his/her judgement to select cases that best enables one to answer the research questions. This is echoed by Neumann (2005) who argues that purposive sampling should be dependent on research questions and objectives.

Qualitative data analysis is as much an art as a science (Denscombe, 2007). As the study is qualitative, in-depth and semi-structured interviews were held. Data was also collected through focus group interviews. Participants were divided into three groups namely; college authority in the form of lecturers, examination coordinators and the Vice Principal giving us a total of ten (10). The second group was made up of ten (10) students drawn mainly from the Bachelor of Technology programme. The last group was drawn from the industrialists and three (3) veteran industrialists were interviewed. Separate questions were prepared for the different groups. Nonetheless, the three categories were all geared to answering the same research questions.

I used both note taking and tape recording to collect the data. I later played the tape to upgrade the notes during transcription. It was then possible to correct the notes and take note of non verbal insinuations made by the interviewees.

However, the three (3) categories were coded differently. These code names were maintained throughout the discussion for the identity of the participants. The first category covering college lecturers and authority was coded 'A' with the first participant in that group referred to as 'A1', then 'A2' up to 'A10'. The student group is coded 'B' with participants referred to as 'B1' up to 'B10'. The last category for industrialists is coded 'C' and the participants are referred to as 'C1' up to 'C3'. At no time were respondents ever referred to by their names or office titles.

In the subsequent sections, data is presented and analysed according to themes that emerged from responses from the sub-research questions. I opted to synthesise data from the different sources during presentation and analysis. Effort was made not to lose track of some important insinuations developing in the information.

4.3 SUB-RESEARCH QUESTION 1

What are the strengths and limitations in current training and assessment trends?

4.3.1 Introduction

I drew together data from three different polls to illuminate the participants' responses. This was motivated by the desire to answer the sub-research question presented above. The high volume of data enabled the extraction of themes from the participants' responses. Throughout the study a theme will be taken to mean the main idea or topic in a discussion. While the themes are reported as being discrete, there is considerable overlap among them. Furthermore, participants' responses to interviews often addressed more than one theme. In those cases, the interview data was presented where appeared to fit most logically. The presentation of data will be mainly a narration

of my analysis of the collected data, except in instances where the participant's exact words are used in order to consolidate an assertion.

4.3.2 Strengths in training

4.3.2.1 Preamble

In the subsequent discussion the term strength will be taken to mean resilience. That is, the ability to endure in spite of the prevailing situation. Strength enables one to overcome even in hard and trying times. Strength in training is regarded as those things that make the institution under study tick even in the face of all adversity.

4.3.2.2 Highly qualified personnel

In spite of the fact that participants were interviewed separately, most of them were of the view that generally teaching staff is highly qualified and this emerged as a major strength. In an environment where the minimum entry qualification for lecturers in engineering is a National certificate, it is interesting to note that the majority in the institution hold Master's degrees. Further scrutiny revealed that a competent staff contingent does not struggle in order to impart information. The general implied meaning of the participants is that with the high level of expertise around campus, impartation of high level skills was inevitable. It is regarded as strength in that students are prone to high quality knowledge which would always be readily available at their finger tips. More so, application of information and going beyond the information given would not be a problem resulting in the crafting of competent technocrats. The view that staff members are is echoed by participant A4 who says;

"...the institution's major strength is its human capital. Lecturers in this college are highly educated and have vast experience. All departments are manned by competent and highly qualified experts." (Participant A3, Interview, March 2014). Participant 1 concurs:

“...as far as human capital is concerned, our staff contingent is one of the best in the country”. (Participant A1, interview March 2014)

The assertions by participants reinforce the issue highlighted in the literature review that the human capital base whether it is for an organisation or a nation, is the basis for its overall economic and social development (Kohler, 1992, Todaro & Smith, 2011).

4.3.2.3 Internet connectivity

Another strength that was pointed out was the availability of internet to both lecturers and students. Connectivity entails access to the world by pressing a button. Internet empowers both students and lecturers. World trends are accessible to all and the library books would be augmented by resorting to the e-granary installed on campus.

Participants A1, 3, 4 and 6 echoed the same words on this;

“... Access to internet is one of our key strength. Students are able to do their work any time whether they are in the library or not” (Participant A1, A3, A4 & A6 Interview, March 2014)

In other words, participants regarded this as strength in that latest information can be accessed by both staff and students hence this facility enables research work to be done up to world standards. Training should equip trainees with skills to enable graduates tackle any situation related to their field that might arise in the long run. Little and Brennan (1996) point out that although teaching and learning in higher education is not only about learning for work, in most cases such learning is an important part of the aims and objectives of particular programmes of study. That is, learning for work may well include elements of learning at and learning through work. It is this blending of learning trade mastery and equipping graduates with life skills that the participants portrayed through reference to internet availability and ‘hands on’ training. The students are well catered for during both theory lessons and practicals. More so, being in touch with world trends makes the graduates more marketable. Through the internet, students

are able to connect with their counterparts anywhere in the world. Lecturers can explore the entire globe and provide students with the latest information in the field.

4.3.2.4 Training methods within the institution

A sentiment that was expressed in most interviews and also noted during observations was the diverse training methods that were employed by the trainers. I witnessed that during theory lessons, participatory methods were engaged. Effort was made to include all students in whatever class activity that was underway. The lecture method was mainly used when introducing a new concept. However, the diversity did not just end with theory lessons, even during practicals; effort was made to involve everyone. The large classes would be split up in order to ensure that every trainee has access to the trainer during demonstrations and also access to tools. Different classes were observed and the trend was the same.

Observing trainers at work validated their claim during interviews that they were experts in their trade. Methodologies appropriate to the situation were engaged. I also deduced that student concerns were taken seriously. Trainers focused on their students and offered assistance in areas where it was called for. They would sacrifice their personal time in order to assist the trainees. Participant 4 stated that: *“I get satisfaction from knowing that my students are ranked among the best. I need no reward for that. It just boosts my ego” (Participant A4, Interview March 2014).*

From such an utterance we can conclude that commitment and dedication flows within the institution. No coercion could make someone reveal this kind of dedication. The attitude shown by the participants is prevalent across the entire campus.

4.3.2.5 Training models offered by the institution

A strength revealed about the institution under study was the combination of two different models of training. Student participants indicated that they were either trained under the apprenticeship model or under the direct entry programme. Dave (2000) retrieved on 06/07/2014 defines an apprenticeship programme as one that combines

the practical component through on-the-job training with academic instruction (theory) for those entering the workforce. Apprenticeships can be considered as a full package in that they help individuals put their academic skills to practical use in various careers. Depending on the country, apprenticeship programmes can last up to four (4) or five (5) years. Most apprentices are paid, with the salary increasing as the apprentice completes parts of the programme.

In the country under study, a government department clears all the youth eligible for training before they are recruited by individual companies. However, a department in the Ministry of Higher and Tertiary education administers a fund known as the Zimbabwe Manpower Development Fund (ZIMDEF). It is from this fund that all training needs for apprentices are funded. The fund also provides allowances for direct entry students when they are on attachment. The participants narrated what transpires during their training and the general trend in their case is what I present below.

This type of training is done mainly under the auspices of a company. The apprentice is recruited by industry as per its specifications. They are sent to a training school within the industry to familiarise them with organisational policies and company expectations. Trainees are stationed at their respective organisations for three (3) years. In these three (3) years, learning/training is mainly practical. Training is conducted by training officers from the organisation and within the plant, the trainees are supervised by seasoned artisans. Participant B1 pointed out that in some cases; trainees are made to move from company to company in order to acquire the relevant skills. These trainees are sent to college for one (1) year to be equipped theoretically and sit for the examinations. At college they receive training like any other student. That is, besides the theoretical coverage, the students are also exposed to practical lessons. The students will be under the guidance of lecturers. Here they are exposed to instruction and assessment as per the expectations of the examination board. However, on going back to industry, the trainees are trade tested and given classes. That is, for one to be regarded as a qualified journeyman, he/she should be in possession of a skilled worker class one (1) certificate.

The remaining four (4) participants constituting 40% were trained as 'direct entry' students. Direct entry students are recruited on the basis of having passed the required subjects at 'O' level. They are affiliated to any organisation but the college. Students recruited under this programme can either be full-time or part-time. The full-time students are expected to complete their initial training for the National certificate in three (3) years. Part-time students take double the time. The model followed for the full-time students is one (1) year in, one (1) year out and the final year in. That is, they are kept in college for a full year covering theory, and then they are sent for industrial attachment for a year before returning to college during their third year. The students are exposed to more theory before they are assessed just like those under the apprenticeship programme. They write the same examination and are trade tested by the same people and given similar qualifications. Participants bemoan the change that has occurred to training over the years. Participants B3, B4 and B8 argue that, during the time they trained, although they were under the 'direct entry' programme, training was meaningful and classes only had a maximum of twelve (12) students. Resources were availed in abundance and students were free to practise in workshops to their satisfaction. Lecturers were highly motivated and well remunerated that some had to leave their jobs in industry to come and work in colleges. Their packages were just attractive that they would work hard in order to keep their jobs. More so, students would visit industry during lesson time to actually see what the lecturer was referring to. However, presently everything has changed for the worst as resources are scarce and lecturers are demotivated.

The issue of different *training models running concurrently denote flexibility* in the system. Those who are not recruited for training by companies are not disadvantaged. They can receive training under the direct entry programme and join the labour market as qualified artisans. The apprenticeship mode of training offers numerous advantages. These include; affiliation to industry; mentorship by training officers, artisans and lecturers; receipt of allowances from ZIMDEF. The allowance issue means that the trainees are more focused since they do not have to worry about upkeep and other provisions. The other advantages for the apprentices are centred on the perfection of skills by the trainee. The proverbial 'iron is used to sharpen iron'. Mentorship is done by

specialists under a conducive and appropriate environment. Students do not run out of tasks to do or resources, as production is going on.

The direct students portrayed an equally comprehensible situation. However, the narrations revealed that when resources are availed in abundance, the training model can also produce artisans who are satisfied and confident in their trades. The group of students interviewed did not view themselves as lacking in any way or different from their counterparts trained under the apprentice model. The only challenge is if inadequate resources are provided for training.

4.3.2.6 Observations by Captains of industry on student preparedness

4.3.2.6.1 Preamble

I analysed the unpublished minutes from symposium meetings held by the institution under study for the years 2010, 2011, 2012 and 2013. The reason why I developed an interest in these minutes is the fact that it is at these symposium forums that the institution opens its doors to Captains of industry. Symposiums present a platform for the outside world to interact with institutions without restrictions. When they get to campus, they make a tour of all the departments, familiarising themselves with the departmental activities. On their part, the departments showcase what they do and/ even exhibit some of the products produced by the students. After the tour a plenary session is held in which the visitors are allowed to air their views. Hence, I felt that such a forum would give rich information which would have been volunteered under very relaxed conditions.

Minutes from four distinct events were analysed. It was observed that the institution under study conducts its symposiums in July of each year. The volume of the delegates also reflects wide interaction as the number of guests fluctuated between forty seven and sixty. Representatives of universities and sister polytechnics as well as other Government Ministries were also present. At all sessions, the director of ceremonies explained to the house that such events were held to make industry and commerce in

particular aware of services and products that are offered at the institution. Members present were encouraged to be open as their contributions that would lead to the betterment of the system. Excerpt from the minutes reflect openness during discussions at such meetings. Both positive and negative criticism is given and the institution welcomes all.

From the minutes I observed the following which has been grouped into three themes; compliments, developmental remarks and reprimands. I believe each of the categories somehow contributes to graduateness and employability. I found the compliments and some of the developmental suggestions to be reflective of strengths within the training exercise. However, the reprimands will be discussed later under areas for improvement on p182. Below are some of the suggestions and recommendations from the Captains of industry presented and discussed in the befitting categories.

4.3.2.6.2 Compliments

In one of the symposiums held on 21 July 2011, a representative from Plan International implored the institution to work with the business community and even source for resources to use on training to enable it to produce a fully equipped product. More captains of industry gave their different opinions as minuted below:

- *The Captains of industries applauded a job well done in the Commerce Division. All the projects were so encouraging. Special mention was given to the software development in the ICT department and the assertive office hostess in the office management department who proved to be valuable assets who can handle all situations in industry. (Minutes 2010).*

The above excerpt reflects that the Captains touched on a number of things. Firstly, they were impressed by software development being done by the ICT department. It shows students were able to apply information and go beyond the information given. I enquired what it is that had been developed, and it was revealed that it was software used in the institutional library referred to as 'librasoft'. This was developed by a student in the ICT department. Another thing pointed out by the guests was that they were

impressed by the model office set up by the office management department. The skills exhibited by the student who manned the office left them convinced that she could be a valuable asset in industry. Thus, from what was said about these two departments, one can comfortably take note that the Captains commend the college for producing graduates who meet the standard. On their part, the students convincingly exhibited their potential.

I noticed that it was not only the Captains of industry who marvelled the good work that was being done by the institution but also the other delegates from sister institutions. To me, the assertion from the minutes given below reflects that at this particular institution, things were being done differently. Maybe as the Principal hinted in his address, they do 'go beyond the information given' which happens to be the theme of the symposium. To be torch bearers implies that one is emulated by other institutions. From the request to have college regalia sold to them we can conclude that these Captains of industry realised the good work being done by the institution and wanted to be part of it. Anecdotal evidence shows that it is very rare for people to associate themselves with something bad but with good. The remark given by a representative from a sister college that the institution under study was leading the pack in trying to provide sound education to the trainees speaks well of the institution.

- *The institution was complemented for being torch bearers in organising such events. Other institutions acknowledged that they too intend to emulate what was being done by the institution. However, it was also suggested that college T-Shirts be sold at such functions in order to market the institution. (Minutes, July 2011).*

4.3.2.6.3 Developmental remarks

The excerpt below shows that the whole exercise is not just about criticism. Even industry can learn something from the institution. The realisation that the students were capable of designing and producing machinery from scratch impressed the Captains. They recommended that students should be awarded for their creativity and innovation.

- *The Captains of industries suggested that an award should be given to the Bachelor of Technology student who designed a stock feed mixer. They were also impressed with other projects they noted to have been designed and built from scratch by students. (Minutes, July 2010)*

The suggestion was received with open arms. The address by the Principal reflected that the college was very receptive to suggestions. He highlighted that following the suggestions made the previous year; several lecturers were on staff development. Also, the college has adopted the suggestion that students be rewarded for their designs and winning projects at national exhibitions. He pointed out that the institution had since amended the suggestion to incorporate all who would have contributed to the design of the product. He also pointed out that plans were under way to ensure that the designs by students were patented to avoid theft by established manufacturers.

Another point that emerged from the minutes is that of library books. Books are an indispensable asset in the world of learning hence offering to provide them can be taken as willingness to give one a life. This reflects of team effort between Captains of industry and the institution. Overall guests showed concern by their willingness to work with the college authority in providing the best for the students. This is shown in the extract below.

- *Captains appreciated the amount of work implemented by the students and lecturers. The library was also appreciated but, the guests were quick to show dismay at the volume of books in stock. Suggestions were made that the college should appeal to the business community for assistance since some have books lying idle within their organisations. (Minutes, July 2011).*

4.3.2.6.4 Conclusion

From the above mentioned strengths, we can read that meaningful training is taking place at the institution under study. In line with the study, students are gaining attributes

that enhance their gradueness and employability. However there are limitations that are discussed below.

4.3.3 Limitations in training

4.3.3.1 Preamble

In order to come up with an objective assessment of the training strategies used in the institution under study, there is need to unearth its weaknesses. The two are complementary in most times.

4.3.3.2 Limited resources

In spite of different sample groups, the first set-back identified as negatively affecting training, was limited resources. When asked to clarify, participants gave seven different views on the issue of limited resources. These threads were given as; *shortage of classrooms and workshops, high enrolment, atrocious lecturer student ratios, mass lectures, shortage of tools and machinery, overcrowding and lastly outdated machinery.* Each of these variables will be explained in the following paragraphs.

One participant simply said “*the classrooms and workshops are not enough.*” One thing not clear enough was ascertaining whether these classrooms have always been inadequate. If that was the case, why then was it being brought up now? On further probing it was discovered that some members have not fully come to terms with the massive changes that took place in education after the attainment of independence and its effects. The rapid expansion in the education system after independence was not met with a similar expansion of the infrastructure. Enrolment in tertiary institutions skyrocketed in order to try and cater for those students who have completed their basic education, however, little was done to expand the infrastructure.

The second thread that I picked from the issue of limited resources was that of *high enrolment*. High enrolment impacted negatively on the limited facilities. A classroom that

would normally hold twenty to thirty students is currently holding up to ninety students. The same true of other structures on campus including the lecture theatres, halls of residence and even the workshops. The load is also straining the lecturing staff as the *student lecturer ratio is now atrocious*. In some instances, one lecturer is expected to handle a *class of ninety students (1:90)*. One participant expressed disappointment by pointing out that when he first joined the institution, the lecturer student ratio was 1:10. Presently, the situation calls for a 1:70 lecturer student ratio in some departments while some can go up to 1:90. All lectures have turned out to be ‘mass lectures’. However, when mass lectures have become the order of the day, we should question whether standards are being maintained. These lectures have to be conducted not in normal classrooms, as the volume is prohibitive but, in the great hall or lecture theatres and at times in open spaces. Comments from participants were emotionally charged.

“... enrolment is just unbearable. It is too high. Classes can have up to ninety students”. (Participant A4, Interview March 2014)

“One cannot get the satisfaction of a job done under such situations”. (Participant A1, Interview March 2014)

“What is happening is pure day light robbery. Students are being short changed and not getting their value for money”. (Participant A5, Interview March 2014)

The above statements by the participants are a clear testimony of the fact that there are some issues that management might take for granted, yet they negatively impact on training. They are things that can be noted by the person on the ground.

The thread on high enrolment is also closely linked to limited tools and overcrowding. Participants explained that the strain is most felt during practical lessons as challenges are experienced in terms of working space, tools and consumables. His exact words are;

“...tools and machinery are just overwhelmed...” (Participant A1, Interview March 2014)

The impact is most felt during practical lessons where students spend time queuing for tools and then go on battle for working space. Participants explained high enrolments

were not supported by increase in funds, as departments were still to make do with the same amount of voted funds or less as in most cases. Votes were reduced to pave way the for new departments.

Participants portrayed a scenario whereby the lecturer would be trying to demonstrate to the multitude of students, but only the few in front master what will be going on. An example given was that the department of Applied Sciences where *overcrowding* was rife. With several courses being offered in this particular department, no significant expansion has been experienced in terms of infrastructure for the past thirty years. All members of the department in spite of level and course share a single laboratory. They will all be crammed in different corners of the same laboratory for different lessons.

The impression I got from the above example is total restriction. I choose to use the term total because in my view both the lecturer and the student should keep themselves under check in terms of voice and movement. In the long run, I found this rather limiting in terms of scope and exposure given to the students, not to mention the quality of the graduate that would be produced.

Out dated machinery as an impediment to meaningful training was brought to the fore by lectures, students and captains of industry. Another participant ridiculed the use of outdated machinery. He pointed out that while mass education was a welcome development, it should have come with a commensurate allocation of funds. He pointed to one workshop in the institution in which students still use 'lithe' machines that were installed in 1982. The concerned member was worried about the relevance of such an outdated machine to today's industry that is technology driven. Besides the out dated machinery, some of it was said to be obsolete. Machinery phased out elsewhere might be dumped in institutions, as a result t, they would not be of any meaningful benefit. Participants C1 pointed out that;

"...institutions should be wary of the type of donations they get. Some organisations are in the habit of donating machinery that they would have phased out. Practises of this nature will not benefit much. Actually if institutions just blindly receive and use the phased out machinery, the students produced by such institutions would not fit into the

current field” (Interview, April 2014). Considering that the comment came from a representative of industry, I take her position to be indicative of the general stance of the other captains of industry. Training through the use of obsolete machinery will equally mean that the products are equally fitting to the present day technology driven industry.

In some instances students make do with models, as the machine remains a ‘book image’ to both the lecturer and the student. An injection of funds would enable the department to procure machines that are in line with today’s trends and make students use these whilst at college so that they will not be taken by surprise when they go to industry. This point was taken to be an extension of limited resources. If adequate funds were availed to the concerned departments, tools and machinery would be procured to cater for all the students.

We can take the element of shortage of resources from two angles. Firstly, the participants talked of lack of materials in terms of consumables for use by trainees during training. In this regard, the shortage becomes a hindrance to the training programme. Trainees fail to access some components of their training because the institution has failed to avail the necessary consumables. Secondly, we can detect a shortage of manpower for proper trade testing. This second shortage results in the bundling of trainees during assessment. Trade testing is also not done by experts as the trainees expected. Chances are the nitty-gritty of the trade might be overlooked in a set up like the one portrayed above. Anyone would be comfortable with a situation in which an expert in a particular trade is assigned to deal with only those trainees of the same trade. Other trades within the discipline should be reserved for their specified experts.

4.3.3.3 Lowering of training standards

Another challenge presented as far as delivery is concerned is the *large numbers of students per class*. The essence of enrolling large numbers is to provide education to a large number of people. However, instructional delivery has been turned into mass lectures. One to one tuition has become impossible. The present breed of trainees has

never witnessed it because of the prohibitive numbers. All they are used to now are what the participants refer to as 'abnormal classes' during their time of training. Proponents of mass education would argue that a trainer could use a public address system when addressing these large classes. However, surely negate the practical component of the course. Practical lessons are bound to be very strenuous for the trainer, in that the trainer would not effectively demonstrate to the class without dividing it into smaller manageable groups. This would then entail that much more time is spent on one thing. A one-off demonstration would mean that it is only those students positioned at the front of the class who will benefit from the exercise. It is the trainer who has to bear the monotony of repeating the same thing to ten or so different groups. Also, participants indicated that some tools by their nature are limited in numbers hence, not enough to go around all the students. This means that students do their practicals in turns to enable everyone to have access to machinery. However, the dictates of these expanded classes cannot be accommodated by the timetable that is already over strained by the inclusion of generic subjects.

On realising that participants were continuously repeating certain issues, I looked at them from a different angle and found out that they meant something else. The inferred meaning from the utterances is that the standard of training has drastically lowered. The participants explicated how the present situation reflects a mere shadow of the training they got during their time.

"Classes are now so large that it is difficult for the lecturer to have a one on one contact with the students. Infrastructure is so strained that some students had to conduct their theory lessons in one corner of the workshop while another class is using the same workshop for practicals" (Participant A1, Interview, April 2014).

"Imagine the noise and confusion in that set up. Remember these classes would have more than seventy (70) students each. The lecturer in the corner would be covering theory while the other would be covering workshop practice. The noise by the filling and machining is unbearable but what makes it worse is trying to conduct a theory lesson in that environment. More so, tools became very few that students have to scramble for them. Resources quickly ran out just because even the storerooms are not big enough

to store volumes as large as expected of them” (Participants B3, Interview, March 2014).

The scenario portrayed by the participants denotes a chaotic atmosphere which we can conclude is not conducive for learning. Although in some instances it is attributed to the introduction of mass education. The high enrolment and poor provision of training resources also lowers the standards of education. Training has been watered down. However, since no one talks about it, the students have no choice but endure the situation not knowing when it would be redressed.

Participants pointed out that the situation is exacerbated by poor remuneration for lecturers leading to massive *brain drain* which has affected training. Experienced lecturers have left for the proverbial ‘greener pastures’. The only seasoned lecturers left are the elderly, pensioners from other ministries like the army and fresh graduates from universities who will be literally learning together with the students. The fresh graduate lecturers possess bookish knowledge and have no ‘hands on’ experience. They can explain a concept very well but cannot satisfactorily apply it since they have never been to industry. Some of them are actually assisted by the apprentices since students would have more exposure than the lecturer. However, even the junior lecturers are not happy with the situation and lack the zeal to assist the students. Meaningful training is compromised in that a de-motivated trainer is made to handle extremely large volumes of students. Limited resources also mean that some students may have limited access to tools or other material to enable them to refine their skills.

4.3.3.4 Inadequate industrial exposure

The other theme I picked as affecting training was the fact that students have limited exposure. However, this notion mainly affects the direct entry students. The ‘direct entry’ programme entails that a student is at college during the first year then goes for attachment during the second year and then return to college in the third year. Participants’ views were hinged around this utterance;

"Attachment period for direct entry students is too little. Students fail to get the cutting edge refinement due to limited exposure." (Participant A8, Interview, March 2014)

During their year out, students are expected to acquire as much as possible from industry. However, respondents were quick to point out that the only challenge affecting this set up was the fact that not all students manage to secure attachment places on time. Some would only be attached for $\frac{3}{4}$ or $\frac{2}{3}$ of the year. Some might even experience challenges that would result in them repeating that part of their training. The effects of limited time are usually evident in the product. If the student gets exposure for a few months, it is difficult to acquire experience that one would acquire in a full year. In this regard one is justified in questioning the worthiness of the outcome of such a system.

4.3.3.5 Economy affecting training

Participants pointed out that the economic situation prevailing in the country affects training in many ways. To begin with, *industry is closing down* at an alarming speed. This means that students have to battle for the few places in the surviving companies. The few surviving companies are failing to absorb the numbers that are in college due to the massive recruitment drive resulting from the mass education policy. Consequently, some students end up securing attachment from indigenous companies. Most of these are still operating under the informal mode characterised by low production and not so refined production systems. Because of the course requirements, students just persevere in order to meet the requirements yet, when we look at it, it would just be a wasted year. No new things would have been learnt and no practical experience related to the trade would have been acquired.

Secondly, the *dollarisation of the national economy* has limited cash flows within the nation. Funds are not easy to come by. In the words of the minister of finance "the country is experiencing a liquidity crunch" (The Herald 21/03/2014). The implication here is that training is not spared by the crisis. Training and development of manpower has to do with the availability of resources. Limited cash flows impact on college in that

consequently, college might have to go without some valuables like consumables. The interviewed students indicated that at times lessons meant for workshop practice might be converted to theory lessons due to the fact that the procurement department might have taken long to procure the resources. When tasked to explain the delay, they always point to the accounts department who in turn would blame it on the failure to receive voted funds.

Another challenge noted was the fact that training strategies were being influenced by the economic situation prevalent in the nation. While the curriculum called for teaming up of institutions of education and industrial organisations in order to provide students with bases for marrying theory and practice, other factors were prohibitive. That added to the fact that industry is shrinking day in and day out and closure by various companies aggravates the dilemma of the students. The partnership remains on paper. A large number of companies have shut down. Aligning training to industry is constrained as the very few operating companies cannot accommodate the high volume of students.

Participant B4 further explained that although some sectors may attempt to water it down by pretending that all is well, the reality is evident in that not all students are attached in their respective trades. Because of this, for some students the year meant for on-the job training would not be as productive as it should be. The participant went further to give an example of a student studying in 'Marketing management' who was attached at a filling station as a petrol attendant. His argument being, 'what marketing skills are prevalent in serving petrol to motorists?' In some cases students studying diesel and plant fitting (DPF) end up attached to the informal sector. The trade deals with heavy automobile machinery like that found in the mining and construction industries. The informal sector lacks even the capacity to service such machinery. Resultantly, students spend time meant for meaningful training doing other things like motor mechanics. Consequently at the time of graduation, the graduate will still be found wanting as he lacks the requisite skills in the trade. In this case, it is the socio-economic set up prevailing in the nation that impact greatly on higher education

products. The unfortunate thing is that, prospective employers do not point at such factors but blame the education system.

The scenario portrayed above dampens the efforts made by higher education to produce competent manpower. The curriculum demands that students go for on-the job training, mainly with the intention of equipping trainees with skills peculiar to their trades. Institutions try their best to follow the blueprint given by the examination board but instead, it is the socio-economic wind in the nation that dictates the products churned out of college. Trainees might be loyal, eager to learn and principled, but the existing platform fails to enable trainers to produce the product they endeavour to produce. Even the issue of field based assignments is defeated when the field is reduced in size and the players cannot fit. The reality according to one of the respondents is that, trainees might end up doing their field assignments in the library due to the fact that the field will not accommodate them. From the above discussion, it is clear employability is embedded in the curriculum. However, some other factors prohibit the implementation of the noble practice. The curriculum provides for the trainee to go through the various stages and at varying degrees of intensity in their refinement process. Had the situation been permitting enough, employability would have been ensured in the curriculum. As part of training, students would have gone through the dictates of industry and undergone through the refinement process. They would have mastered what it takes to be viable in industry; however the prevailing environment does not support this.

The following excerpts from symposium minutes indicate that there are some practices that industrialists want addressed by institutions in order for them to improve their delivery system.

- *We observed that very commendable things are happening here. However, could the expertise we have witnessed here today be imparted to all the students so that we benefit from them when they come to industry? What we witnessed here and our experiences out there are different (Minutes, July 2011).*

The above excerpt from the 2011 minutes drew my attention. Although not specifically stated, one could rely on inferred meaning. The speaker started by commending what he witnessed on that day. Here it is certain that the work on display met his satisfaction. However, it is his request that left me wanting to know the speaker's other experience. What is certain is that he does not approve the other person he has encountered in industry and he actually wishes he could take this other person he had met that day to his work place. From the minutes and comments by other speakers, the person on the ground is performing highly. It is this high level of performance that industry expects of students when they come to the field. Disappointingly, the students are not performing to this expected standard in the work place revealing the existence of a void between college life and life at work. The person who made the assertion exhibited honesty which could not be intimidated by the presence of the principal.

I take the two excerpts given below as complimentary. In the first one, the implied meaning is the college is doing well, however in order to improve it should consider meeting the needs of its immediate community. Addressing the needs of the immediate community would make the institution more relevant. This would make the graduates more employable and relevant to the local industry. The second are words of advice in order to safeguard the achievements that have been made.

- *The institution was implored to invent more products which have to do with mining since it is situated within a mining community in order to empower the locals (Minutes, July 2012).*
- *The institution should have a Temporal Patent for its projects to prevent hackers from stealing the design and manufacturing ideas as theirs. Also, the institution, though innovative should improve on the quality of surface finishing of its products (Minutes, July 2012).*

A closer look at the excerpt from the 2011 minutes reveals a change in the nature of remarks given by the delegates. There are fewer areas that need to be addressed compared to the previous year. Captains were mainly full of praises and even indicated

that they were willing to be associated with the institution when they asked for college regalia to be sold to them.

The call for a Temporal Patent on all items produced by the college is a reflection of the concern shown by industry. They want to safeguard the inventions of students so that both the college and the community benefit in the long run. As the people on the ground, they are aware of the possible dangers that exist in exhibiting unpatented items.

4.3.4 Strengths in assessment

4.3.4.1 Preamble

Several strengths were identified in assessment. Participants affirmed that in a way assessment was contributing to equipping students with gradueness attributes.

4.3.4.2 Assessment policy

A number of documents were analysed to authenticate some assertions by participants and also to enable us get first hand information as far as policy issues are concerned. The first document to be analysed is the policy in relation to student assessment. Until 2013 when atrocious undocumented changes were introduced, the Higher Education Examination Council (Hexco) board had a document that spelt out requirements for each trainee at various levels. For the conventional courses namely National certificate, National diploma and Higher National diploma, a student would be assessed at two levels. Assessment takes the form of course work and final examination. During the course of the year, course work is built up which has a substantial weighting in the final assessment. Assignments and in class exercises are written and after marking is kept in a lever arch file referred to as the student` academic file. It is clearly stated that the course work is divided into three categories namely; assignments, practical assignments and tests. Different weightings are allocated to each of the categories.

The document at hand shows that final assessment is weighted as follows: 40:60%. The course work comprises 40% which is further broken down as follows; assignments 15%, practical assignments 20% and tests 5%. For each category a student should get as much practice as possible. However, assessment is based on what the internal assessor (who in this case is the lecturer) deems as major. Only two (2) per category would be converted to give us the weighting for assessment. For example, a student might have attempted five tests throughout the year. The lecturer would pick on only two major ones, workout the average mark for the student and then convert it to percentage. The maximum for tests is 5%.

That said and done for the three categories, the three scores from each category are then added in order to come up with the course work mark for the student. The student is then expected to sit for an examination from the National board. This examination is uniform for all polytechnics nationally since the curriculum is centralised. The examination has a weighting of 60%. Whatever marks the student scores in the examination; they are converted to the final weighting of 60%. The two converted marks (the course work mark and the examination mark) are then aggregated in order to come up with a grade for the student. This is considered as the theoretical assessment for the student. Although the student is awarded a certificate after this, he/she still has to be tested for trade competence in a separate examination. It should be noted that in order to curb complacency among students, the board had stipulated that aggregation of the course work and examination marks can only take place provided the student has fared fairly well in both components. For course work, one should have a minimum of 16% and a minimum of 24% for the examination.

Several issues were brought in pertaining to the assessment procedure. Participant B5 said;

“...curriculum content is alright. It is only that capital is lacking hence not all learning provisions are availed. The instructional strategies and the assessment criterion applied by Higher Education Examination Council (HEXCO) are okay” (Interview, March 2014).

The examination board takes into account the fact that trainees should pass both coursework and examination. By coursework, they were referring to a combination of the assignments that trainees are given by the lecturers throughout the year and the marks that the trainees get from the external assessors who visits the institution on a quarterly basis. Coursework carries 60% of the final mark, while the examination covers the remaining 40%. For aggregation to take place, one should score at least 27 out of 60 in the coursework and 16 out of 40 in the examination. Thus, the balancing for the national examination board is well defined. The only thing that might need attention is the need to constantly revise the curriculum in line with technological changes.

The examination for competences is referred to as trade test nationally. The test is conducted by the department of Industrial trade testing. Usually, students take the trade test at the end of their training period. At times this takes place after they have written their final theory examination. The examination is divided into two. Firstly, they sit for a theory examination. After that they go for a practical examination. It is during this testing that trainees should perform all tasks given well and score above a given tolerance level in order for them to be considered competent. The testing takes a number of days because the tasks given will be of varying scope and depth. Depending on how one fared in the examined proficiencies, the trainees are then given classes ranging from 1 to 4. These classes would then enable graduates to practice in their trade. For artisans, one is expected to hold a class 1. Hence, those graduates who fail to attain a class 1 have to re-sit for the test in order to attain a better grade.

The assessment document goes on to spell out that at the end of the programme, students should submit their coursework files (academic files; containing all work attempted throughout the year) for further scrutiny by a team of external assessors who are invited to the college. External assessors are selected on merit and are invited and accredited by the national board. The external assessment exercise is done after marking of the final examination is complete. The assessors sample both the course work and examination scripts and re-mark them. In cases where they feel that students have been prejudiced they alter the marks. In instances where they felt all is well they just endorse the marks. Only after this exercise is done to the satisfaction of the national

board are results released and students awarded their qualifications. The industrial trade testing is done by external assessors completely. The use of external assessors is done to ensure that no unethical practices crop into the system as it is every trainee's right to be treated fairly.

For the Bachelor of Technology programme, assessment is done differently as per stipulations by Senate. The procedure is just like what is practiced at most universities and is well documented. Thus, we can observe that assessment is well documented and quite procedural. The document presents a water tight system that guards the interests of both the system and the student. Both theory and practice are well provided for in the system, proving that the system aims to produce employable graduates who meet the needs of industry.

4.3.4.3 Proficiency schedules

A key strength in the assessment system as explained above is its reliance on proficiencies. Students are expected to exhibit their ability/skill at all aspects of their trade. Proficiency denotes mastery. Considering that the majority of the participants agreed that assessment was indeed aiding to gradueness, students were assessed in both theory and practicals. This is deemed a strength in that the cognitive and the psychomotor domains are tested. If a student is weak in one of the two domains, then the two will complement one another. The theory papers alone cannot depict what the students can actually do and competences cannot be ascertained through a theoretical examination. During training, lecturers deal with *training proficiencies* that are meant to guide them in relation to the parameters of their coverage. Throughout the course of the year, students' assessment is in the form of coursework assignments. A substantial fraction of the course work mark is meant for proficiencies. This is indicative of the fact that not only training but assessment as well is guided by the need to produce capable graduates. Assignments throughout the year are based on stipulated proficiencies. In order for someone to be presented for the final assessment, one should have met the stipulation of his/her proficiency schedule. Hence, the need to engage students in a meaningful practical examination is catered for in the assessment procedures.

During the year, course work given by lecturers comes in the form of field based assignments. In order for a student to fare well in the assignments, the issue of practicality needs to be considered. That is, the student ought to engage in a task whether it is in the community or in industry and then write the assignment based on this practical undertaking. The field based assignments only fetch 30% of the final weighting. The remaining 30% come from external assessors. This type of assessment forces the students to focus on practical problems and producing solutions that are meaningful. Application of stuff they would have covered in class to practical examples is done when the students are still in college. This implies that by the time these students join the workforce, making decisions or applying knowledge will not present challenges.

4.3.4.4 External Assessors

Subjecting students to external assessors throughout the year can be regarded as a strength. In training, the lecturer naturally assumes a parental role over his/her students. In some cases this might compromise objectivity as some people tend to be compassionate towards their students. This might affect their objectivity when it comes to assessment. Reliance on external assessors is a stopgap measure to curb infiltration of the system by compassion resulting in subjectivity.

The scenario is augmented by the fact that of the 60% meant for coursework, lecturers can only give a maximum of 30% in all the assessments done throughout the year. In order for the student to earn the other 30% of the coursework, they have to be subjected to external assessment. External assessors are invited to the institution to assess trainees on proficiencies quarterly in order for them to amass the necessary credits for the final assessment. At every visit by external assessors, students amass a maximum of 10% and for the three visits it adds up to 30%. Thus, 30% from external assessors plus the 30% from field based assignments makes the 60% for course work.

I found the issue of exposing students to external assessors as very laudable as the constant interaction with these would leave students conversant of how they are

expected to handle their final assessment. Gradual refinement of skills can also be guaranteed. Transferring these competences to the world of work will not be difficult if students are groomed in such a manner.

4.3.4.5 Trade testing

Trade testing comes as a strength. It gives the training institution the platform to seek a second opinion of their students` work readiness. That is, it comes after the completion of all the aspects of the trade stipulated in the curriculum, have been covered. The Industrial and Trade Testing Department (ITTD) is an independent arm of higher education. It is this department that independently assesses students on their readiness for the field. The assessment lasts for a week or more. Students are tested in various components of the trade before an overall proficiency schedule is used to determine the fate of the student.

Participant B6 pointed out that the ITTD assessment during his training lasted for more than three (3) weeks. Numerous tasks were lined up for trainees to prove their capabilities.

*“...in our days trade testing could even go for a month or at least three weeks. It was a rigorous activity. Nowadays, they are tested for two or three days and its over”.
(Interview, March 2014)*

The above assertion depicts the seriousness that the exercise was given. In order for someone to be awarded a class1 workman certificate, one is expected to cover various proficiencies covered in the trade. Work must also be meticulously done in order to convince the assessor that he/she knows the demands of their trade. It was only after the gruelling tasks that one would be awarded the class 1 workmanship certificate. If the performance did not meet the expected standard, the candidate is given a lower class since the classes range from 1-4.

4.3.5 Weaknesses of the assessment system

4.3.5.1 Preamble

In spite of the praise given to the system, participants also identified some negative elements. These are issues considered to impede the smooth running of the assessment exercise.

4.3.5.2 Sampling of students

A major weakness brought forward is the issue of sampling of students during Industrial Trade Testing Department (ITTD) assessment. Participants narrated that of recent; a new way of assessing students had been introduced. The system entails that during the quarterly visits by assessors from the ITTD, a sample of students is selected from every class and tested on competences. The performance of the sampled candidates would be used as a basis for the ITTD personnel to endorse or change the marks that would have been awarded by the lecturer. Participant A3 did not mince his words in expressing his opinion about the system. He said;

“I am totally against this system of assessment as competences are not transferable in the way implied by the system. How could the decision made by someone who would observe a student for a few minutes override the decision made by someone who supervises the students throughout the year and worse still the performance of a mere sample be used to decide the fate of all students”? (Interview, March 2014).

One can deduce a lot of negative emotion from the above quotation. The participant brought forth a very logical argument. Competences cannot be transferred from one student to another. We cannot assume that if student A can do it, therefore X, Y and Z are able to do it competently as well. His position was agreed upon by most of the participants. Some just lamented;

“...we do not know where this new system came from and we not know where it would leave us”. (Participant A1, Interview, March 2014)

Lecturers would rather have students individually examined in practicals for a number of days. Assessing officers should be fully convinced that students are capable of performing the listed proficiencies. I find the claims made by lecturers very convincing. Competences are not transferable. A sample of six (6) students can not represent the performance of the abnormal classes that participants have portrayed earlier on. Each student should be granted a chance to show his/her capabilities. Once a student has exhibited his/her competences then it is a sure case that that he/she would be able to do so in the workplace.

4.3.5.3 Assessment standards compromised by high enrolment

The students also complained that assessment has equally changed for them. They claimed that the Industrial Trade Testing Department (ITTD) seem to be overwhelmed by the numbers as there is clear evidence that they are unable to cope. Reduction in the number of days meant for trade testing implies reduction in the content to be included in the assessment exercise. This means that students are only assessed on limited areas of the trade. Thus, a newly qualified artisan with a class one practising certificate cannot match an artisan trained under the same mode some time back. More so these students can also not stand against their colleagues trained under the apprenticeship programme. The latter would have been in industry for a good three (3) years of serious production. The one trained under the 'direct entry programme' would just have been in industry for a year, that is if one is lucky. It might even be for just a fraction of a year, yet they are assessed by the same instruments and awarded similar qualifications. I got the impression that it would make a lot of sense if different examinations were conducted for the different groups. The apprentices because of the longer period they spend in training should be expected to exhibit a broader knowledge base than the direct entry students. Hence, different assessments and qualifications should be awarded in order for employers to quickly pick the type he/she wishes to employ. As things are, it only takes someone to engage the graduates from the two different camps in order to draw a line between them basing on performance and not on paper qualifications.

Participants pointed out that it is *assessment at ITTD level that needs to be tightened*. They alleged that ITTD is lacking since they are responsible for testing trainees in practicals. The examination board is responsible for awarding qualifications at various levels; the ITTD then tests the trainees on competences and awards them workmanship classes based on competences exhibited. Asked to clarify in what way *ITTD was falling short* of its mandate and to shed light on whether it is out of incompetence or negligence, the respondent was quick to allege that the limited resources were the chief cause. He clarified that at times only one person might be tasked to cover a very wide area when it comes to the assessment of trainees. An example given was of a motor mechanic who may be expected to cover all disciplines under automotive including auto electrics, motor vehicle body repairs and other related fields. Another example given was in the field of printing. Participants allege that whether one is a print finisher and converter, a lithographer or a binder; the assessor is one.

4.3.5.4 Subject experts for students' assessment

Another misgiving presented was the issue of taking it for granted that anyone can assess students within a discipline regardless of specialisation. The participants were of the opinion that assessment should be done by subject experts. Considering the technical nature of the field under study, it should not be assumed that everyone in the automotive department is capable of assessing all trades in the discipline. It was said that some specialise in motor mechanics, precision machining, motor vehicle body repair, auto electrics and the like. Assuming that anyone can do it leaves out some vital elements of the trade not examined. The thoroughness and precision expected in an examination would be compromised. For an examination to be credible, it should cover a certain percentage of the competences expected at any level during the course of their studies. That is, weighting should be in accordance with the dictates of the curriculum.

4.3.5.5 Weaknesses of the current assessment system

The newly introduced assessment system was said to be breeding complacency among students. In line with this statement, participant B2 expressed dissatisfaction when she said:

“...the new method of assessment is very questionable. The element of field based assignments is impacting negatively on training. Course work has been watered down; after all I find nothing wrong with the old system that was used in engineering” (Participant B2, Interview, March 2014).

This sent signals that the other participants were being open since the assertion indicated that there was a problem with the new assessment criteria. I implored those responsible for students' assessment in the institution to explain the origins of the complacency and measures put in place to rectify the situation. The two participants, though interviewed separately, started with a sigh. I could deduce that this was indicative of something heavy pertaining to the matter weighing on them and in a way confirmed the assertion by the earlier participants. One of them openly acknowledged that the issue of assessment was causing headaches nationally due to some changes that were discussed earlier. The participant pointed out that when the changes were introduced; it seems someone had not fully done his homework. Conflicting information was cascaded to the institutions and worse still some assertions were rather dubious that institutions failed to comprehend what is expected of them. As pointed out by the other participants, a certain percentage of the candidates were to be sampled quarterly and tested for competences. The mark given to the sampled students would then be used to authenticate the assessment done by their lecturers. Considering that the assessment is done by external assessors, it makes sense to have every candidate granted an equal opportunity.

What seemed to trouble those in charge of assessment at the institution is the fact that the previous system of assessment which appeared to be water tight was just discarded at short notice. Institutions were not even consulted for their contribution in the matter. A directive was just given. However, credibility is yet to be given to the new system as

presently not a single institution can claim to have fully grasped the demands of the system. The participant went on to point out that;

“...presently, uniformity on practices being adopted by institutions who sit for the Higher Education Examination Council (HEXCO) examinations cannot be claimed. The board is currently under a spell of confusion and just hope sanity would prevail soon” (Participant A8, Interview, April 2014).

The above assertion reflects the depth of the matter. Another participant rightly said earlier on that the new assessment system is breeding complacency among students. She justified her claim by saying:

“...lecturers create conditions for students that allow the frequent writing of exercises and tests, but they are not taken seriously because of the new set up” (Participant B3, Interview, March 2014).

Students are aware that when it comes to compilation of course work, most of the tests and assignment marks are thrown away and only three (3) field based assignments are considered together with three other assessments done by external assessors when they visit the college on a quarterly basis. Even when lecturers threaten punitive action, they are not taken seriously since they know what the board would consider in the end. Thus, the once effective checks and balances during delivery time are compromised by the assessment system.

From an observer's point of view, one gets the impression that the prevailing situation is chaotic. The lecturers should at least be satisfied by the system. I was left wondering that if the producers of the graduates are not satisfied with the way their students are assessed then who will? However, one can also look at it from a different angle and argue that the assessment that is questionable is the theoretical component which has little or no bearing on the exhibition of practical competence by the students.

However, one of the participants pointed out that what transpired in regard to the introduction of this 'new' assessment was a bit unprocedural. HEXCO is a board and all decisions pertaining to assessment are not passed by an individual but by the board. He

pointed out that it is unfortunate that an errant acting director could not contain his power and thought that he was above the board. He went on to say;

“...now that normalcy had been restored at head office we hope all this would be ironed out soon” (Participant A9, Interview, May 2014).

The contribution by the participant confirmed that institutions were not happy with the assessment set up. However, participants pointed out that only two groups (examination sessions) have been affected by the set up and expressed hope that sanity would be restored soon. I took the utterance to authenticate all that was said by other interviewees pertaining to the conducting conduction of assessment.

4.3.5.6 HEXCO changes

The participants pointed out that the recent changes in the National Examination Board reflect abuse of office by some of the directors. Changes are being instituted by individuals and not a national board as it should be. They proposed that a task team should be instituted to ensure that national issues should be treated as such and nothing can be implemented without the approval of the national board. The concerned board should also ensure that curriculum issues are handled with the seriousness they deserve. *All stakeholders should be involved in curriculum designing and reviews.* Companies and institutions should send representatives that are experts in order to enable meaningful contributions.

4.3.5.7 Conclusion

Sentiments from participants portrayed the assessment system as it is. Participants presented both the merits and shortcomings. Thus, this is reflective of areas that need to be redressed if gradueness is to be achieved while the strengths reflect how the system is contributing to the gradueness and employability agenda. Information has been triangulated for source and the same views were presented. Services of an independent coder were solicited and confirmed the themes.

4.4 SUB-RESEARCH QUESTION 2

In what way does curriculum delivery (and assessment) take into consideration the acquisition of gradueness attributes?

4.4.1 Introduction

The question seeks to analyse the curriculum in order to ascertain whether gradueness attributes are embedded in it. It also seeks to find out whether there are any measures that have been put in place to cushion the graduates when they get to the job market.

4.4.2 Gradueness attributes and the curriculum

4.4.2.1 Preamble

To come up with a stance on whether the attributes that promotes employability exist in the training graduates receive, I had to analyse the curriculum document. It is from this document that all specifications and stipulations are found. We can rightfully regard the curriculum as the blueprint for the trade.

4.4.2.2 Curriculum document

Considering the diversity of the engineering discipline, I settled to analyse the curriculum for one department. The reason for settling for one department is to enable an in depth analysis. No particular criterion was used to settle for the automotive industry and motor mechanic department to be precise. The aim of the curriculum is;

“to produce a capable artisan who can service, repair and overhaul the mechanical parts of motor vehicles such as the engine, the transmission (clutch, gear box and differential), and the suspension systems (springs, steering, brakes wheels and tyres)”.

That alone purports production of a person who can perform a technical task. A capable artisan is someone who can work independently and make appropriate decisions.

Servicing or even repairing a motor vehicle is as good as being entrusted with one's life. If the work is shoddily done, the driver's life can be put at risk. Thus, even before one looks at the aspects, some bell has already rung in the reader's ear. That is, graduateness is the sole aim of the curriculum.

A look at the content reveals that several subjects are lined up for the programme. These include engineering mathematics, engineering science, engineering drawing, technology, workshop practice and several generic subjects like introduction to computers, communication, national and strategic studies, and entrepreneurial skills development. A total of nine (9) subjects make up the curriculum for this course. I took an interest in each of the subjects and wanted to know if any of the subjects was wrongly placed. After a close study and analysis of the document, it emerged that each and every subject serves a particular purpose in the moulding of the intended graduate. For the engineering subjects, there are no questions as to why each of those was included.

I went on to try and analyse the purpose of each of the generic subjects in the making of a complete artisan. Cognisance was taken of the Tyler (1949) and Taba (1962) models to curriculum development. The idea behind the analysis was to justify the subjects that are not related to the discipline. The analysis was guided by the purpose of the programme. According to Tyler (1949), the first thing a curriculum should aim to satisfy is its purpose. Thus, we considered the relevance of the subjects in relation to the purpose of the course before we looked at other dimensions like the content, teaching methods and assessment and evaluation strategies.

The first port of call was introduction to computers. Besides serving the common purpose of making one computer literate in this computer age where even the library is accessed by computers, there are a lot more reasons why the subject contributes to the graduateness of the graduates. Firstly, computers are necessary for communication purposes. Even within an organisation, the production of memorandums, notices and even intranet communication is done through the use of computers. Thus, for someone to be in step with other organisational members computers are vital. Secondly, in the

motor industry some job diagnosis is done through the use of computers. Thus, illiteracy in computers would render one useless in his/her trade.

The next subject to be analysed was national and strategic studies. I gathered that it is a three-in-one subject. They regard it as a three-in-one because it covers three areas namely; Zimbabwean history, Legal and parliamentary affairs and International relations. A mere look at the subject titles expose the richness of the work students are expected to cover. There is no doubt one's history helps him/her to know where he/she is coming from, where he/she is presently and where he/she is going. History enables one to know their enemies and friends. History helps in developmental plans for an organisation or nation. Knowledge of history empowers graduates in a way. Charting their way in life should be guarded by certain principles emanating from the knowledge of history. International relations help in appreciating our neighbours. No nation exists in a vacuum. Once this is made clear in the minds of the graduates even when they assume leadership positions at organisational or national level, they would be able to handle their relations. Legal and parliamentary studies prepare graduates for leadership roles. They are enlightened on the role of the electorate and the kind of influences they can have in national issues. Thus, all in all, national and strategic studies are an eye opener. The subject widens the graduates' horizon and most of the gradueness attributes ranging from reflective thinking, moral citizenship to lifelong learning are all packaged in one.

The remaining two subjects, communication and entrepreneurial skills development are self explanatory. At all levels in an organisation communication is very important. Whether one is in a subordinate role or in management, there is need to be an effective communicator in order to meaningfully contribute to the well being of the organisation. Entrepreneurial skills development prepares graduates for self sufficiency. In the eventuality of one failing to secure employment, one would already be equipped with the principles of running an enterprise. The business venture would be based on one's area of specialisation. That is, a motor mechanic would be equipped with the knowledge on how to establish a business venture in motor mechanics.

Thus, the above discussion explicates the relevancy of the curriculum to which students are exposed. Another issue I noted was that for all subjects, the number of hours in which the content is expected to be covered is reflected. One cannot claim that he/she failed to cover his/her syllabus because of another subject. The group's timetable is prepared in line with the stipulations of this document. Besides this, the assessment framework is also reflected in the document. That is from the onset, students are made aware of the number of papers they would sit for and their duration. The inscription at the beginning of the curriculum document also drew my attention. It indicated all the organisations that contributed to the compilation of the document. A closer look revealed that not all of the consulted organisations were educational. A substantial number of the representatives are from commerce and industry reflecting the willingness by higher education to involve stakeholders in the production of relevant manpower.

4.4.2.3 Teaching strategies

The strengths/weaknesses of a curriculum manifest in the teaching methodology employed. Participant B4 said strategies employed during training contribute to graduateness. Her actual words are;

"...student under-preparedness can be blamed on something else. Effort is made to marry theory with practise. The final project expected of us in our Bachelor of Technology programme is clear testimony of this" (Interview, March 2014).

"Students are expected to be attached to a company. They design a project that can help the company boost production. On approval by college, with the company funding, the student goes on to produce the designed component and ensure that it is functional. Honestly if college produce someone who can design and manufacture as well as use the machinery, then we cannot blame lack of employment on graduate under preparedness but on totally different factors" (Interview, March 2014).

On close analysis, the participant has said a lot. She painted a picture of how they are trained and what they are able to do against a background of being blamed for being

inadequately prepared for work. From her assertion, one can figure that in a way she has pointed out that higher education is playing its part. It is producing not only operators but also manufacturers for industry. Her contribution goes together with what was said by participant B5 who said in as much as we appreciate the efforts being made; we cannot pretend that all is rosy.

*“Employers are just making noise; it is only that they are also **not** playing their part in the training of manpower” (Interview March 2014).*

The participant hints on employers playing the blaming game. They expect higher education to do what they, as employers, are failing to do. Some can only say the graduates are not ready for employment, yet if tasked to spell out their weaknesses they may not come out with a single concrete fault. The participant pointed out that these employers are the users of the college product (graduates), hence they cannot just fold their arms and expect higher education to produce someone who meets their specifications without them contributing in the making of the product. This is in line with Little (2003)’s assertion that it is logical for institutions of higher learning to re-direct some of their resources from classroom based activities geared to impart employability skills to increased work based training. For this to be realised, higher education and industry should team up and speak with one voice.

4.4.2.4 Failure to upgrade knowledge

Participants pointed out that the economic problems cited above also affect graduateness. Placement of trainees in industry, remain a problem. Even when the institution has noble ideas for lecturer staff development programmes like ‘staff attachment’, they are frustrated by the shortage of industries that are functional which can absorb them. The impact this has on the curriculum is that, lecturers fail to get an opportunity to upgrade their knowledge in line with the demands of industry. The platform also presents an opportunity to take note of any technological changes that might be affecting the trainees. If the lecturer receives in-service training, then it goes without saying that the trainees should receive the same type of information. It is

evident that from the participants' views, the slow pace at which the economy is moving is impacting on education.

4.4.2.5 The Competence Based Education and Training (CBET) model

The general participants' response to whether the training that they were giving to students enabled them to acquire gradueness attributes was a strong "yes". Their argument was mainly anchored on two issues. Firstly, their training was based on *the competence based education and training model* hence they were positive that at the end of it all students would have received the best in terms of gradueness attributes. As Cohen (2005) points out, CBET is focused on outcomes (competences) that are linked to workforce needs, as defined by employers and the profession. It is an institutional process that moves education from being teacher-centred to focusing on what academics believe graduates need to know, to be able to perform well in varying and complex situations (student and/or workplace focused). The training model calls for not only reflective thinking but a variety of gradueness dimensions. Competences within different contexts may require different bundles of skills, knowledge and attitudes. Richards and Rogers (2003) regard competence based education and training as focusing on outcomes of learning. CBET addresses what the learners are expected to do rather than on what they are expected to learn about.

The link between CBET and gradueness can be explicated by characteristics of CBET given by renowned scholars like among others, Foyster (1990), Delker (1990) and Norton (1987). These include the fact that competences are carefully selected and that supporting theory is integrated with skill practice. Essential knowledge is learned to support the performance of skills and detailed training materials are keyed to the competences to be achieved and are designed to support the acquisition of knowledge and skills. The methods of instruction involve mastery learning, the premise being that all participants can master the required knowledge or skill, provided sufficient time and appropriate training methods are used. Participants' knowledge and skills are assessed as they enter the programme and those with satisfactory knowledge and skills may bypass training or competences already attained. Prior learning therefore is

acknowledged and accredited, hence the notion that is embedded in the curriculum that learning should be self paced. in other words, , learning is individualised and flexible, and training approaches including large group methods, small group activities and individual study are essential components. A variety of support materials including print, audiovisual and simulations (models) keyed to the skills being mastered are used. Lastly, in CBET satisfactory completion of training is based on achievement of all specified competences.

Though interviewed separately, the participants spoke with one voice on the CBET model. They explicated the way they were implementing it and in what way it was helping in dealing with the shortage of consumable resources by securing jobs for the students. The environment in which the students would do the job remains a learning one, but through the programme they get exposure to the work situation. The tasks they undertake under the auspices of the institution remained part of training. Students are at times seconded to work outside the campus or within. At the institution under study, they constructed a clinic and a pavilion for functions. During these tasks, students work closely with their trainers who will be offering guidance and in some instances assessing them internally.

4.4.2.6 Heavy reliance on practicals

The second reason given in support of gradueness was the fact that training is heavily *anchored on practicals*. Participants pointed out that although they might be experiencing challenges in regard to the availability of resources, one thing they cannot take away from training is the fact that trainees should be able to perform certain tasks. In a five day week, student learning time is expected to be divided into two sessions on a 50/50 basis. One session is for practicals while the other session is for theory. During the practical sessions, students can be taken out to actually witness what they covered during theory lessons. For example, metallurgical assaying students visit various mines in order to familiarise themselves with some processes under study. The assignments that students undertake throughout the year are based on these field outings. That is, in order for one to perform well in course work, practical work is mandatory. Theory is also

hinged on the practicals. At any level during training, students are given practical tasks, it being in the community or within the institution and then submit write-ups based on these tasks. At the institution under study, practical tasks ought to be meaningful and beneficial. Participant A 2 explains:

“...We do not just talk about doing but actually perform. Our own college clinic and graduation pavilion was built by our own students during practicals” (Participant A2, Interview March 2014).

Thus, the anchoring of training on practicals promotes refinement of skills by students and provides practice.

4.4.2.7 Flexibility in graduates

The issue of adaption also came up in the discussions. One participant sums up this issue of gradueness by saying;

“...engineering is dynamic just like technology therefore trainers should inculcate the spirit of adaptiveness in students” (Participant A1, Interview March 2014).

Adaption makes someone fit into any situation. Adaption entails flexibility. Flexibility comes about when there is a wide array of options. One might also allude adaption to diversity and this only comes about if the trainees have a rich base to choose from. Skills are applied at different levels of complexity to solve varying problems. Adaption might also include moral citizenship as one will adopt the views and beliefs of others. Steur et al. (2012) elaborates that one of the domains of gradueness is reflective thinking. Adaption encompasses all this, hence by saying trainees are taught to be adaptive the participant has openly pointed out that graduate attributes are heavily embedded in the institutional approach to training. Gradueness is all about possession of these skills. As pointed out by the participants that all things being equal, trainees should be exposed to every aspect of their trade whilst they are still at college. This can be made possible by giving them plenty of practical work. An arrangement can be reached with the local functional industry that any repairs of machinery should be

done by the trainees. Trainees should be encouraged not only to be able to read and interpret manuals, but also be in a position to produce them. This constant exposure will make the graduates true masters of their trade and this way gradueness is guaranteed.

4.4.2.8 Industrial attachment

Another way for enhancing gradueness is sending students for industrial attachment. Although it is a curriculum requirement, it is also a way of making students have exposure to the world of work. Industrial training in the institution under study is done through the attachment of students to companies of their choice. Asked how industrial attachment is done at the institution under study, all participants answered with excitement and zeal. I asked the question to a number of participants separately and the response given was just the same. I did this deliberately to ascertain the authenticity of the information. Their narrations could be summarised as follows; during attachment students are supervised from two fronts, that is, by the attaching organisation and by the college. The students secure their own attachment places and then inform the college. The attaching company places the student under a mentor. The mentor not only guides but also supervises the attaché. Each attaché's record is kept in a log book whose format is uniform since it is provided by the examining board. The mentor is expected to write comments pertaining to the student's performance in the log book against given proficiency schedules. Personnel from college would then visit the company at intervals. Every attaché should be visited at least three (3) times within the attachment period. During these visits they discuss the student's performance with the organisational supervisor and if possible, the student is observed, assessed and counselled if necessary. Throughout the logbook, student performance is rated against a given scale. These ratings are then compiled when the student returns to college and then an assessment mark is derived.

It was noted that there is a difference between the programme meant for direct entry students and the apprentices when it comes to industrial attachment. In order for the direct entry students to be trade tested for class1 skilled worker certificates, they need

to undergo a three year programme. They are expected to spend a year at college then go for attachment for another year and then return to college in the third year to sit for examinations. For those trained under the apprenticeship model, they are in industry for two years then come to college for one year and then return to industry for their final year. Both models are being implemented by the institution under study. The exact words of one participant are;

“For apprentices the period they are in industry is okay. They spend a total of three (3) years out of their four (4) year training period doing practical work in industry under strict guidance of artisans. After receiving a single year of theory, the trainees are then sent for trade testing. It is those students following the direct entry programme who are disadvantaged in that only one year is put aside for industrial attachment (on-the job education and training)” (Participant B6, Interview March 2014).

“...one year attachment is rather too little” (Participant A5, Interview March 2014).

From the above quotation, it is evident that both lecturers and students are not satisfied by the exposure given to the trainees. In the case of lecturers one can say, it is the producers themselves who are not comfortable with their own product. If the lecturers start questioning the graduateness of the graduates, then the employer would have more ground on which to complain. One then wonders if the product of the system will meet the standard set by industry.

Adequacy of industrial exposure: asked to comment on the adequacy of the exposure given to trainees, participants expressed dissatisfaction at the duration of the attachment period especially for the direct entry students. The general consensus was that more time should be availed to these students. In some cases, students engage for attachment in March and then terminate in October and claim to have been on attachment for a year. The attachment period should stretch for two continuous years. A longer attachment period would enable students gain more exposure and rub shoulders with the experts in the trade. In line with this argument, Participant A1 said: *“...trainees should be exposed to all aspects of their trades. If a student is attached to a company that specialises in a particular product, the student must be allowed to move from one*

company to another until all areas of his/her trade are covered” (Participant A1, Interview March 2014).

The participant went on to shed light on why he was advocating for continuous movement of students from one organisation to another. He said most companies do specialise in certain commodities. These do not cover the entire trade. If a trainee is kept in such an organisation for the duration of his attachment period then justice will not have been done as the student would miss out on a number of things. This way, graduateness is easily compromised. Yet, if a trainee is allowed to move from one organisation to another, he/she would get more exposure and acquire more skills related to the trade. The example given was of a diesel plant fitting student attached at the national railways, the student might be exposed to complicated machinery but not to other issues like pneumatics. Thus, the full dynamics of the trade would not be mastered.

4.4.2.9 Inadequacy of training

On realising that some of the participants were giving cautious responses, I advised them to be open as ethical considerations will be observed to the fullest. One participant pointed out that although effort was made to offer students practical lessons, the undertaking was only possible when resources were available. His exact words were;

“...training is inadequate due to poor resources. It is done in line with the available resources resulting in mediocre products due to massive recruitment” (Participant A3, Interview March 2014).

In light of this assertion, the intention of the institution, though good, is over shadowed by the economic situation at hand. It is the intention of the college to equip students with practical skills that would make the students productive. However, the shortage of resources waters down all effort.

From the participant’s contribution, one can assume that learning is portrayed as situational. Only when resources are available would lecturers deliver to their

satisfaction. Since the product, who in this case is the graduate, is affected, this might bring credibility to some of the assertions made by the employers pertaining to higher education products. Some employers grumble that today's graduates do not meet the standard.

4.4.2.10 Official and hidden curriculum

Participant B10 felt enough was being done to ensure the gradueness of students by the time they leave college. His point of reference was the attempt being made to marry theory with practice. However, other participants refuted this by saying as long as things remain as they are currently, what appears in the official curriculum, and the situation on the ground is different due to a number of impediments. One of these was the unavailability of resources which was resultantly incapacitating student efforts at practising in college workshops. The matrices of praxis entail that theory and practice should be married in the learning process. Hence participants showed dissatisfaction at the lack of practice by trainees and their concern is that this might affect their performance and gradually compromise gradueness. Another stumbling block was the shrinking industrial base which was failing to absorb all students during times when they are expected to be getting industrial exposure. The dictates of the curriculum are that students be deployed in industry to enable them familiarise themselves with the work environment and also to enable them acquire the skills of their trades. Gradueness is compromised by the fact that the shrinking industrial base is compromising training.

The problems cited above can only be taken mildly if we under play the value of practice in technical education. Considering that technical education is hinged on 'hands on' experience, trainees need to have a sound platform on which to apply themselves after they have received theory. Participants portray a situation that at college where workshops are readily available, resources are a limiting factor. Where industry is expected to play its part, facilities are limited because most companies have closed down. Thus, in theory while the curriculum portrays marriage of theory and practice, the situation on the ground says something else. The present socio-economic situation

prevailing in the country under study calls for a stopgap intervention to be put in place in order to improve gradueness and thereby improve employability.

4.4.2.11 Inclusion of generic and compulsory subjects in the curriculum

Participants openly expressed their appreciation of the inclusion of generic and compulsory subjects in the curriculum. The general notion portrayed was that it takes someone who has not benefited from the inclusion of these subjects to criticise the system. One of the participants narrated how the institution through a generic subject called 'National and strategic studies' was going beyond equipping students with gradueness skills. He pointed out that they also focus on *civic responsibility*, *patriotism*, community projects and clean up campaigns. The rationale behind all this is to cultivate the spirit of *selflessness* in students. He narrated how the students at the institution under study mobilised themselves to contribute towards assisting victims of a national disaster that affected the country during the rainy season. From the explanation, one cannot doubt moral citizenship is embedded in this subject. Knowledge of where one is coming from, where one is and where one is going involves understanding the interactive structures of old. Once this comes into play then respecting the views of others becomes apparent. Providing solutions to life's problems becomes natural and the plight of others is taken seriously. Generic subjects help in the teaching of higher order skills such as problem-solving, reasoning and reflection amounting to generative learning. It also enables learners to learn how to learn, allowing cooperative and collaborative learning skills.

4.4.2.11.1 Life skills

I was intrigued by the attitude of some student participants to the issue of generic subjects such that I included it as a topic for a focus group discussion. After all the necessary preparations and introductions were done, I asked the group to give their opinion in relation to the issue of generic subjects. At the institution under study, these are Communication, National and strategic studies, Entrepreneurial skills development and Introduction to computers. The entire student group is made up of qualified

artisans, some of whom had served in industry for several years. Generally, they claimed to have found the subjects useful although they are not engineering disciplines. One participant employed as a lecturer at a vocational and technical centre claimed he found Communication very useful when he first stood in front of a class. Relating it to his colleagues he reminded them of how they rarely construct a complete sentence when in the workshop and how taxing it becomes to impart information to a class.

The other participant in support of the subjects explained how he personally benefitted from two of these although he was employed in industry. In his organisation, computer literacy is a must for every employee as no hand written document is allowed at any level in the communication structure. He also explained how computers are being used in his trade. The second subject that he claims he will never regret learning was Entrepreneurial skills development. He also chronicled how he put to use some of the strategies they were taught during his phase of unemployment. He claims;

*“...I was fully equipped from writing a business proposal to starting your own business”
(Participant B8 Interview March 2014).*

The rest of the participants kept mumbling agreement here and there. I observed the participant who had initially brought the idea did so with ‘guarded interest’. She did not openly contribute a thing even when prompted to do so. However, one thing was very clear that the contributions by her colleagues were annoying her. Silence was used as a way to guard her temper which appeared to be rising with each contribution. It was clear that she was adamant and had mentally blocked any new ideas on the issue. At some point in the discussion, the participants agreed that each of the subjects can come handy at one time or other. It might not be apparent when but, even National and strategic studies are not only useful at work, but also in the community.

I then asked the group how they would feel if the curriculum was redesigned to accommodate only core engineering subjects. The question opened a Pandora’s Box among the participants. The group was immediately divided into two opposing groups. The first group felt that implementing this would make them blinkered graduates. The basis of the argument was that these universal subjects are eye openers. They actually

give the students a different world view and prepare them for life ahead. These are the subjects that make the graduates fit into society. When one eventually gets promoted into management positions and leave the workshops, these subjects would be handy as decision making would be expected on a daily basis.

The few who agreed to the view of sticking to core engineering subjects maintained that the duty of the college is to equip students with the skills of their trade. World views will be encountered in the world hence no college time should be wasted on that. The discussion portrayed two sets of students, namely those who are pragmatic enough to adapt to any situation and those that are totally against change. The latter group maintained that things should be done the way it was done twenty (20) years ago. These are people who advocated that engineering students should only be fed with engineering material only. Anything not related to their fields is irrelevant and should be cascaded to only those whose fields are related to the subject.

However, the other group was more open-minded as they based their argument on the changing times. They advocate for bruising change as is done in all other fields. They referred to the technological changes that are taking place globally and tried to bring out the fact that engineering and information technology are very different field but the computer age seem to be the order of the day. Those in the motor industry explained how computers are now being used in their diagnostic exercise. Hence computer literacy has of late become a pre-requisite to most trades.

Listening to both groups was very intriguing. I could read that the participants were in a way going back to the time old debate between technical education and the so called 'academic learning'. Those advocating for engineering subjects only seem to have forgotten that there is life beyond the workshop. These subjects though not directly linked to their trades will enable them to perform their duties effectively. They will help in decision making, in politics, in communication and linking with everyone else in the global village. All this contributes to graduateness.

One of the participants reminded the others that engineering as a 'hands-on' trade, thus, it enables its members to be able to survive even when one is not formally

employed. He pointed out that some of the subjects being regarded by one of his colleagues as a waste of time is actually vital in order to enable them realise their value. He gave the example of Entrepreneurial Skills Development (ESD). All students attending college in the country under study are expected to study ESD regardless of their area of specialisation. The rationale behind the study is to equip students with entrepreneurial knowledge to enable them to create rather than seek employment. In the eventuality that employment is not forthcoming, one would then establish him/herself as an employer since they will already be equipped with the skills. Thus adaptability to the prevailing economic situation would be achieved. The participant's exact words were.

"...practical orientation should enable students to be self driven in starting own projects and employment creation. Entrepreneurial exposures are necessary in that they enable graduates to use skills acquired at college since practicals are the key to graduate breakthroughs" (Participant B8 Interview March 2014).

Advocating for communication, one participant pointed out that since "man does not live in a vacuum", the need for communication skills cannot be over emphasised. At work it is very vital to follow instruction and to give instructions if one is to function efficiently. In the event of an accident happening, one should be in a position to explain precisely what would have happened. Thus, from the discussion of this group I picked the notion that generic subjects equip students with life skills.

4.4.2.11.2 Education a basis for social elevation

Triangulation for source was done through soliciting opinions regarding generic subjects and the issue of crowded timetables resulting in shortage of time for other things like library and minimum time for practical from the staff focus group. These were the key issues raised from the initial interviews and no structured questions were given to the focus group. The contribution by the first participant was exhaustive that all members agreed with him. The basis of his argument is the fact that education is regarded as an

eye opener and a tool to alleviate poverty. He argued that since time immemorial, education was said to change one's social status. His exact words being;

"...education can be taken to be the small proverbial small hinge that opens big doors. How then can its recipients be so if they are of limited scope"? (Participant A9 Interview March 2014).

The assertion by the participant reflects that they too succumb to what is said by renowned educational economists like Kohler (1992), Todaro (1992) and Coombs (1987) who analyse what determines or creates education and what impact education has on individuals and societies and economies in which they live. The importance of education in one's life cannot be over emphasised. It impacts on the human society as a whole. Mark Lee (2008) in his article "How important is education?" alludes that education not only trains the human mind, but also helps us to make the right decisions. It rationalises us. It is through education that wisdom, knowledge and information can be received and spread all over the world.

The implication here is that once exposed to education, one is expected to be adaptive to various situations. These do not only refer to work situations but also socially. Producing a competent artisan who is unable to socialise or meaningfully contribute to social debates does not help the nation much. He went on to say imagine that person being promoted to a managerial role, he will certainly need more than workshop competence in order for him to survive. Thus, from his contribution, members unanimously agreed that generic subjects were indispensable and contribute to the worthiness of the graduate. I took this to refer to graduateness attributes.

4.4.2.11.3 Entrepreneurial endeavours

Another thread picked from the responses is the assertion that although industry has shrunk drastically, the technical nature of polytechnic graduates ensures continued survival in spite of the socio-political or socio-economic situation. Graduates whether employed or not will continuously engage in small jobs related to their trades. They can even start their entrepreneurial ventures and apply the principles they were taught at

college. This is reflective of gradueness. Some of the business ventures that were established by the graduates after failing to secure employment have mushroomed to respectable organisations. One participant simply said

“...times are tough but the fact that our graduates are able to survive out there simply denotes that they possess gradueness attributes” (Participant A2, Interview March 2014).

The ability to apply what is learnt at college in real life calls for reflective thinking. The above example is indicative of what graduates are capable of. Establishing a business venture calls for a lot more as one would naturally become an employer. Thus, gradueness is evident in the process.

4.4.2.12 Gradueness attributes from the perspective of industrialists

Captains of industry were tasked to comment on the exhibition of gradueness attributes by graduates. Participants C2 expressed dissatisfaction. He pointed out that once upon a time he too was a freshly recruited graduate. He vividly recalled how he went about his duties and the mentorship he was exposed to. He claims that today's graduates are very different from that. After recruiting them one should be prepared to spend more than four months teaching them things which can be considered as basic. Asked whether it had something to do with the personal attitudes of the graduates he said no. He went on to say;

“...attitude wise they are well groomed and respectful. There appear to be a missing link between the two worlds” (Participant C2, Interview June 2014).

The participant was implored to clarify what he meant. He was quick to point out that graduates are conversant with theory but struggle to apply it. I asked whether this had been brought to the attention of the college. In his reply he said in some forums yes, however curriculum review workshops are the privy of those closely connected to higher education and based in the capital city. This reiterated the assertion brought earlier on that curriculum designing is being done by the wrong people.

This cry did not just originate from industry, the lecturers and some college administrators pointed out that at times the wrong people are sent to a task that is beyond their capabilities. A scenario of this nature obviously compromises standards. At times an auto-electrician might be sent to go and represent the motor industry. In such a case one is bound to perform tasks related to other disciplines that are not his area of specialisation. However, industry is said to be committing worse offences by sending totally wrong people for workshops. An example given was that of a Human resource personnel going to represent a technical discipline. Allowing such a set up is actually a recipe for disaster.

However the other two participants seemed to have different views. They argued that graduates cannot be said to lack gradueness. There is a wide difference between them and the layman. Although they might be lacking in one or two areas, they can make a difference in the organisation. One of them went on to give examples related to her trade which is electric power. She argued that although the graduates might still have a lot to learn about the plant, they can certainly wire a building or rewind an electric motor. She went on to say that the outcry by industry stems from the fact that captains of industry have set up great expectations for the graduates. If they expect the ordinary from these people, then they would deliver.

4.4.2.13 Conclusion

A range of themes were picked as far as the embedment of gradueness attributes is concerned. The general trend is that participants felt that if the attributes are embedded in the curriculum it affects the promotion of gradueness.

4.5 SUB-RESEARCH QUESTION 3

In what way does curriculum contribute to the perceived under-preparedness of graduates?

4.5.1 Introduction

People might talk of graduate under-preparedness but, unless it is said in line with the stipulations of the curriculum, then it is just a shot in the dark. Graduate capabilities should be measured against what they are expected to know. It is these loopholes, if there are any that the question engenders to point out.

4.5.2 Curriculum & graduate under preparedness

4.5.2.1 Preamble

The main theme is curriculum and graduate under preparedness. On its own the curriculum cannot be blamed for the under preparedness. However, there are other insinuating factors surrounding the issue. It is these threads that I identified as contributing to the under preparedness of graduates. Each thread would be discussed in the light in which it was presented by the participants.

4.5.2.2 Curriculum review exercises

The relationship between the curriculum and technology is important in the training of graduates. One can try to ascertain the symbiotic link between the two and establish whether it is the curriculum that determines technology or technology that influences curriculum. What is certain is the fact that there is need to constantly review curriculum. Participant A1 said; although effort is made to constantly review the curriculum, it should always be borne in mind that;

“...curriculum does not adequately cover everything because of the dynamics in industry. It is common for curriculum to be lagging behind in relation to technological advancement” (Interview, March 2014).

The participant wanted to point out that the dynamic nature of technology will always determine the curriculum. Once something new comes on the market, it is impossible for it to be absorbed in the system during the course of the year. The only sober thing

to do would be to effect the changes in the next review. In this light then, curriculum can be said to contribute to under preparedness to some extent. That is, changes in curriculum cannot keep up with technological advancement. An example that was given involved diagnosing cars for defects using computers instead of doing it manually.

4.5.2.2.1 Curriculum reviews compromised

Participants lamented the lack of professionalism exhibited during curriculum review workshops. Participant A8 was cautious to say that curriculum needs to be constantly reviewed to be in step with technological advances. Some participants just gave it as it is. Some of the sentiments were;

“...curriculum review should be a sacrosanct for specialist and relevant people only” (Participant A2 Interview, March 2014).

“...wrong people are spending government coffers under the disguise of curriculum review. Instead of the correct people being invited for the task, only those close to the organiser are invited. The result is that wrong stuff would be discussed and wrong amendments effected” (Participant A4 Interview, March 2014).

I was told that, in spite of the effort to include all stakeholders, greed that has gripped the players might at times result in wrong alignments of trades being adopted at these curriculum workshops. If an invitation is sent to industry, it is not surprising that at times someone from the Human resource department might come to represent a discipline in engineering. Scenarios like this are rampant although authorities rarely talk about them.

More than one thing can be deduced from the statement. We can take it to reveal that curriculum reviews are held, that government sponsors activities of this nature, and there is lack of transparency in the way things are done. It is not the rightful stakeholders who are consulted during the exercise. Some elements might be abusing their offices by taking the national event as personal/private welfare and only considering their kin. A practice of this nature certainly impacts on the product of the gathering namely the curriculum and in the long run, the graduates. What might be

agreed upon by the gathering might not be what is expected by bona fide stakeholders. This may have contributed to some of the disgruntlement concerning the graduates.

Participants presented another thread which is closely linked to the theme above. They continuously referred to compromising of the curriculum by setting wrong standards. The wrong standards come about in that a wrong representative might not know the requirement of a trade and hence end up coming up with strange contributions. A participant from a different group pointed out that for as long as the issue of the rightful people not being involved in the curriculum reviews, the whole thing would remain a facade. Participant A 3 elaborates; *“Wrong blueprints are adopted in the curriculum due to wrong representation” (Participant A3, Interview, March 2014).*

The participant was taking this from the perspective that in some quarters the wrong people are sent for curriculum reviews just because they will be interested in the remuneration for the exercise and not in the work produced. Consequently, the employability recommendations that will be made by these people will not be practical when it comes to implementation. The participant went on to propose that curriculum issues be finalised by a board. All other members should just make recommendations to the board. By this suggestion, the participant indicated that he was trying to safeguard against abuse of office by some individuals.

4.5.2.3 Obsolete machinery

I found the question of shifting the blame to obsolete machinery very fascinating. It triggered sentiments about the on-going conflict on the subject. Participant A6 said;

“...the curriculum should not be blamed. Instead blame should be directed on the obsolete machinery that arrays the workshops. The content in the curriculum is very relevant. However, limited resources result in things being said in principle and yet not in practice” (Interview, March 2014).

A response of this nature reflects a disgruntlement by the participant. One might wonder how obsolete machinery might bear the blame for graduate under- preparedness.

Implored to elucidate his assertion, the participant explicated that the graduates are innocent victims of a system. Instead of blaming them, it is the system that should be blamed. In this regard, blame comes in that there is no rationale in exposing trainees to machinery that has been phased out from industry. Obsolete machinery should not be kept in workshops as they might negatively influence the students.

A participant representing industry pointed out that institutions should be wary of the type of donations they get. Some organisations are in the habit of donating machinery that they would have phased out. Practises of this nature will not benefit the student much. Actually if institutions just blindly receive and use the phased out machinery, the students produced by such institutions would not fit into the current field. That is, training through the use of obsolete machinery will equally mean that the products would equally not be fitting into present day industry that is technology driven.

The contribution by industry reaffirms complains by lecturing staff. Machinery used by students should be given a stipulated life time. After a certain number of years all machinery need to be phased out and replaced by state of the art machinery. Probed further on why that was not being implemented, participants cited the existence of a problem with the college authority. They pointed out that at times it is difficult to convince a non-technical person on such issues as technical as machinery. They also argued that the situation can be circumvented by giving managerial positions in polytechnics to technical personnel. By so doing, students would be served from being exposed to something that even the lecturers condemn.

4.5.2.4 Work readiness and commitment

The interviews with the Captains of industry meant to expose both the satisfaction and the dissatisfaction they might have over the graduates. Commenting on work readiness of students when they come for attachment, one of the participants indicated that their theory coverage is very satisfactory. Considering the time that the students would have spent at college, most of them will be very conversant with the basic principles of the trade. The participant said the theoretical knowhow can be pegged at 70% coverage.

The observation was also supported by participant C2. This implies that industry has no complaints as far as content coverage is concerned. Another implication that we can deduce is the fact that the curriculum covers areas considered of importance by industry. Hence, one is justified in deducing that the contribution indirectly acknowledges that higher education is playing its part in imparting knowledge to the trainees.

However, asked to comment on student performance in practicals, participant C1 first gave a sigh and a prolonged w-e-ll. Then she said,

“...honestly speaking, practicals are a disaster. Most students are completely lost when it comes to practical work. They are unfamiliar with most things which we expect them to know. The artisans mentoring these students really had a tough time during their first few months” (Interview, June 2014).

I probed further to ascertain whether these industrialists take attachés as students on training and not capable workers. On different occasions the response was they were fully aware of that. I found this assertion to be in total agreement with what was voiced by both the lecturers and the students themselves.

The general observation made by the participants was that things were no longer as they used to be. Training institutions are overwhelmed by the enrolment and unconsciously standards are compromised. All parties interviewed did agree that mass education was a welcome development. However, there was need to match the rapid expansion in enrolment with infrastructural development in order to curb straining the existing facilities. In their interview, lecturers lamented the unavailability of training resources and congestion in workshops to the extent that practical lessons are currently reduced to group work. Yet, the loophole in this strategy is the fact that only a few members of the group benefit from the activity as the rest would be reduced to merely observing what would be taking place.

I went on to ask whether this incompetence by students was not a question of commitment since some of them do not take things seriously. The participant was quick to say;

“...commitment wise the students are very ready for employment. Their attitude is very good. They are very respectful and loyal. I think the idea of teaching all students ‘National and strategic studies’ has started to yield positive results” (Interview, June 2014).

This assertion was echoed by participants C2 and C3 who credited the students for a positive attitude. The subject referred to by participant C1 is one of the compulsory subjects that should be covered by all students at Zimbabwean institutions of higher learning regardless of their trade. It touches on patriotism and civic responsibilities among other things.

This show of appreciation of generic subjects by captains of industry shows their approval of universal subjects that promote graduateness. This contribution waters down the argument by some students that their time was being wasted on subjects not related to their trades. They were of the opinion that forgoing these subjects would create more time for practicals yet; they were failing to grasp the situation on the ground. Lack of practicals had little to do with shortage of time but a multitude of other factors. Among these are shortage of working space and limited availability of training consumables. The subjects in question not only serve as eye openers but broaden the students` horizon as well.

Asked to comment on graduate work readiness, the participants put forward three observations. C1 and C3 had this to say;

“...graduates do not exhibit the expected technical skills during probation. Some are taken aback that they tend to voluntarily extend their probation periods due to inadequacy. They just fail to exhibit some basic technical skills that are vital for trade”(Participant C1 Interview, June 2014).

“...some graduates who join industry appear very ‘raw’ that the employers need to take time with them in order to make them fit into their organisations” (Participant C3 Interview, June 2014).

The participants concur that theoretically students will be well equipped hence the problem stems from the issue of practicals. However, the nature of most trades call for competences that are exhibited by actually performing. No matter how widely read, graduates might be, it is the actual 'hands on' that counts. Once graduates fail to perform, then their gradueness is compromised.

The above assertions reflect a yawning gap of incompatibility between the products of Higher Education and industry. Most organisations in the country run 'trainee graduate' programmes for newly recruited graduates in order to prepare them for the world of work. Considering the fact that the incumbent would have spent three (3) or four (4) years at college/university, one cannot help wondering whether this is not a waste of resources.

Secondly, participants put forward the notion that prospective employers were not sincere in their dealings. They at times expect trainees on attachment to perform tasks meant for the qualified artisans and then complain at the end. Participants regard this as making half hearted attempts in teaming up with higher education in as far as the production of manpower is concerned. Participant B9 also touched on lack of commitment by industry to produce graduates who meet their needs and expectations: *"The employers are also to blame because they are actually complicating the situation by pretending to take students for attachment and then use them as qualified artisans. When on attachment, students are expected to work under the guidance of artisans to enable them learn the secrets of the trade yet, some of these employers are now falling on student attachment as a source of cheap labour"* (Interview, March 2014).

In as much as the participant was quite charged when he made this allegation, one would understand the cause of his emotion. That is, the very people blaming higher education for producing half-baked cakes are the ones to blame for stealing the cake when it was not yet ready for serving. On further probing participants revealed that trainees need to be given time to grow in their fields. Nurturing of these students need to be done in accordance with the stipulations of the curriculum. Thus, total commitment

by both parties would yield more positive results. The college needs to play its part just as the other stakeholders.

Thirdly, participants brought forth the notion that brain drain has in a way affected newly recruited graduates. Participant C1 explains: *“The exodus of people going to the Diaspora left a lot of unfilled vacancies. Consequently, graduates are quickly appointed to these posts yet, they would be incompetent. Management usually laments at the inadequacy of new graduates ignoring the fact that it is them who would be expecting too much from the novice employees”* (Participant C1, Interview, June 2014).

The truth of the matter lies in the fact that most companies honour an ‘in house’ policy when it comes to promotions. They prefer to promote someone already in the organisation rather than advertise externally. Resultantly, a newly appointed graduate who normally should operate under the guidance of a seasoned employee would find him/herself in a leading role. If all is well, then industry would remain quiet, but once the incumbent has failed to perform, then the blame is pushed to higher education for producing half-baked graduates.

One can comfortably deduce that the point that the participants were trying to make is that in as much as higher education has its short falls; it is not totally to blame for the poor performance by newly recruited graduates. Captains of industry are at times playing the blaming game when it is them who would have expected too much from the graduates. An example that was brought forward was that of ‘Graduate Trainee Programmes (GTP)’. These are training programmes given to newly recruited graduates under the guidance of the recruiting organisation. The participants pointed out that some organisations forego these programmes and then blame the graduates for not performing to expectations instead of revisiting their policies. This is revealed in the assertion below;

“GTPs are a must because they enable graduates to familiarise with the company and its policies before taking up their rightful positions”. (Interview, June 2014)

A very noble practice is currently being flawed due to the shortage of skilled manpower. All things being equal, some of the complaints by industry pertaining to graduates being

under prepared for employment would not be that loud. Participant C3 pointed out that skills acquired by trainees at college and those expected by employers are somehow different. He went on to explain that at college, trainees are equipped with basic skills. What one might refer to as an appreciation of the trade and,

“It is within the organisation that a graduate will be fully initiated to the world of work” (Interview, June 2014).

Participant C2 however had a different opinion. He pointed out that while there are certain attributes that graduates are expected to acquire at their respective work places, there are some things that are mandatory for anyone claiming to have studied a certain field. It is these things that graduates are expected to exhibit when they join the employing organisations.

The Graduate Trainee Programme was put in place in order to address issues relating to adaptability. Campus life and work life are two different things. Graduates need to be carefully introduced to work routines and production lines. Each organisation has its own structures and practices. Expecting higher education to produce graduates that would fit hand and glove with all these diverse organisations is rather asking too much. GTP should be fully utilised to address these issues. Asked whether we are likely to get to a time when we would do away with these programmes, participants said for the efficiency of organisations, these programmes should be maintained. It might appear as if industry is wasting resources and time on these issues yet, the reward is greater than the investment.

Participant C2 went on to give examples of how graduates were failing him in his organisation. First to be brought forward was the issue of failing to identify basic tools for the trade. He pointed out that when probed these graduates will appear familiar with outdated machinery. His trade is refrigeration; he gave an example of the equipment they use in gassing the fridge and pointed out that most of the graduates cannot even identify it not to mention using it. I noted with interest the fact that this participant once worked as a lecturer at the institution under study. I probed in order to find out whether the equipment he was referring to was available at the institution during his stay. His

response was in the negative. I observed that the participant was referring to some of the latest technologies and noted that in this case; the graduates were blamed for something that they had no control over. Technology can change at any time. This could be the time between completing a programme and graduation. In such cases industry should be flexible enough to be ready to cut one or two loose ends on the product they will be receiving.

4.5.2.5 Massive enrolment

Having received different views on massive enrolment from interviews, I brought it up to the focus group in order to get clarification. I observed that the issue of massive enrolment in relation to lecturer student ratio when it comes to the training of engineering students was a recurrent feature during the interviews. It is for this reason that the issue was brought up to the staff focus group where it generated a lot of interest among participants. The topic triggered unprecedented interest among the participants. It was noted that the issue was of interest among both students and staff. Unknown to me, the topic was a burning issue within the institution. As one lecturer eventually pointed out, they were excited to be in a position to discuss the burning issue with members of the senior management who were in the group. However, the seniors handled the issue quite calmly.

Regarding the matter, I asked the group to discuss on the policy surrounding the lecturer/student ratio to enable me to iron out conflicting ideas that I picked from the initial interviews. The most senior member in the group volunteered the information and highlighted the fact that for other disciplines like Commerce, it was 1:20. The reason why such a number was allowed was the fact that the trades were not practical in nature hence; the lecturer was expected to manage the number of students easily. He went on to point out that for engineering the ratio was 1:12. This was taking into cognisance the nature of the discipline and the fact that there was need to constantly monitor all the students especially during practicals.

I could see the lecturers exchanging glances then looking at the moderator expectantly. On probing to know when the policy came into effect, it was pointed out that the policy had not been revised since the early 80s. It was then that it became clear as to what had prompted the current practice. Unanimously members agreed that the only fact that gave birth to this was the issue of 'mass education'. Even the lecturers who were quite charged earlier on admitted that if that was the case, then they knew and understood the birth of the practice.

Mass education in Zimbabwe was introduced after the attainment of independence in 1980. Effort was made to get rid of the 'bottle neck education system' which was practised by the colonist regime. Education was declared a right for every child regardless of colour, sex or creed. This declaration opened the flood gates to the masses that had been deprived access to education. The rapid expansion of the basic education sector meant that a valve to accommodate these people in post education should also be made. This gave birth to the high enrolment (Zimbabwe constitution, 1980; Chung and Ngara, 1986). Effort was made to increase the number of tertiary institutions in order to absorb those leaving basic education. At the time of attaining independence, Zimbabwe had only one university namely the University of Zimbabwe but to date it boast of sixteen (16) universities, ten (10) of these being state universities. Similarly more teachers' colleges and polytechnics were established across the country. In spite of all these achievements, the institutions are still overwhelmed by the high volumes of students. It is against such this background that institutions find themselves enrolling more students than their capacity to try and cater for all as is enshrined in the national constitution.

Although I understood the background to massive enrolments and seemingly all participants, there was one thing that I wanted to find out from the participants. In order to make every member participate, the question had to be phrased as 'give your personal opinion on the lecturer student ratios currently being experienced in the institution'. These were ranging from 1:70 to 1:90 for engineering disciplines and just out of interest for commerce they went up to 1:200. One lecturer just burst out "this is day light robbery. Students are being short changed because which theory of learning can

justify such a scenario'? Everyone in the room understood his anger, however, I pretended not to have noticed the venom and asked him to clarify what he meant by day light robbery. Still he did not mince his words. He stated that,

"...policy or no policy, institutions are stealing from students. Unless the lecturers are super humans handling such classes is impossible. After all, the people who craft such policies or even allow such situations to prevail do not even send their children to these institutions. They create unbearable environments for others and then take their children to expensive private institutions" (Participants B4, interview March 2014).

Members of the focus group held different credentials. By putting them together, we had the college community represented at different levels hence their voice reflects the general view of the institution. This participant had certainly spoken for the voiceless. The first thing I read from the contribution was the fact that even those operating within these institutions were aware of the unjust practices around them. As the participant pointed out managing a class of ninety (90) students at a time takes a super ability. The issue to consider now is whether such beings are available. From the anecdotal evidence gathered within the institution, it is quite evident that the lecturing staffs are de-motivated by a number of things. Previous research by renowned scholars like Herzberg (1959), in his two factor theory revealed that a de-motivated being cannot yield much compared to someone who is intrinsically motivated. In his two factor theory, Herzberg pointed out low salary, bad working conditions and restrictive policies of the institution as some of the dissatisfiers that affect production. Dissatisfiers come from the individual relationship to the environment of the institution in which the work is being done. Thus, Herzberg (1959) found that if motivating factors are fulfilled, they will account for high levels of job satisfaction. They motivate individuals to greater effort and performance.

After further probing it was revealed that by 'short changing' or 'stealing' from students they meant that the students are not getting what they should get under normal situations. Some lecturers went further to state that students are awarded certificates for the duration of their stay rather than mastery of skills. Their argument being if a classroom practitioner is cornered to work under unbearable conditions, no matter how

hard one tries, the tendency is to fall on one's survival skills. This then entails doing what one could and blocking out the rest. Unknown to management who might think that all is well; it is the student who will be left bleeding. The practitioner would conduct both theory lessons and practicals and render the necessary feedback when called upon to do so. Thus, the situation created here is more dangerous than leaving students unattended because the latter has a life span. It cannot be left for ever since somewhere down the lane the students themselves would start complaining and the situation would be corrected. The situation portrayed here is difficult to address since people in charge think that all is well yet the man on the ground is unable to "lift his yoke".

Another issue that I drew from the data is the fact that there was no consultation made during the crafting of such a policy. It might be that it was done a long time back. However, one can read lack of communication between management and staff. Had it been that a healthy interactive environment was prevalent, then the participant would not have made such an outburst. Normally the misgivings shown by the staff members would have been voiced a long time ago and maybe then the situation would have been redressed.

4.5.2.6 Policies impacting negatively on student attitudes

From the assertions made by participants, one can detect that the issue of policy is impacting negatively on student attitude towards work. Policy comes in through the fact that education is regarded as a right of every citizen. Most government institutions end up absorbing large numbers in an effort to provide education to all who quest for it. The fact that government institutions over-enrol yet they are underfunded negatively affects training. One participant noted with concern that most policy makers do not send their children to government institutions but to private colleges. It is the ordinary man's offspring who is subjected to harsh training conditions. On probing why that was the case, participants indicated that the policy makers are aware of the negative effects of overcrowding and would rather not subject their own offspring to the system prevailing in these institutions. Further probing revealed that most government institutions are

overcrowded because the fees are slightly lower than that of private colleges. However, the otherwise noble gesture is overshadowed by limited resources. Another participant remarked that policy makers do not care much for what transpires at the grass root. Asking for clarification opened a Pandora's box hence consequently the matter was given a rest since my mission was to establish the relevance and depth of the skills that graduates get learning under such conditions and ascertain whether they contribute to the graduateness and employability or not.

One participant asked if overcrowding students was a sign of democracy. I threw the question back to him. He then explained that at times policy makers have a mistaken notion that by so doing they are serving the interests of the masses yet; they will be compromising the standards. Institutions can only take a number that is commensurate to the infrastructure and available human capital. Expansion in enrolment alone will not yield favourable results as some other components in the training exercise will be strained. Thus, effective training should be done in small numbers.

The other members in the group were moderate about their contributions. It was clear they were not in support of the prevailing situation. From their utterances it was also clear that their wings were clipped and they had little or no hope at all in the situation being redressed. However, two of the members explained that as educationists they were making the best out of the situation. One of them explained the concept of improvisation and elaborated how it becomes handy in situations like this. He admitted the situation was not conducive but most lecturers were doing their best to help the students. He explained how lecturers were working extra hours in order to ensure that all the students get their opportunity in doing workshop practice since it is most affected. Theory lessons can be carried out with ease and participants pointed out that they even refer to them as rallies. For practicals, students are divided into smaller manageable groups and then they attend separately.

After some probing and debating, the participants finally agreed that what is explained above is what is being done by all. However, the point they wanted to make was that it was not a healthy situation. Most of them agreed that teaching is more like a calling.

Rarely do teachers work under supervision. However, one's conscience is enough to force someone to go an extra mile even when all odds are against him/her.

4.5.2.7 Curriculum relevancy and appropriateness

Reacting on whether there was a loophole in the curriculum that was contributing to the alleged under preparedness of graduates and the resultant employer disgruntlement, the bulk of the participants said there was no void. However, participant B2 pointed out that we cannot ignore the issue of *minimal practicals* that students are getting as this impacts on their overall performance. She explained in terms of the way students were being assessed. Her actual words were;

“...the new method of assessment is questionable. The element of field based assignments is impacting negatively on student performance. Course work has been watered down. The old system that was being used for assessing engineering students was very effective” (Participant B2, interview March 2014).

Tasked to clarify how the system had been watered down, she said the new system was promoting compliance among students. Students have come to realise that all other assignments and tests that they might get are just for practice purposes. Most of them do not apply themselves fully throughout the years. Having submitted the three field based assignments, students tend to relax until examination time. Most of them are caught unaware and fail; yet, the volume of work expected per student during the course of the year has been reduced drastically. More so, students are aware that course work has more weighting compared to the examination. However, there is need to closely analyse the effects of this new system.

The majority were of the opinion that as long as the issue of practicals was addressed, then the system would be relevant. In other words, *there is no way that the curriculum would be blamed for graduate under preparedness*. One participant hinted that we need not forget that the industrialists are stakeholders and should be availed the platform to play their role in the training process. Once that is addressed, then employability is certain as graduates would be in possession of the skills that employers look for.

Considering that participants were advocating that the curriculum was very relevant, I then asked the student focus group whether it was possible to do away with trainee graduate programmes that are offered to newly qualified graduates by most companies before they secure employment. The topic triggered a lot of debate among the participants. Some were attributing the programme to greed by industrialists. They regarded it as a way of exploiting the innocent job seekers in that for the period the graduate would be prone to the programme, he/she would not be paid a salary commensurate to his qualification. In other words, members felt that for the prospective employer, production would be ticking at a low cost due to the exploitation of graduates.

Another group within the same focus group did not view it as exploitation. Rather they argued that there is no way we can do away with the trainee graduate programmes. Yes, the incumbent would have mastered the requisite skills for his/her trade but, that is not all that is expected for one to secure employment. The group was of the notion that the programme is meant to equip incumbents with organisational skills to enable them fit into the structures of the employing organisations. They argued that although qualified, these graduates do not have the exposure to make them full artisans/ journeyman. It is through programmes of this nature that graduates are groomed for their respective roles.

4.5.2.8 SECONDARY EMERGING ISSUES

Participants brought in two issues which I took in as secondary findings since it is not directly linked to the study. However, the issues may have a bearing on the type of graduate produced by the institution. These issues are discussed under section 4.5.2.8.1 and 4.5.2.8.2

4.5.2.8.1 Lecturer shortcomings

A major challenge noted by the Bachelor of Technology students is that most of the *junior staff does not have industrial experience*. Consequently, they rely so much on text book information. The closest they can be to some of the concepts is through the use of

models. However, it takes someone with full knowledge on something in order to be able to explain all the components of a model. Participant B6 explains; “...*There is too much theorisation. Lecturers are just relying on models since they lack industrial exposure. They have never worked in an industry and are totally ignorant of industrial procedures*” (Participant B6, interview March 2014).

This allegation needed further clarification. On checking out the lecturer profiles, I established that the participants were correct. Most of the junior lecturers did not have industrial experience as they were recruited fresh from university. They had never been employed anywhere even as assistant artisans. The above quotation by participant B6 reflects a problem in the system. The lecturer might just concentrate on teaching what they know and neglect the greater part of the curriculum. It takes someone who is more knowledgeable than the student to be able to explain concepts convincingly. The issue goes back to what the interviewed lecturers referred to as *industrial attachment during holidays as part of staff development initiatives*. If such an arrangement is effected, then complaints of such nature will be a thing of the past as lecturers will not just have industrial exposure, but will also be exposed to the latest technologies. Thus, their proficiencies in class will improve and the students will get the best. In such an environment, concepts will be explained fully because the trainer will be aware of what he/she will be talking about.

4.5.2.8.2 Student reliance on colleagues

One participant commended the introduction of the block release system for the Bachelor of Technology programme. Her argument was that such an arrangement would help in wide consultation. Students come from far and wide. Most of them are meaningfully employed hence, they would bring with them different experiences to share with their colleagues. It is those students with strong industrial exposure and those that are in touch with new technology that explicate some technical concepts to their colleagues. Considering earlier assertions by the students, I comfortably concluded that when it comes to industrial mechanisms, the best person to give advice would be the one on the ground. This is in line with the above notion of lecturer inadequacy.

4.5.2.9 Conclusion

A range of threads came up in a bid to establish whether the curriculum can be blamed for graduate under preparedness. However the issues that came under discussion reveal that a number of aspects contribute to the under preparedness of graduates. One of these was the failure by industry to explicitly state what they want or what is lacking in present day graduates.

4.6 SUB-RESEARCH QUESTION 4

What is the link between employer expectations and the outcomes of higher education in relation to employability?

4.6.1 Introduction

In order for someone to blame a practice or a system, one ought to be conversant with the demands of that particular thing. The question seeks to ascertain employer expectations. It is only when we have a clear picture of what the employers expect that we can start thinking of addressing their concerns in line with graduate employability.

4.6.2 Curriculum and employer expectations

4.6.2.1 Preamble

In the education sector, the curriculum plays a pivotal role. It dictates the core values of a discipline. It might also include a lot of other things since there is the existence of a hidden curriculum. The hidden curriculum incorporates those aspects of curriculum delivery that are not written in the official curriculum to which students are subjected under the auspices of an institution. Hence, by curriculum one can consider the totality of experience that a student receives under the guidance of a college.

To enable me to highlight the link with what higher education really produces and the expectations of commerce and industry, there is need to juxtapose the curriculum and

expectations of the prospective employers since it is these things that would warrant graduate employability. Asked to comment on the curriculum content vis-a-vis the employer expectations, participants were unanimous that the curriculum content is very relevant. There are no challenges as far as the impartation of theory is concerned. The lecturing staff is very qualified and the library is well stocked. However, the relevance is marred by the fact that theory on its own does not create the balanced person that is sought after by industry. The total being that the curriculum seeks to produce is someone who can spontaneously respond to both theoretical and practical situations. The theoretical element is useful in consultancy and managerial situations. Challenges are encountered in practicals due to the unavailability of resources. This compromises the coverage of the practical component of the syllabi. If the two, theory and practice are equally balanced in practice, then one could comfortably be satisfied with the curriculum coverage. As it stands, it is only on paper that the curriculum can be said to be representative all elements that should be taught at various levels. In reality, the area on practicals is lacking due to limited resources, even demonstrations in class are rather limited. In instances whereby trainees need to be given more practical work in order for them to grasp some concepts, the resources may not permit. In the end the refinement that trainees are expected to get from 'the actual doing' would be missing. Hence, the overall product is not as wholesome as it should be.

4.6.2.2 Industrial training

4.6.2.2.1 Regional attachment

Participants brought up sentiments that industrial attachment gives the students an opportunity to interact with industry and learn from it. This is in line with Bandura's (1977) Social Learning Theory (McLeod, 2011). The theory argues that students learn by observing and imitating. Hence attachment provides a platform for the two stakeholders to collectively mould the student. However, several impediments mar the effort. One of these is restrictions in the deployment area. Participant A4 recommended that students be allowed to be attached *anywhere in the region*. This, he argued, would

give them more exposure to the latest trends in their trades. He was quick to point out that most institutions discourage this due to the costs involved when making follow ups for the students. He indicated that the problem can be circumvented by making on line follow- ups. Regional deployment would also enable the lecturers to interact with their colleagues at regional level and exchange notes. It is also in line with embedding employability in the context of widening participation (Thomas and Jones, 2007).

However, it should be noted that the participants pointed out that by saying direct entry students are not getting adequate exposure they are not underestimating the service they get when attached to industry. These trainees are supervised by competent artisans and are strictly monitored. However, the call is on increasing the contact time. That is, time spent in industry actually focusing on production.

4.6.2.2 Enhancing industrial attachment

Participants were also asked how the industrial training can be enhanced to promote graduateness. In their response they highlighted a number of things. Some of these could be summed up as;

“...revisiting the attachment period, ensuring proficiencies cover the requirements of the entire trade and ensuring that follow ups are done by specialist so that students are not prejudiced in the rating of their performances” (Interview, arch 2014).

One participant justified their assertion by saying broadening proficiency schedules would ensure that the graduates will not be of limited scope. They should be able to fit into any situation and exhibit trade mastery and problem solving techniques. By continually touching on proficiencies, it became clear that what the participants were advocating for are in actual fact graduateness attributes. Probed on how this would contribute to employability, participants explained that the graduate ought to possess graduateness first. Once the requisite attributes are mastered then we could talk of employability (Coetzee, 2012). Although employability goes beyond securing and keeping employment, making use of graduateness attributes would enhance employability.

Probed on what they meant by 'revisiting the attachment period', they reiterated earlier assertions that the time allotted for attachment by the direct entry students was inadequate. They also highlighted that proficiency ratings can only be meaningful if done by an expert in the trade. A layman might ignore some vital aspects in a trade.

4.6.2.2.3 Industrial attachment contribution to employability

In the focus group that discussed industrial attachment analysing its contribution in preparing graduates for the world of work, participants were at first divided into two camps, those trained under the apprenticeship model and direct entry model. The assertion was that for the apprentices, the industrial attachment was adequate. They have a full three (3) years of industrial training under the watchful eyes of industrial training officers and seasoned artisans. They have stipulated hours to work in the plant thus carrying out meaningful practicals and exposure.

For those trained under the direct entry model, the participants felt that the period allocated for industrial attachment was not adequate. On paper, trainees are said to be on attachment for one (1) year. However, the situation on the ground is slightly different as not all students secure attachment places at the beginning of the year as expected by the curriculum. Some get attached around February or March and stop by October. In such a scenario, the effective attachment period would be less than a year. In other instances, the attaching company would only be specialising in one particular component of the trade. This means that if the student does not move from that company to another, by the end of the attachment period, no meaningful practice would have been gained by the student.

A different scenario was also portrayed to show the inadequacy of the one year attachment period. The argument put forward is that, in just one year one would not have mastered enough practice to make him/her competent. More practice is necessary especially in industry as in real life one will be confronted with different situations. One of the gradueness attributes entails being able to make sound decisions. Thus, the attachment one gets should expose him/her to making these decisions.

Participant B1 advocated for extending the attachment period for direct entry students to three (3) years just like the apprenticeship model. However, he was quick to point out that apprentices get an allowance to help them meet their subsistence expenses. In line with this view, he expressed that the attachment would be more meaningful if direct students are accorded such an allowance. He also pointed out that with the massive brain drain bedevilling the country, chances are in some instances graduates are recruited and given responsibility as head of shift. If the training was not thorough enough, then the possibility of accidents cannot be ruled out. In the light of this information, there is need to ensure that graduates are thoroughly prepared for the world of work.

Another participant lamented how time is wasted under the pretext of covering theory with the direct students. She pointed out that if apprentices cover all the theory meant for the programme in one year, what logic then is there for the direct entry students to cover the same volume of work in double the time. She said it would make more sense if the additional year was spent in the industry to enable students to catch up with the demands of the trade. She went on to say that on recruitment, some students in the automotive discipline will not have ever seen the engine of a car yet, ironically that person will be expected to service cars. All these examples point at the need to constantly expose trainees to the practical work.

One participant said attachment just for the sake of attachment is meaningless. Students ought to know why they are at a particular organisation at any given time. Some students just get attached to fulfil the requirements of their study programmes; yet, one should have a proficiency schedule and should know that from this organisation a number of proficiencies would be covered. This is explained below;

“Besides being restricted to just one (1) company, students should be allowed to move about getting different skills from different employers” (Interview, March 2014).

These sentiments were made in a bid to push for the total mastery of skills during training. One participant even referred to this type of training as the “journeyman style”. She said it was referred to as thus because in order for one to acquire a particular skill,

they had to travel to the place where they would acquire it. Hence participants feel that the notion of restricting trainees to only one company during attachment was okay as far as maintaining student records is concerned, but was not helping the students in any way. The product that was produced at the end of the day was blinkered in the sense that they will not have the full view of the trade.

These are the words of participant B4 who was trained under direct entry programme;

“I had to find my own attachment. After attachment I felt different from the part time students, who during that time, were not going for attachment. Although I felt different, I cannot say it was adequate because I just went to one company. It is impossible for one company to equip me with all the skills that I need as a fully-fledged electrician” (Interview, March 2014.

The quotation shows that even those trained under the programme are aware of its shortfalls. The students themselves are mature enough to help in the crafting of a water proof system. Thus, unless the issue of limited attachment period and the journeyman concepts are addressed, then one can say to some extent the employers are justified in crying foul over the performance of some graduates. The question of moving from company to company was brought forward by most of the participants yet, the system is very adamant that students should remain at the same place/company unless permission is sought from the college to allow them to move only once at most. Cognisance is not taken of the benefit it gives to the student.

4.6.2.2.4 Attachment for direct entry students

The focus group also discussed the industrial attachment for direct entry students. As explained earlier, students under this programme go for attachment for a full year. They are deployed at a company of their choice where they are expected to be stationed up to the end of the year. Movement from the company can only be recommended or approved by college. Some participants are of the opinion that the policy is very good in terms of college administration; however, it deprives students a lot in terms of exposure. Students would get to understand the dynamics of the organisation they are attached to

but that does not mean they would have mastered the demands of the trade. I requested the group to deliberate on the policy in light of the notion of disadvantaging the students.

The debate was very heated. Two members preferred maintaining the status quo while the other three opted for moving students around in order to maximise on exposure and skills coverage. Those against movement anchored on the fact allowing students to change companies might result in students absconding and later pretending that they would have moved to another organisation. Secondly, they argued that at any given time, the college should know the whereabouts of each student in order to allow for follow-ups and accountability of ZIMDEF allowances that are paid to these students. They argued that auditors might want to check on whether allowances were being paid to bona fide students. This information must be kept somewhere within the college hence the existence of an office responsible for on-the job education and training.

However, the other group asked whether students should be disadvantaged just for the sake of maintaining student records. The rationale behind their argument was that student performance was more important than student records. The group argued that their obligation as far as students are concerned was to ensure that they acquire as much as they could in relation to mastery of their trades. They pointed out what benefit would the institution get from perfect records and students attached at an organisation specialising in wheel alignment for twelve (12) months. At the end of the attachment period, the student is conversant with the motor industry. If the student had been allowed to move about, after a given period he/she would have joined a different organisation and acquired a different set of skills. If the student is allowed to stay at an organisation for an average of two months by year end they would have learnt quite a lot.

Another issue was the *adequacy of the one year attachment* period. Some members of the group were very comfortable with that. They argued if properly managed, the one year period is quite enough. The basis of their argument is that some universities only allow students to go for attachment for only one semester which is basically half a year. This particular camp maintained it is not the time factor that matters, but how that time

is utilised. Prolonging the period might result in the students relaxing only to be caught unaware at the end of the session.

The opposing camp foresaw students getting more exposure and a more divergent industrial base. Their argument rests on the fact that the present set up only allows students to scratch the surface of the work place realities. The attachment period should give the student a feel of the work environment. As one of the participants puts it “it is a platform to test the waters”. When people go out to test something they should get a feel of both the pleasant and the unpleasant things about the thing. Going for attachment for just a single year would leave the students “raw”. Extending the period will leave them closer to their counter parts that are trained under the apprenticeship model.

The apprenticeship model students are trained for four years. Three (3) of these years are spent at the recruiting organisation. As such, they are exposed to the production lines. Thus, mastery of practical skills is certain under this kind of environment. They only go to college for a single year get exposed to theoretical knowledge and then sit for examinations within that year. The argument presented was if apprentices cover the volume of theory in one year; why then should direct entry students cover the same volume of content in two years. Rather two years should be reserved for the mastery of practical skills.

Adjusting the time frames for direct students would give them a levelled playing field. As it stands, the apprentices and the direct entry students sit for the same theory and practical examination, yet their playing fields are not even. Although participants could not quite place their figure, it is apparent that one of the two groups is disadvantaged. If the noise made about attachment for direct students is anything to go by, then one can deduce that the direct entry students are disadvantaged.

To conclude the focus group discussion, members were asked to imagine that each of them had a minute to talk to the Hexco Director in charge of examinations what would they say? The question was asked in order to help participants sum up the discussion. The moderator hoped each participant would bring out what he regarded as the most

important points of the discussion. Most of the participants gave these as a revisit to the issue of student ratios and ensured the resolution arrived at was practical. One of them said the important thing was not to take lecturers for granted. On industrial attachment members agreed that reversing the times for direct entry students was necessary; that is making it one year for theory and two years for attachment would improve the quality of graduates in terms of gradueness and employability.

4.6.2.3 Employability in relation to the study

In a bid to address employability, we need to take into consideration assertions from the literature review by among others Fahria Masum (2010) that the mismatch between the workforce and the labour market goes beyond lack of appropriate skill and knowledge by graduates. A lot of factors are at play but higher education need to ascertain what the labour market wants something that could not be found in today`s graduates.

In the interviews, representatives of industry were asked to spell out their misgivings with the graduates. Participant C1 gave lack of practical experience as the key weakness. She cited lack of basic knowledge of operation systems pertaining to their trades when they first join industry. The fact that she expressed satisfaction on the level of theoretical knowledge exhibited by the students/graduates reflects that the requisite topics are covered in the curriculum.

The weaknesses pointed out by Participants C2 and C3 reflect that institutions may be lagging behind industry as far as technological advancement is concerned. Considering the speed at which technology is moving, students may know certain principles but fail to operate one or two machines within the industry. Lack of patience or tolerance by industry will result in complaints, yet the issue could be addressed within a short space of time if they could only increase their tolerance levels and provide the necessary training.

Research evidence given by renowned scholars like Thomas and Jones (2007:23) suggest that curriculum should address the employability of students through a number of ways including;

- Developing of explicit awareness of what employability is and what it entails.
- Facilitating access to discipline related work experience and reflecting on the experience.
- Boosting the confidence, self esteem and aspirations of students with regard to applying for graduate employment.
- Acquainting graduates with the labour market trends and equipping them with appropriate search and application skills.

The above suggestions call for the embedment of employability into the curriculum as a way of overcoming some of the weaknesses levelled against graduates.

4.6.2.4 Technical advice given by industry

Excerpts from symposium meetings reveal that practices that were deplorable were condemned and suggestions for improvement were readily given. In the automotive department, it was observed that they were compromising safety practices by neglecting some things. Although they might appear minor to a layman, industrialists showed that to them these practices mean a lot and should be observed all the times. Things like demarcations of gangways can be taken for granted by college authority yet, industry insists on it. Along the same lines, a first aid kit might appear immaterial at an institution with a clinic manned by qualified personnel. The mechanical department was reprimanded for using outdated practices and equipment during training. The remedy for dealing with the issue of outdated practices in the refrigeration department was given - staff development programmes were recommended for lecturers to enable them impart relevant skills. The following are extracts from the minutes:

- *Unhealthy safety practices were observed in the automotive department as there were no demarcations of gangways, no fire extinguishers and no first aid kits as remedial in case of accidents (Minutes, July 2010).*
- *The Mechanical department refrigeration section equipment was observed to be much outdated. It was recommended that staff in the department should attend*

staff development courses to be abreast with new technology so that they would be able to impart the necessary and relevant knowledge to their trainees (Minutes, July 2010).

Of concern was the observation made in the electrical department. That alone speaks volumes. Considering the fact that the observation was made by visitors who were in the workshop for a very short span of time leaves one wondering what else they would have seen if they had been there a little longer. The researcher could deduce negligence and laziness on the part of the departmental members. Rarely do people air their dirty linen in public. Considering the fact that the department was aware that guests were coming, they should have at least 'swept their mess under the carpet'. Leaving the wires dangerously hanging gives any observer a platform to question whether the wires were there by mistake or they are reflective of what transpires every day. Such a scenario does not only discredit the department but has a long chain of ripple effects. One starts to question the college authority and wonder whether they ever visit these departments to check on what goes on during training. Even the graduates produced by such a department also come under the spot light. One asks are these the conditions under which they were trained? Were they ever taught of the hazards of such things? If employed by an organisation will the graduate not be a liability to the organisation? The questions can go on and on. One can conclude that if the department is investigated a lot more things might surface. This was captured as follows in the minutes:

- *It was observed that wires were all over in the electrical department which was hazardous to human life. This reveals lack of safety precautions in the department and sends bad signals to tertiary training. It was however suggested that trainers in this department should expose their trainees to the correct electrical standards they are supposed to know and practice. Also, the optic audio link in the department needs to be attended to (Minutes, July 2011).*

The excerpt on precision machining students given below reflects that the Captains were free even to make suggestions that influence the daily running of things at the institution. Their key recommendation was that students should be aided by lecturers to

repair machines that were not working in the workshop. After servicing these machines, they should go on to use them in order to broaden their knowledge base. Thus a student who can do this would certainly be an asset in industry. No production time should be wasted waiting for the arrival of a technician to service the machines. The implication is the graduates produced under such circumstances should be multi-skilled:

- *It was noted that students in the precision shop were tested only on certain pieces of machines whereas there are many idle better machines redundant in the workshop. It was suggested that those machines be repaired by the same students with the help of lecturers so that they be knowledgeable on using a variety of models. (Minutes, July 2010)*
- *It was noted that the tyre removal device in the automotive department was not functional but was just a model used for training purposes. It was recommended that trainees in the same department should be educated on new models of equipment and machinery so as to be abreast with new technology (Minutes, July 2010).*

Similarly, it was observed that students in the department are only exposed to models and not the actual thing. Yet, in industry these students are expected to deal with real machinery/equipment. Although models are good as teaching aids, there is need to give students a feel of the actual thing since models do not develop complications and at no time do they challenge students with providing a solution. I took it that these might be some of the things that contribute to the disgruntlement by industry mentioned earlier on.

- *It was also suggested that the automotive department should have manuals on stroke and valve in Automotive engineering so that they can be used as guidelines on some of the precautions and regulations regarding the same profession. It was also noted that there was lack of quality on some products such as 'The Hydraulic' bearing extractor project. Although painted, it was not attractive (Minutes, July 2013).*

This last excerpt can be a cause for concern. Though suggestive, one can deduce that the suggestion was made after a deficiency had been observed. The unavailability of manuals on stroke and valve in Automotive Engineering has three connotations. First, the students are not trained on correct practices of constantly referring to manuals. Second, practices in the department might be deplorable hence the need to constantly refer. Lastly, the department had produced a machine to help in load lifting. If the gadget is sold, the client would need manuals for reference. The second part of the suggestion on the lack of refinement on the product on display might bespeak lack of quality. Such a tendency can be carried by the students to industry hence the need to nip it in the bud.

Thus, from 2010 to 2013 an element of dissatisfaction by Commerce and industry did crop up in the discussion in spite of the good things that usually grace the occasion. Although the voice is a bit subdued, it is worth listening to. This disgruntlement made by captains of industry and commerce represent employer expectations. These guests are experts in industry and commerce and most of them hold managerial posts, in other words, they are the employers. One is justified for taking their suggestions to be representative of the sentiments of all the other employers out there.

The minutes were quite an eye-opener. In them one could read things that people rarely want to talk about. Personnel might be highly qualified, or might have served in the organisation for some time but, that is not a guarantee that their performance would meet the grade. The graduateness of the graduates might be compromised by negligent staff.

4.6.2.5 Conclusion

Thus, the link between higher education output and employer expectations can be established by analysing the aim of institutions and that which is put forward by prospective employers as their expectations. The two are like the arms of one body. One is responsible for the production of manpower while the other utilises the manpower. I took sentiments by the captains of industry to reflect perceptions of college

graduates by the world of work. It is not everything about higher education that they complain about. Isolated incidents like the ones portrayed above are enough to tarnish the image of a system.

4.7 SUB-RESEARCH QUESTION 5

What remedies can be implemented to ensure integration of discipline mastery, employer expectations and the empowerment of the graduate to contribute meaningfully to the world of work?

4.7.1 Introduction

In this section of the research, participants were given the platform to synthesise their contribution to the research. Although I allowed them time to work out the solution, I wanted the participants to feel they are part of the team and make contributions that are geared to redress the problems they cited throughout the research. It is through this question that I intend to make a contribution to the body of knowledge. The suggestions provided by the participants would enable not only the formulation of an answer to the main research question, but also break new ground.

4.7.2 Way forward

Three related threads centring on teaching staff were identified. Although they were presented differently, it was noted that they address staff concerns. Participants felt that in order to come up with meaningful resolutions, the person on the ground need to be listened to.

4.7.2.1 In-service training

Sentiments put forth by participants pointed at perfecting the base as the major issue that need to be addressed. They indicated that, in spite of the high level of skills, there is need for frequent in service training for lecturing staff if they are to remain

competitive. Participant A1 suggested that; *“All lecturers regardless of qualifications should occasionally go for in- service training” (Participant A1, Interview March 2014).*

Besides enabling lecturers to refresh, in service training will ensure that new techniques that are brought by new technology are also mastered. This kind of scenario can help in the impartation of practical skills. Once lecturers are equipped with skills on latest technologies, they would be in a better position to impart them to trainees. This has the capacity to impact on the product as the graduate would have the latest skills and would easily fit into today`s work environment.

4.7.2.2 Staff welfare

Another participant very strongly expressed the issue of staff motivation. His words were;

“...colleges should send lecturers for staff development in industry and should provide incentives in order to ensure that all participants are highly motivated” (Participant A2, interview March 2014).

The participants went on to highlight that the issue of ‘staff development’ should be regarded as an institutional matter. Members of staff should not dig into their pockets in order to go for staff development. The basis of his argument was that in the long run, it is the students who benefit hence the need for institutions to take responsibility.

The same participants went on to hint on the need to build a partnership with industry in which industry would train lecturers on latest technologies. This should be repeated each time industry acquires new machinery. The participant’s argument is based on the notion that, if lecturers go on attachment, it is the students who tend to benefit from the exercise hence lecturers should not use personal funds to develop themselves. Even industry should incentivise the lecturers as one way or the other they will become ambassadors of the various organisations to which they would have been attached. Resultantly, lecturers will educate both students and community. By so doing, the

community will come to appreciate the services given by the organisation. Even small to medium entrepreneurs will also want to associate with the industry.

The partnership should be a basis of a long relationship as captains of industry can easily interact with institutions. Thus, if there are any suggestions pertaining to curriculum development to be made, relaying them would not be a problem.

Asked whether there was anything the participant would like to bring to the attention of the researcher, he was quick to reiterate earlier assertions by that “industry should give back to the community by training lecturers and sponsoring financially challenged students.” The emphasis reflected how spiritedly he views the issue.

Another participant responding to the request whether there are any other issues he might want to bring to the attention of the researcher, the participant said higher education should take the welfare of its lecturers seriously. Poor remuneration for lecturers might lead to unethical practices. Lecturers need to be handsomely remunerated since they interact with adult students. Most of the students in polytechnics are apprentices whose tuition is paid for by ZIMDEF. They also get hefty allowances from the same board that is responsible for manpower development. In some instances, students flash money to entice lecturers into awarding those students marks or all sorts of extortion. Instead, the system *should find means to maintain its staff and ensure that the best manpower is kept in training*. Packages for trainers should be made in such a way that skilled manpower should feel comfortable in leaving their trades in industry for training.

4.7.2.3 Skills relevancy

In an attempt to identify the problem, I asked the captains of industry to give their opinion on the relevancy of skills acquired by trainees against the demands of industry. One participant said;

“...the skills are relevant. We try to keep abreast with latest technologies and information” (Participant C3, interview June 2014).

This is evident in that all things being equal, effort is made to expose students to the best technologies available. However, in some circumstances, the situation on the ground does not allow it. Nevertheless, in some cases the skills are not relevant like in the case of ‘a marketing student attached to a filling station or rather a motor mechanic who spends the whole year attending to punctures only’. But, all things being equal the skills are very relevant. If a trainee is attached to an organisation or plant dealing with the production of a certain commodity, the trainee though under mentorship would be expected to fit in the production line just like any other person in the organisation.

Another aspect pointed out was the fact that *technology is too fast* for education. Although effort is made to equip trainees with the latest technologies, higher education is always a step or two behind. The scenario portrayed by the participants is analogous to the police force and criminals. Each time the force closes in and thinks that they have found a way of dealing with certain problems, the more advanced their opponents become. Some changes in technology happen so fast for the education system to cope. The time a particular element would be included in the curriculum, something new will have cropped up, leaving the education system a step or two behind most of the time.

4.7.2.4 Suggestions to redress the issue

Participants were asked to give suggestions on the way to remedy the issue of employer dissatisfaction. Key among all ideas given was the fact that *a partnership should be created between higher education and industry*. The partnership should not be regarded as a once off thing but a permanent one. Industry and commerce should be involved in all matters involving the training of manpower. The stake holders, working as a team, should *collectively come up with a curriculum* that satisfies both parties. The rightful people must be involved in the exercise. The issue of sending wrong representatives, out of greed, should be treated seriously as it compromises the standards. One participant regarded it as an act of national sabotage as the perpetrators do not have the interests of the nation at heart. This is explained below; *“Non-technical people should not be allowed to interfere with technical matters”* (Interview, March 2014).

Another sentiment given was management should be enlightened of the dangers of assigning the wrong people. The repercussion might not be felt by the institution but by the entire nation. Participants highlighted that in polytechnics we have a mixed bag of technical and non-technical manpower. As long as these people know and respect their parameters, no problems would occur. Challenges come about when non-technical personnel are elevated to supervise in technical areas. An example was given of someone who came into the institution for a purely 'academic' subject who overnight was designated to the head in charge of on-the-job training. Participants quizzed how such a person can run the division when he/she is totally ignorant of the technical elements involved in training. The nature of the job entails that the person should not only visit but, discuss student performance and problems with the organisation attaching the students and eventually make decisions that are critical to the lives of the students.

Participant A1 reiterated the need for stakeholder partnership. He was charged up when he made the contribution reflecting the gravity of the matter. It is an issue taken seriously by most of the participants. He said;

"...there is need for stakeholders' involvement in the training of graduates" (Interview, March 2014).

He went on to say institutional departments must adopt a partnership with industry. He gave an example of the partnership that exists between the automotive department in the college under study and Toyota Zimbabwe. The two have reached an agreement that lecturers should be trained by Toyota Zimbabwe on the latest trends in the motor industry. Toyota also made a commitment to refurbish the institutional workshop and authorise the college to service Toyota vehicles in the southern region on behalf of Toyota. He went on to explain that memorandums of understandings have already been signed. Lecturers have already been trained and the up-grading of the workshop will be underway shortly.

4.7.2.5 Increasing State funding

One participant pointed out that government should invest more in colleges especially in as far as the procurement of equipment and the attachment of lecturers is concerned. Government involvement should cater for the high enrolment figures by developing infrastructure and equipping workshops sufficiently. Sponsorship in training should also cover attachment of staff and any in-service programmes. The funding should take into cognisance the fact that the skills acquisition benefits the trainees and not the lecturers, hence it makes no logic that lecturers should be deprived of their personal resources by funding themselves for these programmes. Instead, lecturers need to be compensated for the sacrifice they make by being attached to the industry during the holidays when they should be resting with their families.

4.7.2.6 Failure to publish

When asked if there was anything else the participants would like to bring to the attention of the researcher, one of the participant blamed the researchers for not bringing issues to the attention of the world and national leaders by publishing the findings of their research. He pointed out that he was thrilled to be part of this project and hoped that the plight of the people in higher education would be brought to the fore. He also said;

“Things need to be corrected. Posts should not be reserved for those related to influential people but should be availed to competent manpower” (Interview, March 2014).

Although the participants sounded like they are against the appointment of an individual, I took their sentiments as *‘professional anger’*. As these participants have been in the system for a long time, they have witnessed better (more professional) practices. In training, one naturally adopts a parental role to the students. It hurts to witness training being compromised for selfish reasons. Thus, although the point was made out of emotion, I made sense from it. Professional practises have a capacity to give credibility to a system and in the same vein; malpractice by one can discredit an entire system.

4.7.2.7 Addressing the shrinking of industry

The participant said industry was shrinking and it is likely to affect the quality of graduates in a number of ways. Firstly, the shrinkage meant less space for practicing hence limiting the exposure that can be given to students. Fewer industries mean, less places for attachment and low employment of the graduates. Competences can only be mastered through practice. Students need plenty of practice for the refinement of their skills. The closure of industry leaves lecturers with no option other than *cover the loophole through the improvising by miniature models*. Showing students a model of a furnace and actually taking them to one certainly yields different results. A question then arises whether proficiencies mastered through improvisation are part of the skills that industry is looking for in our graduates.

4.7.2.8 Enshrining gradueness domains

The consensus picked on to ensure gradueness domains are enshrined in instruction and everything the students are exposed to before leaving college, was the need to revamp the system. Assessment should be aligned to these attributes rather than remain theoretical. During training the gradueness domains should manifest in the proficiencies expected of students. They should make the base of what students are expected to learn. One participant pointed out that assessment especially in practical components should be standardised. Participant B6 is of the opinion that all colleges under the auspices of one examination board should do uniform projects. She went on to say;

“...the Ministry of higher Education should ensure that colleges procure state of the art machinery so that no group of students is disadvantaged. Some college Principals are just good at talking yet, when it comes to the actual doing they are the worst” (Interview, March 2014).

Participants went on to narrate practices done at the institution under study and lamented how a seasoned Principal can honestly allow such atrocious practices to go unabated.

4.7.2.8.1 Development of a total being

If graduateness is to be attained, focus should be on the development of a total being. Participant B1 expressed this with enthusiasm;

“All faculties in a student should be developed in line with Bloom (1957)’s taxonomy. This is not possible without practicals. Training should adopt the strategy used for medical students to reduce time for theory and have more practicals. By the time doctors’ graduate, they will be able to operate patients” (Interview, March 2014).

The above quotation is trying to reinforce the importance of marrying theory with practice as a way refining skills. Tasked to elaborate on what he meant by saying we need to adopt what is done in the medical field, the participant said any health worker at their respective level, practices with living animals. Whether it is nurses or doctors, they do practice on people hence, similarly engineering students should also do their practicals in the plant actually contributing to the production chain. The participant went on to defend his suggestion by arguing that if all graduates are trained in this way, then claims of under-preparedness would be a thing of the past.

Participant B2 was of the opinion that students were not being treated fairly. Precious time is lost while students concentrate on studying generic/universal subjects instead of focusing on professionally-related core subjects. He said;

“Stream lining the curriculum will not only allow students to focus on their trades but will also create the much needed time for practical”(Interview, March 2014).

The same participant also argued that practicals should be allocated a minimum of fifteen (15) hours per week. The example given was that engineering students should concentrate on engineering maths, engineering science, drawing and workshop technology and any other engineering related subjects. Subjects like National and strategic studies, Entrepreneurial skills development, Introduction to computers and Communication studies should be optional and not compulsory as they do not lead to direct benefit in the trade.

4.7.2.8.2 Reinforce skills mastery

The issue of practical skills was also taken up by another participant who reiterated the need for practice. Her argument was that training should not be based on resources found within one organisation. Instead, trainees should move from place to place ensuring they cover every aspect of their trade. The participant therefore was advocating for what she referred to as the 'journeyman concept' in training.

The participants also advocated for the training period to be increased to four (4) years. However, she went on to say if alternatively, if changing the timeframe proves problematic, then two (2) years should be reserved for industrial attachment and only one (1) year should be set aside for theory. This scenario will ensure that students get more practical experience.

4.7.2.9 Revision of the direct entry programme

Asked on how industry and higher education can chart a way forward, the participants had a lot to say. They said that the first thing to do was to revise the direct entry programme. Presently, students are exposed to three years of training distributed as follows; 1st year is spent at college covering theory, the 2nd year is for industrial attachment and the 3rd year is spent in college. Participants were of the opinion that only one year of industrial attachment left students raw. Instead a *two year industrial attachment period* would do a lot of good in terms of exposure to practical work. Two possible suggestions were made either to increase the training period to four years or to reduce time spent on theory to only one year.

4.7.2.9.1 Apprentices advantages

Considering that trainees sit for the same examination, there is need to remove the advantage enjoyed by apprentices over direct entry students. The suggestion was made in the wake of the fact that those trained under the apprenticeship model undergo a four year programme. *Three full years are spent on industrial exposure* since they are recruited on the plant and receive training there for three years. They only come to

college for one year to cover theory and be assessed by the examination board. These students sit for the same examination as those students under the direct entry programme. Even when they go for trade tests they are tested by the same people. Yet; there is a *discrepancy in* that the apprentices have more exposure compared to the direct entry students. The redress should ensure that if students are going to sit for the same examination, then they should be exposed to the same conditions.

Another issue closely related to the one just discussed is the issue of enrolment figures. Direct entry students are recruited on a 'mass' basis. At times trainer- trainee ratios can go up to 1:70 or 1:90. Individual tuition or even assistance during practicals becomes very difficult. Supervision of such classes is problematic as some students can play truancy and get away with it. The apprentice again has an advantage over the direct entry student in that the trainer- trainee ratio for apprentices is 1:1 or 1:2. They will be *under direct mentorship* of seasoned artisans when in the plant for practicals. At the organisational training centres they will be manned by training officers whose load would not be as heavy as that of the lecturers at college.

On *curriculum designing*, participants echoed what earlier participants from a different group had said. Industry as the consumers of the higher education products should be actively involved in curriculum designing. They need not take a back seat as if they are second class citizens. Industry is conversant with employer expectation hence they should provide guidance on what to include and what to scrape out of the curriculum. Cognisance should be taken to embrace technological changes within the various fields. In as much as it is clear that closing the gap between technological advancement and training is impossible, effort should be made to ensure that the graduates are prepared to comfortably fit in the world of work.

4.7.2.10 SUMMARY

The suggestions presented by the participants would serve as a base for crafting a solution to the problem. Although some of the suggestions appear farfetched effort

would be made to include them in working out a solution to the graduateness and employability issue.

4.8 CONCLUSION

In this chapter data was thematically presented. However, in some instances threads leading to the themes were presented and effort was made to elaborate how it is linked to the theme. Tables and graphs were used mainly for presenting the biographical data. I felt that knowing a little more about the participants would influence one's perception of the contribution made. The bulk of the data was presented through the narrative approach which I found ideal for the thematic analysis that was followed. I found the narrative useful in sequentially focusing on what transpired during the interviews. Thus, as stated by Saunders et al. (2009) a narrative analysis allows the nature of the participants' engagement, the actions they took, the consequences of these and the relationship of events that followed to be retained within the narrative flow of the account without losing the significance of the organisational context within which the events occurred. The data was triangulated for source through synthesising the information from three distinct groups and documents. The next chapter will present a summary of the findings, conclusions and recommendations of the study.

CHAPTER FIVE

SUMMARY OF FINDINGS AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter four focused on data presentation, analysis and interpretations. Chapter five presents a summary of findings of the study and draws conclusions and recommendations for the study. The study undertook to answer the research question “How can instructional delivery strategies and assessment tools embed domains of gradueness and employer expectations to ensure a balance between gradueness and employability?” In drawing my findings, I used the sub-research questions as stepping stones and eventually springboards from where my conclusions and recommendations are based.

5.2 THE FINDINGS

The findings of the study are discussed per sub-research question. This is done in order to capture related issues together for coherence purposes and ease when it comes to the drawing of conclusions.

5.2.1 The nature of instructional delivery and assessment tools applied

5.2.1.1 Preamble

An assessment was done to identify aspects of gradueness embedded in the delivery of instruction. This was done through the establishment of strengths and weaknesses in the teaching strategies and assessment procedures employed in the training of graduates. After synthesising views given by participants, the following strengths and limitations were realised;

5.2.1.2 Strengths

5.2.1.2.1 Capable Human resource base

The findings revealed the Human Capital factor as a strength. As reflected in the literature review, human capital is pivotal in societal or national development (Schultz, 1961; Becker, 1993). Modern economists seem to concur that education and health are key to improving human capital and ultimately increasing the economic outputs of the nation (Becker, 1993; Todaro and Smith, 2011). Teaching staff at the institution under study are highly qualified and this in line with the theory which put forward the notion that the more educated one is, the highly productive one becomes. However, in the study, this factor is marred by limited resources. In order for the teaching staff to perform, they should have all the resources necessary for the execution of their duties. In the study, it was revealed that lack of teaching space, shortage of consumables and reliable machinery impacts negatively on the teaching exercise. This is in line with Bandura (1977) who argues that students learn through socialisation. They observe then imitate the behavior. The more they practice so does the refinement of their skills (Cohen, 2005; Kouwenhoven, 2003).

Another issue established in the research is the fact that the institution under study has a contingent of highly qualified lecturers. Both students and lecturers said they have confidence in the high level of expertise among staff on the basis of their qualifications. Even from a sample of ten (10) staff members four of them hold Masters' degrees in their fields. A significant number of lecturers hold first degrees, yet the minimum entry point for lecturers in engineering disciplines is a National Certificate. However, during the course of the research, it became apparent that one's qualification does not signify that one is good at his/her job. The report from the industrialists in one of the symposium minutes reflected that in a number of departments namely; automotive, mechanical and electrical some exhibitions were not meeting the grade. A high level of negligence was exhibited in the electrical department. The excerpt below confirms my claim;

- *It was observed that wires were all over in the electrical department which was hazardous to human life. This reveals lack of safety precautions in the department and sends bad signals to tertiary training. It was however suggested that trainers in this department should expose their trainees to the correct electrical standards they are supposed to know and practice. Also, the optic audio link in the department needs to be attended to (Minutes, July 2011).*

5.2.1.2.2 Plausible Teaching Methods

In the study internet connectivity was presented as a strength in teaching. A whole world of information can be availed to both trainers and trainees by merely pressing a button. The availability of information also entails a vast pool of teaching methods to pick from. Internet connectivity enables the use of participatory teaching methods. As indicated by renowned scholars like Mwamwenda (1989), students tend to benefit more when they are actively involved in the learning process. Internet accessibility enables the use of exploratory teaching methods which emerged as a separate strength. Students are exposed to a wide range of training strategies. This is advantageous in that it accommodates the different types of students. Both the fast learners and the slow learners can be catered for in the learning process.

Curzon (1980) maintains that participatory teaching methods have among others the following advantages; active learning producing intrinsic motivation, promoting critical thinking and learning through experience. It also leads to increased learning retention as well as development of social skills like planning, interaction and following procedures. Bandura (1977) maintains that the highest level of learning was achieved when the modeled behaviour was rehearsed several times. The benefits of participatory learning are in line with Steur et al. (2012)'s gradueness attributes. Very often, nothing was taken for granted. Models were availed to students and all parts explained before they were shown how to work on the actual thing. However, this only applied to teaching that took place within the college campus. Students were taken out to witness some of the concepts they were encountering in the field. This was covered under the 50%

practical learning activities. It seems therefore, that students are exposed to industry and some of its activities during their training.

From the findings of the research, it was apparent that instructional delivery was done in a diverse manner. Participatory and non-participatory teaching methods were fully utilised. It was observed that the lecture method was only used during theory lessons and in most cases when the trainer intended to achieve a particular objective without delay. Most of the times methods that are student centered were used.

5.2.1.2.3 Strengths of the dual training model

Based on data presented, it emerged that the institution under study offers training under both the apprenticeship and direct entry models. This fact emerged as a strength in that students are presented with an opportunity to train either under the apprenticeship model or as direct entry students. Considering that commerce and industry in the country under study has scaled down, it is difficult for industry to absorb all those aspiring to train in various disciplines hence the alternative programme comes useful for those willing to establish themselves as entrepreneurs. The flexibility denoted in the set up bespeaks of the institution under study. Different groups can be accommodated at any one time. It also shows that there is constant interaction with the college.

5.2.1.2.4 Positive elements of the assessment policy

The assessment procedure implemented by the institution under study emerged as its key strength. The policy document stipulates that students be assessed in different genres namely, theory assignments and tests as well as practicals. All components are assessed at two levels that is, as course work and the terminal assessment. The weighting for each component is clearly spelt out together with the minimum number of assessments expected per candidate.

The study revealed three threads closely linked to the assessment policy. These include the use of **proficiency schedules** in ascertaining competences. The schedules

explicitly stipulate what students should be able to do for them to be considered proficient in their discipline. It is not taken for granted that after training, students are able to perform certain tasks. The practical assessment is done in the form of **trade testing** and is done by **external assessors**. These are usually members of a different department within the Ministry of Higher and Tertiary Education. Each of the three threads can stand as an independent strength to the assessment system.

5.2.1.3 Limitations in training

5.2.1.3.1 Limited resources

The study revealed that limited resources were obstructing training. The limited resources manifest in the form of shortage of classrooms and workshops, use of outdated machinery to overcrowding due to high enrolment. The impact of the high enrolment emerged as atrocious due to lecturer-student ratios and continuous mass lectures. Because of the unusual numbers per class some lessons were conducted in open spaces or the great hall. Participant 4 clarifies;

“... enrolment is just unbearable. It is too high. Classes can have up to ninety students” (Participant A4, Interview March 2014).

“One cannot get the satisfaction of a job done under such situations” (Participant A1, Interview March 2014).

“What is happening is pure day light robbery. Students are being short changed and not getting value for their money” (Participant A5, Interview March 2014).

5.2.1.3.2 Limited exposure

The findings disclosed that students were also getting limited exposure to industry. Participants pointed out that this mainly affects the direct entry students only. The stipulated time for industrial attachment is usually violated because students get attachment late. Some are affected by the closure of industry and end up attached to

the informal sector. Consequently, the exposure they are expected to get becomes limited. Some end up doing work that is not related to their trades.

5.2.1.3.3 Socio-economic factors

The study revealed that the socio-economic wind prevailing in the country is impacting on training in a number of ways. First, the phasing out of the national currency for foreign currency meant the ordinary man in the street could not easily access money as before. The once thriving indigenous ventures closed down. Thus, consumables are not readily available in workshops like they used to be in the past. This affects the students in that the volume of practice they are getting is too little compared to previous experiences. Second, industry is closing down. This results in a contracted industrial base that cannot accommodate all the students on attachment. The impact on graduates is that by the time they leave college, some of them would not have fully mastered the technicalities of the trade. Some students end up getting attached at wrong places hence failing to master the intended skills.

5.2.1.4 Identified weaknesses in assessment

The findings of the study revealed that the ITTD is overwhelmed. The numbers released by the institution are too much for the department. Participants pointed out that in order to cope with the numbers; the department has reduced the number of days for assessing the students. More so, not all areas are currently covered by specialists. A member might represent a discipline and be expected to cover all trades within that discipline.

Another finding closely related to the one above is the fact that when ITTD is invited for continuous assessment in institutions as is expected, instead of assessing all students, they have resorted to sampling. Only 10% of the class is assessed on competences and then their performance is regarded as a basis for authenticating the marks allocated to the rest of the class by their respective lecturers. Competences are not transferable hence, what student X can do does not determine what Y and Z can also do.

The findings revealed that the new assessment procedure breeds complacency in students. The volume of work included in the course work has been reduced. Most students relax until the last hour only to realise that it may be too late. Participants revealed that changes that have been effected in assessment need revision. Interventions put in place by the lecturers do not yield the required results since the students are aware that any other work given to them would not have a bearing on their assessment.

5.2.2 Embedment of gradueness attributes in the curriculum

5.2.2.1 Preamble

The second sub-question sought to ascertain whether gradueness attributes are embedded in the curriculum. The attributes, if present, should manifest in the delivery or assessment processes. Sentiments from the participants were taken as they are. Thus, the grey areas were also given and noted.

5.2.2.2 Elements linked to gradueness

The findings revealed that the curriculum document is embedded with gradueness attributes. The curriculum document refers to a compilation of syllabi that constitute the programme for a course. That is, the curriculum document for motor mechanics contains all the subject syllabi one has to study in order for him /her to be considered having undertaken the course. The aspects of the curriculum that encapsulate gradueness include the aims, the content and the delivery methodology. The aim of the course categorically states that it endeavours to produce a capable motor mechanic who could perform the given duties. Throughout the document, competences and proficiency of graduates are advocated. Thus the document can be regarded as the first aspect that indicates that the institution thrives for the attainment of gradueness. The other factors are given below.

- a) Training strategies

The study also revealed how instructional delivery can be effectively used as a tool to enhance gradueness and employability. Careful selection of teaching methods contributes to the level of mastery achieved by the students. These include methods that allow students to participate in the learning exercise willingly, thus allowing them time to master skills and perfect them through practice. Such methods include demonstrations, role play, field work and a lot more. Attitude building is not a one off incident. Students are gradually modelled as explicated by Bandura (1977) in his Social learning theory. (Details are provided in Chapter 2)

b) The CBET model

It emerged that the institution under study bases its training on the CBET model. Participants argued that since the key thrust of CBET is refining competences in students, it goes without saying that they are promoting gradueness (Cohen, 2005; Kouwenhoven, 2003). The training model calls for reflective thinking and other gradueness domains. Competences within different contexts require different doses of skills, knowledge and attitudes (This is explained in detail in Chapter 2 Steur et al. 2012).

Another finding emanating from the study is that training at the college under study is heavily anchored on practicals. The rationale behind the policy being, it is through practice that skills are not only acquired but also perfected. Students are exposed to practicals in various settings. That is, impartation of knowledge and skills is taken beyond the college walls.

The study disclosed that since engineering is dynamic, it entails adaptiveness. By adaption graduates are equipped with a powerful weapon to enable them fit into any situation. Armed with such skills one could boast of possessing most of the gradueness attributes. Participant A1 explains;

“...engineering is dynamic just like technology hence, and trainers should inculcate the spirit of adaptiveness in students” (Participant A1, Interview March 2014).

c) Industrial attachment

It emerged from the study that industrial attachment can serve as a pillar to enhance the sought after attributes, skills and attitudes. Participants focused on the relevancy and adequacy of the period allotted for industrial attachment. The consensus was it cements all the learning that would have taken place as the students apply theory into practice. By so doing a total being is moulded with all faculties functional as the three domains of learning would be catered for. Suggestions for addressing the disgruntlement expressed in as far as the duration is concerned were taken into consideration. Participant A5 states;

"...one year attachment is rather too little". (Participant A5, Interview March 2014)

d) Importance of generic subjects

The study also revealed that generic subjects taught alongside the core subjects are an efficient way of ensuring that graduateness is attained. Generic subjects taught at the institution under study prepare graduates for their role in society in various capacities. The artisan, the manager, the entrepreneur as well as the citizen are all provided for. The implication being that no matter what level one finds himself/herself in life, graduateness will be prevalent. Participants revealed that the benefits of the subjects can be summed up as equipping graduates with life skills.

e) Other benefits of training

The findings revealed that education serves as an eye-opener. It is deemed as responsible for changing one's social status by educational economists Todaro & Smith (2011). Participants maintained that unless they give the full package to their students then they would have short changed them. It was revealed that the nature of a polytechnic graduate makes him/her overcome challenging situations since one would be armed with the requisite skills. The following statements capture this:

"...education can be taken to be the small proverbial small hinge that opens big doors. How then can its recipients be so if they are of limited scope"? (Participant A9 Interview March 2014)

“...times are tough but the fact that our graduates are able to survive out there simply denotes that they possess gradueness attributes” (Participant A2, Interview March 2014).

The above sentiments reveal that through training, graduates are expected to be able to overcome most of the problems that they encounter in life. As illustrated by participant A2, graduates should even confront employability challenges and survive in all situations. *Possible impediments to the attainment of gradueness*

The study revealed some aspects that were impeding the impartation of gradueness and employability attributes. These include among other things;

a) The hidden curriculum

There is heavy dependence on the hidden curriculum over the official curriculum by the institution under study. Some stipulations of the official curriculum remain on paper as implementation is hindered. Impediments cited included the unavailability of resources as stifling students' effort at practising in college workshops. The long and short of it is that graduates are not be able to perform as expected.

b) Closure of industry

In the study, it became apparent that the closure of industry is impacting on training in more than one way. First, lecturers cannot go on attachment hence failure to upgrade their knowledge. The result being that they might not be conversant with the latest trends in technology hence imparting archaic information. Second, the shrunk industrial base compromises the dictates of the curriculum as not all students can be absorbed for attachment by the surviving industry.

c) Inadequate coverage in practicals

The findings revealed that both lecturers and representatives of industry do have reservations when it comes to total gradueness of present day graduates. Although the curriculum caters for gradueness, the situation on the ground enables the production of graduates who are armed with theoretical knowledge and in need of

further grooming in practicals. The general observation is that the graduates are knowledgeable, well groomed and respectful. However, there appear to be a missing link as switching to the world of work is not very smooth for most of them.

d) Unrefined curriculum documents

The outcry by lecturers stems from the fact that at times they are made to follow resolutions that are inappropriate since curriculum reviews are done by people who are not specialised in the trade. Curriculum compiled by non-experts is not as thorough as one prepared by experts. Evidence was given showing that curriculum review work was left to the mercy of mercenaries who are more interested in the remuneration than in the outcome of the exercise, hence compromising standards.

5.2.3 The link between the curriculum and the perceived under-preparedness

5.2.3.1 Preamble

The focus of the question was on establishing the link between curriculum and the perceived under-preparedness of graduates if any. Participants gave their own perceptions.

5.2.3.2 Inappropriateness of people assigned to the curriculum review exercise

The study revealed that the major contributor to graduate under-preparedness is the adoption of resolutions that are not practical due to incorrect representation at curriculum reviews. Participants pointed out that such practices are rampant. Contributions made by non-experts may not be very practical. The second contributor to inappropriate resolutions is the mismatch between people assigned to carry out trade testing on behalf of the Industrial trade testing department and the field in which the tests are conducted. An individual may stand for all the trades within a discipline.

Although the principles might be the same, one might not be able to recognise all the nitty-gritty peculiar to various trades. The fact that ITTD is short staffed contributes to products not being thoroughly assessed for competences.

5.2.3.3 Dynamism of engineering

The findings revealed that the dynamism of engineering impacts on training. Technology driven changes are inevitable in industry. The major goal of any business venture is to maximise profit. Embracing changes which boost production is a priority for most establishments. In this regard, curriculum cannot be changed halfway down the stream. Consequently it continuously lags behind hence affecting the graduates produced. Participant A 1 expands;

“...curriculum does not adequately cover everything because of the dynamics in industry. It is common for curriculum to be lagging behind” (Participant A1, Interview, March 2014).

5.2.3.4 Continued use of obsolete machinery

The study revealed that machinery in the institutional workshop is obsolete. Students are trained on these machines which have out lived their use. Challenges are encountered when these graduates are confronted with modern day technology. Their failure to perform may not be due to incompetence, but to lack of exposure to the current trends in industry.

5.2.3.5 Student work readiness as perceived by industrialists

The findings revealed that Captains of industry are satisfied with the theoretical coverage of work. However, it is the practical element they are not pleased with. Graduates lack some basic skills that are expected by industry. It was established that this lack of performance cannot be blamed on the graduates' attitude as they portray a very positive attitude. The lack of preparedness was attributed to high expectations by

industry. Industry is desperate to close the gap left by the massive brain drain that affected the nation hence expects new recruits to take up leading roles when they are still novice.

The study also revealed that the captains of industry commend the teaching of generic subjects as they claim that the attitude of the graduates towards work is very encouraging and credit can only be given to subjects like National and Strategic Studies (Nass). Nass covers various areas on civic education and is compulsory for all students. It aims to foster in students, among other things patriotism, human rights and their constitutional rights as well as the roles of the executive, the judiciary and the legislature. Participant C1 elaborates

“...commitment wise the students are very ready for employment. Their attitude is very good. They are very respectful and loyal. I think the idea of teaching all students ‘National and strategic studies’ has started to yield positive results” (Participant C1, Interview, June 2014).

5.2.3.6 Lecturer related shortcomings

The findings established that junior lecturers do not have industrial experience. Although the junior lecturers hold credible qualifications, over reliance on *bookish* knowledge negatively impacts on training. Closely related to this finding is revelation that students tend to rely on other students for technical knowledge. Those who have served longer in industry tend to cover up for lecturer inadequacy by enlightening their colleges.

5.2.3.7 Policy related shortcomings

The study also exposed that some factors contributing to under preparedness are linked to the policies that are in place. First, massive enrolment by institutions results in overcrowding in classes’ which deters effective supervision by tutors. It also affects student performance during practicals hence compromising the graduate. Second, the institutions are underfunded hence the unavailability of resources. The constraint

negatively affects graduates in that inadequate practice culminates in lack of skills refinement.

Lastly, the new assessment system has watered down training. By cutting down on elements considered for coursework, complacency is rife among students. In the end the graduates are not be able to meet the standard set by their predecessors.

5.2.3.8 Sentiments on the curriculum

A finding that came to the fore was that the curriculum document should not be blamed for graduate under-preparedness. Participants felt that in spite of its shortcomings due to malpractices at reviews, the content remains relevant.

It was revealed that the Captains of industry cannot quite place their finger on where the graduates are failing.

5.2.4 The link between employer expectations and HE outcomes

5.2.4.1 Preamble

The rationale behind worrying about the link is to bring the loose ends together with the aim of tying the knot. Findings were compiled against a backdrop of participants unanimously agreeing that the curriculum content is relevant. From the beginning of the study no complaints pertaining to the theory aspect were raised.

5.2.4.2 The situation on the ground

The findings revealed that employers expect competent graduates who can deliver and meaningfully contribute to the well being of the organisation. Higher education on the other hand aims to produce the same. However, the undertaking is marred by technicalities in the training process. Industrial attachment is welcome but, the way it is conducted affects the end product. Some restrictions need to be loosened. These

include not allowing students to go beyond the borders, not allowing them to transfer from one organisation to another and making them serve as fully fledged artisans.

The findings also revealed the need to broaden proficiency schedules. Participants were advocating for the fusing of gradueness attributes in order for graduates to fit into any situation. It was also noted that industrial attachment enhances employability of graduates. The exposure received during attachment gives students a feel of the work life and in a way prepares them for what to expect. It gives the student the cutting edge that is highly considered by industry.

The study noted that Captains of industry commend most of the work done at the institution under study. Compliments cited in the study bear testimony to this.

Findings also revealed that the institution and industry have a standing relationship in which industry is annually given the platform to air their views on the affairs of the college. Both suggestions and criticism are welcome by the college. At times college is encouraged to chart its way in a particular way. However, there is need to cement the relationship for mutual benefit. Additionally, industry and the institution exchange notes on development. The suggestion by industry and commerce about the production of mining machinery reveal a partnership between the two bodies. Industry can also reprimand the college on any unsafe practices in line with the expectations of industry.

5.2.5 Possible remedies for perceived under-preparedness

5.2.5.1 Preamble

This section intends to provide solutions to the problems highlighted in the study. The intention is to establish a solution that is favourable for all the parties involved in training. The study exposed the fact that technology moves faster than education hence the need to devise a strategy of harnessing it so that HE products are not too far behind to ensure skills relevancy.

5.2.5.2 Establishing partnerships with potential employers

Several suggestions on charting the way forward were given. These were given by people on the ground who interact with similar issues on a daily basis. These include the following;

The study established the need to cement the partnership between higher education and industry and commerce in order to make it lasting. Where possible, memorandums of agreement should be signed by both parties in order to ensure that both parties remain committed to the exercise. More so, a written agreement is binding and the parties involved may not want to meet the consequential embarrassment that comes with a breach of one's word.

5.2.5.3 Increased funding from government

It was suggested that the state should increase funding for government institutions in order to provide for limited resources in terms of infrastructure and consumables as well as facilitate renovations in line with technological changes. Availability of teaching space and resources will facilitate the use of a variety of teaching strategies.

Government should address the issue of shrinking industry in order to ensure that a viable market is readily available for students going on attachment or graduates permanently joining the labour force.

5.2.5.4 Enshrining domains of gradueness in the curriculum

It was suggested that gradueness domains should be enshrined in the curriculum document as compulsory components in order to increase the employability prospects of graduates. The study re-echoed the need to ensure the development of a total being by involving all three domains during training. Negating one of the three would emanate as a loophole as far as gradueness is concerned. Effort should also be made to reinforce skills mastery.

The study established the need to revise the direct entry programme in order to ensure that student time at college is meaningfully utilised. By so doing, steps should be taken to address the advantage currently being enjoyed by the apprentices over the direct students.

5.2.6 Secondary findings

As a by product of my research, my secondary findings unveiled that some Captains of industry were abusing both students on attachment and new recruits as a source of cheap labour. These novices were thrown in the firing zone with no assistance. The normal practice is to put them under a mentor but due to shortage of manpower they are expected to grapple the way through the maze on their own. In the light of this revelation, one can dismiss the outcry by industry as their own making as they are not allowing the graduates time to grow in the trade.

The study exposed that students should be allowed to be attached anywhere in the region. The strategy would enable institutions to overcome the issue of limited places as well as broaden the graduates' horizon in terms of universal relevance.

The findings established that in-service training for lecturing staff is necessary. Besides equipping them with the latest trends in training, staff can be used as a springboard to get to the students. Hence, the need for institutions to pay for these staff development programmes.

Since lecturing staff is at the centre of the implementation process, there is need to ensure that they are motivated. Participants hinted on the need for staff to be handsomely paid and receive work related incentives constantly. They went on to argue that such a set up would not only make them perform to their fullest ability but also keep them within the training field. Institutions lose experienced manpower to other organisations due to poor remuneration.

5.3 TOWARDS A FRAMEWORK FOR IMPROVED GRADUATENESS AND EMPLOYABILITY ENHANCEMENT

In trying to improve the involvement of stakeholders in the production of a graduate who exhibits the qualities sought after by employers, I developed a framework that would assist in the production of graduates who exhibit gradueness and stand better chances in the work field because of enhanced employability prospects. It is my contention that this study will contribute to scholarship on promoting gradueness and employability.

In designing the framework, I took into consideration the findings of the study blended with my appreciation, understanding and interpretation of literature consulted for the study. From the study, it can be concluded that the need for stakeholders' involvement in the training of manpower cannot be over emphasised. The framework is designed in such a way that curriculum designing and training becomes a societal issue rather than being a total responsibility of higher education. According to this model all stakeholders should contribute to the gradueness agenda.

Industry and higher education need to team up in order to come up with a curriculum that would produce a product that satisfies both parties and is useful. The resultant partnership from stakeholder effort should not be one sided. The partners ought not to undermine one another for tranquillity to prevail.

In line with Waterfield and West (2010)'s thinking that gradueness alone can be an elusive status hence, I took into consideration Yorke (2006) and Fahria Masum (2010)'s view that employability cannot be ideally served by short term curricula intervention. Its embedment may yield the generic characteristics that may lead to a personality shift and bring along a new dispensation. I borrowed the wide array of suggestions from scholars who proposed models on embedding employability in the curriculum. These include Page (1998); Atlay and Harris (2000); Abramson and Jones (2004); Booth (2001). The suggestions varied from taking employability through the whole curriculum, incorporation of work related learning, work based learning in parallel with curriculum to employability related module(s) within the curriculum. In order to address employability

fully, there is need to dig deeper and address what the labour market want of higher education.

In drawing my conclusions I was guided by the findings of the study and the works of Cohen, (2005); Tyler, (1949); Taba, (1962) and Drucker (1974) among others. However, I opted to present the conclusions from the study through designing a model to illuminate forces that are at play in the production of graduates exhibiting gradueness and employability dimensions.

5.3.1 Rationale for the Framework

The findings revealed that curriculum designing is flawed. Most of the problems cited pertaining to curriculum review sessions stem from the fact that power is vested in some individuals. These authorities compromise the exercise through hand picking people who ought to attend the review workshops. Selection is not done according to merit but affiliation. The following excerpts were given during the interviews;

Wrong blueprints are adopted in the curriculum due to wrong representation” (Participant A3, Interview, March 2014).

“...curriculum review should be a sacrosanct for specialist and relevant people only” (Participant A2 Interview, March 2014).

“...wrong people are spending government coffers under the disguise of curriculum review. Instead of the correct people being invited for the task, only those close to the organiser are invited. The result is that wrong stuff would be discussed and wrong amendments effected” (Participant A4 Interview, March 2014).

In an attempt to address the lack of pedagogical sanity prevailing in the curriculum development exercise, I suggest the involvement of all stakeholders starting with the community.

5.3.2 Composition of stakeholders

In order to ensure that the curriculum development practice is done with the pedagogical depth and respect it deserves, I propose the involvement of a wide range of stakeholders. These include; the examination board, the community (represented by representatives of community leaders), industry and commerce representatives (experts in the trade under discussion), higher education (represented by specialists in the area), teacher representatives (they are the implementers). However, the forum can have other optional members like principals, trade unions and students. Although the latter group are interested parties, they are not the people who matter in the exercise. The roles of those who are vital to the exercise would be explained under functions of the framework.

Thus, the composition of the framework under discussion can be summarised as given below to illuminate how the interaction of stakeholders can bring about the desired results.

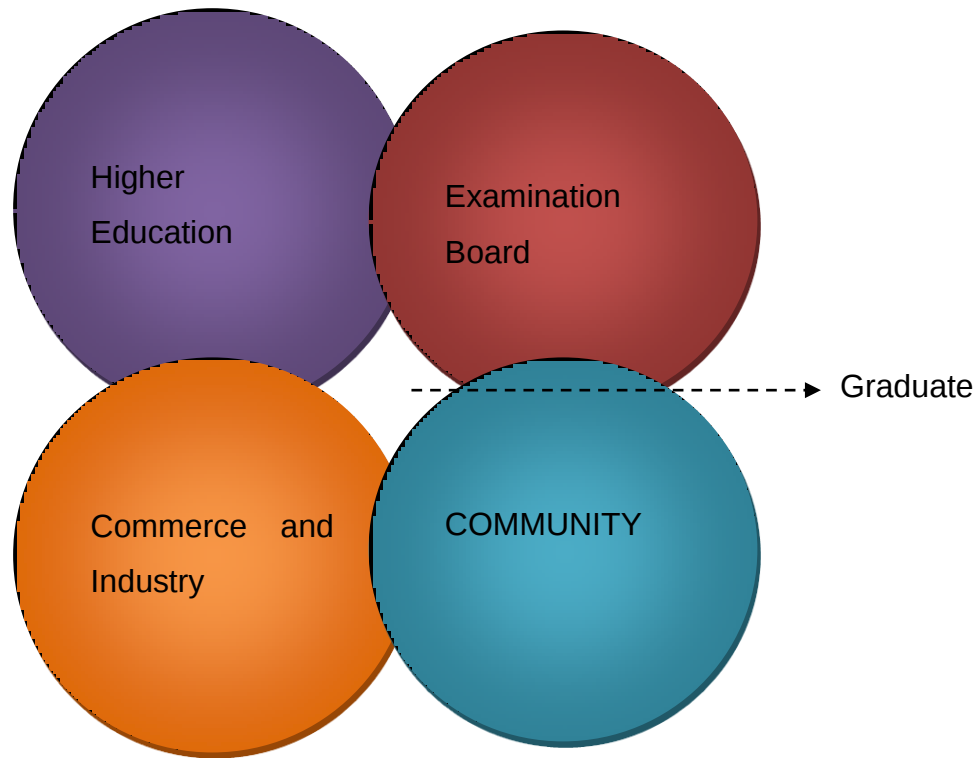


Figure 5-1: Summary of the framework composition

5.3.2.1 The functions of the framework

In order for implementation to be effective, the various groups of stakeholders, namely the Examination board, Commerce and industry, Higher Education and the community need to work as a team. Institutions and all other stakeholders including commerce and industry do not operate in a vacuum but are influenced by the communities around them. The frame surrounding the model depicts the social context. Durkheim (1969) and Postiglione & Lee (1997) cited by Cheng-Man Lau (2001) concur that schools do not exist in a vacuum. They are part of the society that surrounds them. Durkheim (1969) regards education as the symptom and result of the social transformations in terms of which it is to be explained. I found the social context vital in that whether it is socio-political or socio-economic it influences commerce and industry as well as institutions hence indirectly impacting on training. The social context emits factors that need to be taken into consideration in charting a way forward. Thus, in order for commerce and industry to forge a meaningful partnership with higher education, the environment should be the first factor to be taken into cognisance. The importance of the social context was brought to the fore by Bandura (1977) in his Social Learning Theory when he stated that behaviour is learned from the environment through the process of observational learning. Both the people and their environment are reciprocal determinants of each other. Social context is vital for observation in order for imitation/modelling to take place (Bandura, 1977). It is in line with this view that the community leaders were included in the composition of the forum.

Cohen, (2005); Kouwenhoven (2003); Kollwitz-StraBe, (2010) concur that the stakeholders need to realise that their relationship is symbiotic. I settled for the term because it denotes that one cannot survive without the other. Higher education relies on commerce and industry as the consumer of its product namely, the graduate. Similarly, industry relies on higher education for provision of skilled human capital. As portrayed in chapter 2, human capital is vital for any organisation to achieve its goals (Becker, 1993).

5.3.2.2 Planning

In order to minimise the finger pointing and the blaming game, all the parties need to work as a team in deciding the content to be covered. The mandate for educational institutions should not compromise their mandates while cognisance should also be taken of the things which would make their products marketable.

Thus, from the forgoing, it is evident that the partnership should collectively produce a curriculum document that would be used by training institutions. Wide consultations with industry will enable improving the relevance of the graduates. Involving experts in the field will ensure that most current trends applying in industry are brought to the attention of higher education (Archer & Davison, 2008). Hence domains of gradueness and employability will be enshrined in the process as industry will make an effort to address concerns they have against the present day graduates. Industry should rectify the issue brought out by participants, that the process might be short circuited by sending representatives who are irrelevant to the curriculum review exercise. The examination board ought to have a water tight panel that is not permeated by individuals. The panel should vet all representation sent by colleges and industry before the commencement of the exercise.

5.3.2.3 Implementation

Curriculum development alone without a well-orchestrated implementation plan will not yield the desired results. Lecturers are the key to the education process in that they are the ones who make things happen. Implementation divorced of these people can be chaotic no wonder scholars like Taba (1962) advocate for their involvement in curriculum development. Involvement of trainers entails that they are part of the planning team. They know the content and the maturity levels of their students. The involvement of trainers brings in a refinement which might not be availed by non-teaching stakeholders. Cheng-Man Lau (2001) argues that teacher involvement regards trainers as autonomous in their practice and not merely followers of directions given by managers or industrialists (curriculum planners). Grundy (1967) in Cheng-Man Lau

(2001:34) maintains that modernist curriculum demonstrates the technical interest of the society. Education becomes a product-oriented manufacturing process hence, the need to ensure teacher involvement.

After the planning phase, trainers remain vital in that during implementation, it is them who settle for the teaching methods that will yield the desired results. Graduateness can manifest in the actual performance of tasks. Teaching methods though aligned to the objectives should promote the yielding of the idle person whose specifications are outlined in the curriculum. Teaching need to focus on skills development and refinement to ensure graduates are competent in their trades.

5.3.2.4 Assessment

To augment the teaching methods, the correct assessment strategy ought to be in place. Gullikers et al. (2008) suggest that the two key reasons for adopting authentic assessment are their construct validity and consequential validity. The assessment strategies adopted may have a significant influence on the student's personal development and how one views the self (the graduate). Assessment approaches should offer students the opportunity to confront the self in a way that causes them to establish a link between their intellectual development and their character and engage in activities that tell them something about themselves. That is, display a high level of self-efficacy (Bandura, 1986, Angelo & Cross, 1993). This way the resultant graduate, will not only exhibit graduateness and enhanced employability but also confidence in the self.

It should be borne in mind that to be most effective, there is need to build assessment strategies in the curricula, strategically aligning assessment processes that develop the self, with those that test the technical-rational aspects of the subject. As McNamara, (2000) puts "...the need for assessment to be integrated with the goals of the curriculum and to have a constructive relationship with teaching and learning". A way of going about it is to ensure that students are not thrown in the deep end at the end but; are constantly exposed to assessment. The gradual continuous assessment results in

refinement of competences to a level acceptable by industry (Angelo & Cross, 1993; McAlpine, 2002). Satisfaction of stakeholders entails a positive situation which the partnership strives for.

5.3.3 Value of the framework

The most important aspect about the framework is that all stakeholders should be coordinated towards achieving one goal equipping the learner with requisite skills. Cooperation among stakeholders will be enhanced as all focus on the attainment of the desired result—the production of graduates exhibiting gradueness and enhanced employability prospects. The success of the team will benefit each stakeholder in a different way.

The coordination of the curriculum development exercise by the examination board has several advantages. The first is that standards and quality are ensured. Second, inappropriate representation will be curbed. Third, one man decisions will not be tolerated. Lastly, there will be no more finger pointing as the blaming game will have been put to rest by working as a team.

Addressing the above issues implies addressing most allegations levelled against higher education in terms of the quality of the graduates. It then goes without saying that if was the cause of the unemployability of graduates, then the solution will manifest. However, if other factors are contributory then there would be need for further research in the area.

5.4 CONCLUSION

A summary of the findings has been presented. From it preliminary conclusions were drawn. A framework on forces influencing graduate quality was presented in the hope that it would contribute to addressing the gradueness employability problems.

CHAPTER SIX

SUMMARY OF THE RESEARCH PROCESS AND IMPLICATIONS

6.1 INTRODUCTION

This chapter presents a summary of the study starting from the beginning. The challenges encountered and the contribution of the study is presented. However, before giving a synopsis of key research findings, I find it imperative to give the story of my journey because of the link between the journey and the study. The chapter also touches on the conclusions drawn from the study as well as the implications and recommendations.

6.2 THE STORY OF MY RESEARCH JOURNEY

Coming from a background of rampant unemployment with graduates roaming the streets, I started to question the assertions by educational economists like Becker (1993), Kohler (1992), Parkins (2009) as well as Todaro & Smith (2011) to mention just a few. Education is regarded as an investment. Formal education is regarded highly instrumental and necessary to improve the productive capacity of a population. Human capital theorists argue that an educated population is a productive population hence perceives education as an investment in human capital. Human capital theory emphasises how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability, which is a product of innate abilities and investment in human beings (Almendarez; 2011:2). Thus, the situation on the ground and my Educational management schooling were not tallying. I went to task to find an explanation only to establish the existence of employer dissatisfaction on the graduates.

The dissatisfaction implied lack of gradueness which from the situation on the ground, proved the linkage between gradueness and employability. As an educational

practitioner, I wanted to establish the role played by the curriculum in the perceived under preparedness of graduates and ascertain the role played by instructional delivery methods and assessment in the crafting of the desired personnel. In doing so, I opted to scrutinise the teaching methods presently in use in order to verify whether there are any deficiencies in the system. I chose to triangulate sources by settling for data collection through interviews, focus groups, document analysis and at a very low scale, observations. Prior to the interviews, I got consent from interviewees to record. The challenge came during transcribing as some of the respondents were not audible enough. I took refuge in the notes I scribbled during the interviews but in some instances I had to re-do the interview. The volumes of data that I had to handle were confusing. I ended up seeking the service of an independent coder to ascertain whether the themes he got were similar to mine. For validity I employed the bracketing technique to ensure that my experiences will not interfere with the research. Multiple data collection strategies facilitates cross examining of one source against another. Again, this was not easy. The participants did not readily accept my role as a researcher and would confuse me for their colleague. The interviews brought forth several secondary findings as participants persistently brought forward issues like staff welfare and unprofessional practices practised especially during appointments of personnel to different positions or curriculum review exercises.

However, I took all the secondary findings as pointers for future research. In answering my research question, I realised that the curriculum should be my first port of call. Graduateness should be established during curriculum development. All attributes, skills and competences which make the graduate marketable should be enshrined in the curriculum. Curriculum development should be a combined effort between all stakeholders including trainers (Taba, 1962). This will be enhanced by the employment of teaching methods that build self confidence in students as well as refine their competences. Findings revealed that participatory teaching methods promote graduateness in several ways. Among others, the promotion of critical thinking, socialisation through interaction, increased student retention and decision making through discovery learning. Assessment should be continuous and not terminal. The earlier a trainer identifies weaknesses in a student, the better the chances of assisting

him/her. Continued assistance leads to refinement of competences. Hence, my motivation in designing a framework on factors which contribute to the making of a complete graduate (with gradueness attributes and employability prospects) in the hope that it would contribute to the body of knowledge.

6.3 SUMMARY OF THE RESEARCH PROCESS

The purpose of this study was to establish a way of improving the strategies employed in instructional delivery and assessment tools currently being used in higher education in order to ensure the incorporation of gradueness and employability attributes. The study aimed to find an answer to the research question “How can instructional delivery strategies and assessment tools embed domains of gradueness and employer expectations to ensure a balance between gradueness and employability?” The study outlined the statement of the problem for the research study then focused on the review of related literature. The literature review focused on presenting the terms gradueness and employability in perspective. It was guided by the work of Chetty, (2010); Coetzee, (2010, 2011); Glover et al. (2002); Steur et al. (2012) among others. The Human capital theory propounded by Schultz, (1961) and Becker, (1993) as well as Bandura (1977, 1986)’s Social learning/cognitive theory served as the basis of this discussion. Trends in education in the country under study were also discussed (Nziramasa, 1999; Mavhunga, 2002; Munikwa, 2011) among others. The research methodology adopted for the study was also discussed together with an analysis and interpretation of the collected data (Cohen and Manion, 2007; Berg, 2009; Saunders et al. 2011). For a deeper insight, the study focused on one polytechnic in Zimbabwe taken as a case study. The population was drawn from the institution and a sample selected through purposive sampling technique provided data for the study (Patton, 1990; Bowen, 2009). In order to get divergent views, three different sets of participants were involved, namely polytechnic staff, students and industrialists.

Several methods of collecting data were used in order to provide enough data for verification which was done through triangulation. The interview technique was employed as the basic methodology of data collection (Bowen, 2009; Hancock, 2002). It

was augmented with focus group discussions (Rabiee, 2004; Krueger, 2004; Kitzinger, 2010), document analysis and observations. The gathered data was presented in the form of tables, charts and mainly a descriptive narrative. Presentation was done in a manner that facilitates easy analysis and interpretation. Comments were made vis-a-vis the theoretical framework.

6.3.1 Summary of main findings of the study

6.3.1.1 Strengths and limitations of training strategies and assessment tools

The findings revealed that the institution under study has a highly qualified workforce. This is in line with Becker (1993)'s claim that the human capital of a nation determines the level of societal development. The teaching methods in use emerged to be effective as they promoted student involvement. Both teachers and students have unlimited access to internet, as such they have access to volumes of information anytime. Throughout the year, students are kept busy and meaningfully engaged in their studies through the adoption of continuous assessment which contributes towards their final score.

From the study, it emerged that the institution follows a flexible training platform. The flexibility comes about through the adoption of the apprenticeship and direct entry training models that run co-currently. The study also revealed that students are assessed through assignments, tests and practical assignments. An advantage exposed about the assessment procedure is the fact that external assessors are used to validate the marks as well as to trade test the students. This practice forces thorough refinement of skills in order to meet the requirements of these external assessors.

The study exposed limited resources as an impediment to training. Shortage of classrooms and workshops, shortage of consumables, limited tools and machinery negatively affected training. Overcrowding and outrageous classes compromised the quality of the graduates.

The findings disclosed that direct entry students were not getting adequate exposure due to the limited industrial attachment phase. Some end up attached to industries not related to their field of study. It was revealed that training is affected by the closure of industry.

On assessment, it was revealed that the ITTD is overwhelmed by the high enrolment to the extent that their standards have lowered. Some members with a knowledge of an area related to a discipline end up assessing a wide range of areas. The study revealed that the practice of sampling students being used by ITTD during continuous assessment compromises students as competences are not transferable hence the sample cannot represent the performance of the entire class.

6.3.1.2 Graduate attributes and the curriculum

The findings revealed that the curriculum document is already embedded with gradueness attributes. However, it is the implementation phase that needs to be improved. Appropriate teaching methods ought to be utilised during training in order to reap maximum benefits. The institution under study centres its training on the CBET model which is heavily anchored on the acquisition of practical skills. It was revealed that adaptiveness and flexibility among students was encouraged by taking training beyond the college walls. Positive attitudes are inculcated through several generic subjects. These are meant to equip students with survival skills even outside employment.

The study also revealed some other factors were impeding the impartation of gradueness and employability attributes. These are, among others, the existence of the hidden curriculum adopted by the institution as most official stipulations remain on paper. That is, what should be is not what is. The situation on the ground can warrant the production of a workforce that is well versed with theoretical knowledge. The study also exposed that the closure of industry impacts negatively on training in that teaching staff cannot be absorbed for in-service and students cannot be accommodated by the shrunk industrial base. It emerged that the lecturing staff is not very comfortable with

some of the items adopted in the curriculum as they stem from wrong representatives due to malpractice.

6.3.1.3 Curriculum and graduate under-preparedness

The study exonerated the curriculum document from contributing to graduate under-preparedness. It was established that inappropriate resolutions were being passed by the non-specialists in the trade who are sent for curriculum reviews through clandestine under dealings. Secondly, it was established that the ITTD ought to assign seasoned experts for the trade testing exercise. General practitioners tend to prejudice the students hence compromising the awarding of practicing certificates. Thirdly, industrialists revealed that they were satisfied with the theoretical coverage made by students by the time they join industry for attachment. It is only the practical component that needs revisiting and thorough preparation. Fourth, the findings revealed that machinery in the institution is obsolete and does not fit in with today's technological driven trends in production.

Lastly, the study also revealed that some under-preparedness was due to lecturer shortcomings. The junior lecturers were said to lack industrial experience since they were recruited soon after leaving university. This limits them to resorting to bookish knowledge. It was also exposed that some shortcomings were policy related. Issues like over enrolment and overcrowding impact on tutor supervision. To worsen the situation is the fact that the institution is underfunded as is evident by the shortage of training consumables. The lack of adequate practice culminates in poor competences exhibited by graduates. Even assessment has been affected by lack of human resources as some trades are not tested by experts.

6.3.1.4 Curriculum, employer expectations and employability

It emerged from the study that higher education strives to produce the very person that is sought after by employers. Minor technicalities were cited as the factors deterring that kind of relationship. These include not restricting students to being attached beyond the

borders of the country as this will broaden their proficiency base and horizon and give them a global look. It was also said that there is need to ensure that trainees on attachment are strictly groomed by seasoned artisans.

The study revealed that industrial attachment enhances employability as through it trainees get the cutting edge necessary for their trades (Chimutingiza et al. 2011). The need to cement the relationship between higher education and institutions was over emphasised together with the need to ensure all aspects that would improve the employability prospects of students are enshrined in the curriculum.

The findings exposed that the institution under study has a standing relationship with industry. However, there is need to have the relationship nurtured by enabling the players take up training as partners engendered toward one goal.

6.3.1.5 Possible solutions

The study established that cementing relations between higher education and industry should be nurtured in such a way that both parties strive towards the attainment of the desired product. To ensure commitment by both parties, a Memorandum of Understanding (MoU) should be signed by both parties. It also emerged that government should increase its funding to enable the procurement of new machinery and training consumables. This will facilitate the harnessing of technological advancement which appears to be leaving higher education far behind. Government was implored to address the issue of the shrinking base in order to ensure that students on attachment are accommodated.

The findings stressed the need to revise the direct entry training programme in a bid to level the playing field since they sit for the same examination with the apprentice trained students. The study re-echoed the need to embed gradueness and employability attributes in the curriculum in order to produce a total being with the right attitude towards work.

The secondary findings stressed the role of lecturing staff in the curriculum development and implementation phases hence the need to keep them highly motivated. The need for in-service for staff was also brought up, as well as the fact that institutions should fund staff development programmes since they benefit the students more. It was brought up that some industrialists were taking students on attachment as a source of cheap labour by not adhering to regulations pertaining to student supervision and mentoring.

6.4 CONTRIBUTION OF THE STUDY

As alluded by Becker, (1993); Almendarez, (2011); Todaro & Smith, (2011) the human resource base contributes beyond individual achievements. It touches on the immediate community and the nation at large. Since education is the nerve centre of national development, having skilled manpower is the dream of most nations who tirelessly invest in higher education. The goal can be achieved if there is synergy between higher education output and the needs of commerce and industry.

The study has produced data and ideas that can be used to create a seamless interface that will benefit all stakeholders. The students will be equipped with skills and attributes that contribute to gradueness. By so doing, the employability debate will be minimised as higher education will have successfully carried out its mandate of producing skilled manpower for the nation. Lastly, commerce and industry will have competent, employable graduates to boost production. Hence, the community and the nation at large will eventually benefit.

The contribution of the study was presented in full in chapter five under the various sections in section 5.3. The title of the section was 'Towards a framework for improved gradueness and employability enhancement'. This was from page 213 to page 219.

6.5 IMPLICATIONS AND RECOMMENDATIONS

6.5.1 Implications for higher education

The findings have particular implications for higher education. There is need to shift from the traditional college or university education guided by discipline mandates. Understanding the market they produce for is essential in order to minimise cases of churning out graduates with paper qualifications and yet, not satisfying the labour market. Chetty (2010) asserts that while employers are looking for people who fit into their system, they also want them to be intelligent, rounded and have a depth of understanding. They should apply themselves, take responsibility and develop their role in the organisation. That is, to be educated rather than trained.

College life and work life are two separate worlds. Graduates need to be adequately prepared for the world of work. The findings revealed that this could be enabled by giving students adequate practice. Practice should not only involve class work but even the attachment period. As pointed out by Chimutingiza et al. (2011), it is industrial attachment that is believed to give students a competitive edge in industry. In fact, students need to be adequately prepared for the college to workplace transition. On the other hand, industry should also actively play its part and not expect everything to be served on a silver plate. By playing its role as a partner in the development of manpower ensures production is guaranteed to improve as studies have shown that improvements in education accelerate productivity and contribute to the development of technology.

However, the study exposed the existence of socio-economic factors impacting on employability. Since these have nothing to do with institutions but negatively affects the education process, there is need for Government intervention. The state needs to address the issue of shrinking industrial base affecting the placement of graduates. State funding to institutions needs a boost in order to address several factors pointed out earlier.

The use of a dual training approach is commendable. However, there is need to revisit the direct entry programme in order to rationalise operations so that partakers of the programme are not disadvantaged. Considering that the concerned students sit for the same examination as those training under the apprenticeship model, the play field need to be levelled.

The department responsible for the assessment of students and trade testing need to contract or sub-contract enough manpower in order to avoid prejudicing students. A specialist in the trade is the best person to assess students and recommend the appropriate skilled worker class for the student.

Both teaching strategies and assessment criteria employed should reflect the overall intention of producing a graduate who is competitive on the job market and exhibits desired attributes.

6.5.2 Recommendations for further research

Although the study was conclusive, the fact that the study was conducted for doctoral purposes implied that it is limited in terms of space, resources and time. It cannot be viewed as an end in itself. The strategies used in this study also revealed possibilities for future research aimed at generating programmes that seek to find more on gradueness and employability. The issue of gradueness and employability is a global one hence carrying out the research on a larger scale would yield more generalisable results.

The study managed to establish what should be done in order to improve gradueness and employability prospects. Data was collected through interviews, focus groups and document analysis. Participants were very cooperative and forth coming although at times, I felt the reluctance to disclose things as they are. Some participants tried to force an element of formality in the data collection process. Although I made an effort to discourage this and encouraged participants to relax and say whatever they felt like contributing, the reservation would diminish and resurface shortly afterwards. However, I am of the opinion that a change in the methodology employed would yield different

results. I think a strategy that would have involved more participants and use of data collection instruments would have yielded more honest responses.

I would also recommend further research that seeks to establish the employer expectations. Continual disgruntlement by industry about the incompetence of present day graduates without precisely pointing at the weaknesses leaves higher education guessing what has gone wrong with its products. Thus, there is need to conduct research that seeks to establish the alleged incompetence.

From the secondary findings I would recommend that further research be conducted on the establishment of a Public-Private sector undertaking to ensure that students are cushioned from the effects of a shrunk economic base. I also recommend further research on ways to keep staff motivated in order to ensure effective programme implementation and take into cognisance hints that trainers should not be reduced to "...specialised workers and graduates to products which must enter the capitalist market and wait to be transacted", as asserted by Cheng-Man Lau (2001:34). Cheng-Man Lau (2001) maintains that teachers and learners should be cautioned from sympathetically becoming tools that are manipulated by curriculum designers.

6.6 CONCLUSIONS

6.6.1 Conclusions in line with the research question

The study focused on the question "How instructional delivery strategies and assessment tools can embed domains of gradueness and employer expectations to ensure a balance between gradueness and employability?" The implications of the answers to the research question are that it emerged that the relationship between institutions and industry needs to be continuously nurtured in order to build team spirit. A forum to look into curriculum issues should be established for the stakeholders to make their contribution in curriculum development. It emerged that the role played by teachers in both the curriculum development and implementation phase should not be overlooked as they are instrumental to the manpower development process. This is in

line with Taba (1962) and Tyler (1949)'s suggestions. The suggestions from industry should be integrated in the curriculum to enable the acquisition of the attributes sought after by employers. The methodology employed during training and assessment immensely contributes to the finished product. Thus, gradueness can be improved through the use of befitting teaching methods which enable the graduates to perfect their skills acquisition.

Another conclusion drawn from the findings is a confirmation of Cheng-Man Lau (2006:40)'s claim that "curriculum development is not a homogeneous network. It also consists of non-human agents, such as machines, texts and money that are as equally significant as human agents". Institutions ought to align themselves with the changes in technology in order to produce relevant products that are employable.

6.6.2 Conclusions drawn from the secondary findings

The study revealed that the welfare of the needs of lecturers needs to be addressed. Staff dissatisfaction manifest through issues like staff development programmes paid for by the institution, incentives for staff, competitive basic salary, as well as general welfare issues to keep them motivated. Although staff welfare emerged as secondary findings, they can help in concluding that for the implementation phase to be meaningful, there is need to ensure that the dissatisfiers are addressed (Herzberg 1959).

There are other factors that impact on the quality of graduates other than higher education. These are issues like the socio-economic wind prevailing in the nation as well as the political set up. Politics influence policy hence has a bearing on the graduate. The study exposed that the issue of massive enrolment is a result of a national ideology of mass education. Thus, some issues are beyond the realms of higher education.

6.6.3 Final conclusion

The study was guided by a quest to answer the question “How instructional delivery strategies and assessment tools can embed domains of gradueness and employer expectations to ensure a balance between gradueness and employability?” I explored the current delivery strategies and assessment criteria in a bid to establish the suitability. Effort was also made to discuss the strengths and limitations of these strategies. Curriculum was also analysed with a view of ascertaining whether it facilitates the acquisition of gradueness attributes. Again, both the positive and negative emerged from the study. By investigating how curriculum contributes to the perceived under preparedness of graduates, I wanted to expose the root cause of the problem. Blame was shifted to other factors and not the curriculum. I realised from the findings that some of the factors contributing to under-preparedness are beyond institutions’ jurisdiction. They include socio-economic and socio-political matters. These matters have underlying currencies that impact on education. Policies crafted along political lines do not take into consideration resultant consequences like overcrowding, shortage of space and shortage of training consumables and tools. More so, it was established that the dynamism of engineering impacts on training, in that education is continually lagging behind technological driven changes in industry and commerce. Hence, a perfect fit between the curriculum and industrial expectations remains unattainable. Some contributory factors include low moral as staff is not motivated enough to go the extra mile. Working conditions need to be improved, remuneration revisited and incentives packaged. Industrial attachment was revealed to be the link between higher education and industry. Captains of industry take it seriously as they believe it is during that period when students get a feel of life beyond college that they receive the refinement which is vital for their work life. That is, get the cutting edge expertise through refinement. Several remedies were put forward and of interest were suggestions with a bearing on the research question. In my attempt to draw a succinct portrayal of presented ideas, I designed a framework on the forces at play in the making of a graduate. I made a conscious decision to reflect how the factors contribute to the final output. I believe the implementation stage is key to the process hence the need to

constantly examine the teaching methods and assessment procedures in use. It is my contention that the study will contribute to the body of knowledge.

Thus, from the foregoing discussion, it is apparent that to curb the disgruntlement by industry and commerce, there is need to actively involve them in the production of manpower. The proposition calls for an establishment of a partnership where the key stakeholder (industry and higher education) work as a team yet, respecting one another's territories.

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APPENDICES

Ethical Clearance



University of Fort Hare
Together in Excellence

ETHICAL CLEARANCE CERTIFICATE **REC-270710-028-RA Level 01**

Certificate Reference Number: TON011SMUT01

Project title: **Graduateness and employability: A case study of one polytechnic in Zimbabwe**

Nature of Project: PHD

Principal Researcher: Miriam Mutirwara

Supervisor: Dr N Toni

Co-supervisor:

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

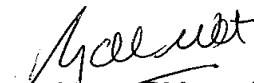
Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
 - Any unethical principal or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented
 - Regulatory changes of whatsoever nature so require
 - The conditions contained in the Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project.
- In addition to the need to comply with the highest level of ethical conduct principle investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to the Dean of Research's office

The Ethics Committee wished you well in your research.

Yours sincerely


Professor Gideon de Wet
Dean of Research

28 May 2014

Editorial certificate

EDITORIAL CERTIFICATE

This serves to certify that the thesis, whose details are given below, authored by **Mutirwara Miriam**, was edited for grammar, punctuation, spellings, syntax, sense and overall style. Neither the research content nor the author's intentions were altered in any way during the editing process.

THESIS DETAIL

Topic: **Graduateness and Employability: A case of one polytechnic in Zimbabwe.**

English Usage: Zimbabwe

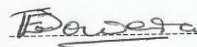
Reference Style: Harvard

Level: PhD

Number of Words: 88 600

Done by

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