THE QUEST FOR A BENCHMARK MODEL OF EDUCATIONAL STANDARDS IN NAMIBIAN VOCATIONAL TRAINING CENTRES (NVTCs)

A DISSERTATION PRESENTED IN FULFILMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY (EDUCATIONAL MANAGEMENT)

OF

THE UNIVERSITY OF NAMIBIA

BY

HATEGEKIMANA KWIRIHA EDWARD

MARCH 2014

Main Supervisor: Dr H.C. Brunette

Co-supervisor: Prof. C.D. Kasanda

ABSTRACT

The purpose of this study is to investigate the quality of educational standards in Namibian Vocational Education and Training (NVET) with the purpose to provide a benchmark model aimed at improving the educational standards in Namibian Vocational Training Centres (NVTCs). The study addresses the issue of poor educational standards in NVTCs based on complaints from the society, the media and politicians that the NVET is unable to meet the job market requirements.

The triangulation methodology was used to collect quantitative and qualitative data. Open-ended research questions and semi-structured interviews were constructed, tested in a pilot study conducted at the Windhoek Vocational Training Centre and administered to respondents in selected VTCs and stakeholder institutions in Namibia. A total population of 11 351 people comprising NVTCs, stakeholder enterprises and Vocational Education and Training (VET) activities managers at the Ministry of Education were identified. A sample of 600 respondents was obtained through the stratified random sampling method. Five categories of respondents were identified, namely NVTC trainees, instructors, graduates, Ministry of Education (MoE) stakeholders and employers of NVTC graduates. The study focused on respondents from the Namibian Institute of Mining and Technology (NIMT) at Arandis, the Community Skills Development Centre (COSDEC) at Gobabis, COSDEC Swakopmund, the National Youth Service (NYS) at Grootfontein, NAMWATER Okahandja, Okakarara Vocational Training Centre, Development Aid From People to People (DAPP) in Windhoek, EHAFO in Windhoek, Katutura Youth Enterprise Centre (KAYEC) in Windhoek and the Windhoek Vocational Training Centre.

Areas of concern in NVET included causes of perceived poor educational standards, curriculum design features, curriculum implementation and comparison of CBET features with features of international VET models (Germany and Tanzania). Chi-square tests were used for data analyses and inferences from these analyses. Weaknesses in features of the CBET system were identified as poor training facilities, skills levels of instructors, VET managers and relations with the weak Namibian industry. Findings were that training facilities were in a deplorable state; communication between trainees and management was deficient, instructors lacked teaching skills, trainees lacked study skills and the CBET curriculum was short of science and technical subjects. The transition between training and the job market was poorly managed and all NVET stakeholders did not understand the CBET system in the same way. The study recommends the training of VET management and instructors, improvement of communication channels with stakeholders and the alignment of NVTC curricula with job market requirements. The job market compliance and self-reliance benchmark model (JMCSR) emerged as the result of improvements to features of the CBET system based on the German dual VET model and the Tanzanian self-reliance model.

The study justifies the curricular paradigm shift from knowledge-based to production-based education for self-reliance as required by the Namibian Vision 2030. The JMCSR benefits graduates to conform to the job market requirements, curbs unemployment and boosts national industrialisation, thus responding to the public outcry on poor educational standards in NVTCs. Further studies could focus on addressing specific entry requirements for NVTCs for each trade.

ACKNOWLEDGEMENTS

And I stood firm, looking at the cross of Jesus Christ where my hope comes from. And the Lord my God, my enabler, put in me the conviction that with Him everything is possible. From a life of an exiled family where everything seemed to be lost to that of an academic and a professional researcher-trainer, there is a miracle to claim. So, dear Lord, this work accomplished is yet another milestone in the life You gave to me. I cannot thank You enough.

May Dr Christo Brunette, my main supervisor, and Professor Choshi Kasanda, my co-supervisor, find gratitude in all the support they extended to me during this laborious time of hard work. Dr Brunette, Prof. Kasanda, you gave me the best guidance, energy and the opportunity to look at research situations with a deeper perspective. With your support I was able to understand, exploit and apply research theories and techniques in much more complex situations. So, on this day, I can claim to be a crafted philosopher of an academic system, which at the time seemed, to offer very little hope.

Mr Alfred Iilukena, Permanent Secretary of the Ministry of Education, Mr Frans Gertze, Director of the Namibia Qualifications Authority, Commissioner Onesmus Upindi, Chief Executive Officer of National Youth Service and Ms Nangula Maria-Rukoro, Chief Executive Officer of the Namibia Training Authority, thank you so much for your support and permission to conduct research in your institutions and for according me special interviews from which I learned a lot.

Directors and officials at visited Vocational Training Centres and respondents who answered the questionnaire by e-mail, thank you for your assistance. The invaluable support I received from the Faculty of Science and the Department of Statistics cannot be overemphasised. Dr Marina Muller, thank you so much for making student services available that helped me to check the statistical analyses and inferences presented in this work.

As I celebrate this together with our families in the diaspora, I pray to God that the future will be more fruitful and more meaningful to take us much closer to our Creator.

Thank you all.

Ms L. Meeser

Klein Windhoek

Namibia

TO WHOM IT MAY CONCERN

This is to certify that I have, in my personal capacity of freelance editor, edited the PhD thesis of Mr E.K. Hategekimana and can, to the best of knowledge, declare it free of grammatical errors.

The changes I have indicated concerning the thesis have been made by myself and Mr Hategekimana.

……

Ms L. Meeser

BA (UOFS), BA Hons (UOFS), UED (Unisa), PGT (University of Namibia).

DEDICATION

To you,

my dear mother Sarah Neema,

my dear late father Ernest Mutambo,

dear brothers and sisters.

To you,

Vanessa-Sarah Kandiwapa Hategekimana, my daughter, and

Immanuel-Daniel Tunohole Hategekimana, my son,

You give me hope.

August Liiza Nyambali-Hategekimana, my wife,

you have been my energiser and my supporter.

To you all this work is dedicated.

DECLARATION

I, Edward Kwiriha Hategekimana, hereby declare that this study is a true reflection of my own research, and that this work, or part thereof, has not been submitted for a degree in any institution of higher education.

Edward Kwiriha Hategekimana

Date:……Signature:……

TABLE OF CONTENTS

ABSTRACT ..... **ii**

ACKNOWLEDGEMENTS ..... **iv**

DEDICATION ..... **vii**

DECLARATION ..... **viii**

LIST OF ABBREVIATIONS AND ACRONYMS ..... **xxiv**

CHAPTER 1: ORIENTATION OF THE STUDY **1**

1.1 Background of the study **1**

1.2 Statement of the problem **3**

1.3 Research questions **5**

1.4 Hypotheses **5**

1.5 Significance of the study **6**

1.6 Limitations of the study **7**

1.7 Delimitations of the study **8**

1.8 Clarification of terms **9**

1.9 Summary **12**

CHAPTER 2: LITERATURE REVIEW **13**

2.1 Introduction **13**

2.2 Conceptual and theoretical frameworks **14**

2.2.1 Classical Organisational Theory (COT) 14

2.2.2 Perspectives on Technical and Vocational Education and Training (TVET) 16

2.3 Historical perspectives on educational standards in NVET **17**

2.3.1 Pre-colonial NVET 17
2.3.2 Colonial NVET 19
2.3.3 Post-colonial VET and Transitional NVET 24
2.4 Current VET practices in Namibia and their challenges 26
2.4.1 Challenges in raising the educational standards in NVET 26
2.4.2 Raising NVET educational standards in line with major educational goals 44
2.4.3 Specific NVET legal provisions and reforms 54
2.4.4 NVET curriculum articulation 60
2.4.5 The advent of the CBET system and its justification in Namibia 69
2.4.6 CBET versus other learning approaches 71
2.4.7 NVET stakeholders 74
2.4.8 Measuring educational standards 80
2.4.9 Identified features that influence the quality of education 83
2.4.10 Justification for the choice of international VET models 85
2.5 Summary 94
CHAPTER 3: RESEARCH METHODOLOGY 95
3.1 Introduction 95
3.2 Research design 95
3.3 Population 96
3.4 Sample and sampling procedure 98
3.4.1 Selected Vocational Training Centres 98
3.4.2 Sampling strata 99
3.4.3 Calculation of the sample size 104
3.4.4 Margin of error versus sample size 105

3.5 Sampling procedure **109**

3.6 Research instruments **110**

3.6.1 Selection and classification of instruments according to the data required 110

3.6.2 Construction of the questionnaire 111

3.6.3 Pilot study 112

3.7 Data collection procedures **114**

3.8 Data analysis **115**

3.8.1 Hypothesis testing 115

3.8.2 Qualitative data 116

3.8.3 Quantitative nominal data 116

3.8.4 Prevention of possible bias 117

3.9 Summary **118**

CHAPTER 4: PRESENTATION AND ANALYSIS OF FINDINGS **120**

4.1 Arrangement of the results **120**

4.1.1 Emerging themes and equivalent variables 120

4.1.2 Frequencies and inferences 121

4.1.3 Calculation of p-value 122

4.2. Results **123**

4.2.1 Biographical data 123

4.2.2 Causes of perceived poor educational standards in NVTCs 130

4.2.3 Presentation and analysis of NVET curriculum design features 181

4.2.4 CBET curriculum implementation 225

4.2.5 CBET features that need improvement 232

4.2.6 Respondents' closing comments on NVET programmes 236

4.3 Summary **237**

CHAPTER 5: DISCUSSION OF FINDINGS **238**

5.1. Introduction **238**

5.2 Causes of poor educational standards in NVTCs **239**

5.2.1 The state of training facilities in NVTCs 239

5.2.2 Conditions at NVTC graduates' workstations 240

5.2.3 NVTC instructors' ability to conduct training 241

5.2.4 Conditions at MoE stakeholders' workstations 242

5.2.5 NVTC trainees' learning ability 243

5.2.6 MoE stakeholders' ability to manage VET activities 244

5.3 Identified weaknesses in the NVTC curriculum design features **245**

5.4 Gender, image, professional qualifications and language of instruction in NVET **250**

5.5 Obstacles related to the implementation of NVET programmes in NVTCs **251**

5.5.1 Weaknesses in CBET features compared to the features of Germany and Tanzania 252

5.6 Respondents' closing comments on NVET programmes **252**

5.7 Summary **253**

CHAPTER 6: PRESENTATION OF THE IMPROVED NVET BENCHMARK MODEL **255**

6.1 Benchmarking process **255**

6.2 Identified gaps and suggested improvements to the current NVET model **257**

6.2.1 Poor articulation 257

6.2.2 Shortage of employability skills 258

6.2.3 Shortage of production, wealth creation and innovation skills 258
6.2.4 Weaknesses related to aims, goals and objectives in NVET 258
6.2.5 Recognition of prior learning 260
6.2.6 Shortage of pre-vocational skills 260
6.2.7 Low entry requirements for VET 261
6.2.8 Deficiencies in students' support system 262
6.2.9 Implementation problems 262
6.3 Proposed benchmark model features 264
6.3.1 Outlines of the benchmarking process 264
6.3.2 Identified benchmarking features 265
6.4 Presentation of the emerging NVET benchmark model 273
6.4.1 Representation of the NVET benchmarking process 273
6.4.2 Production-based paradigm 274
6.4.3 The emerging NVET benchmark model 277
6.5 Proposed implementation procedure 281
6.6. Summary 282
CHAPTER 7: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 284
7.1 Introduction 284
7.2 Summary of the study 284
7.3 Major conclusions 286
7.4 Recommendations 288
7.4.1 The state of training facilities in NVTCs 288
7.4.2 Working conditions at NVTC graduates' workstations 288
7.4.3 NVTC instructors' ability to conduct training 289

7.4.4 Conditions at MoE stakeholders' workstations 290
7.4.5 NVTC trainees' learning ability 291
7.4.6 MoE stakeholders' ability to manage VET activities 292
7.4.7 Weaknesses in CBET curriculum design features 293
7.4.8 Gender issue 297
7.4.9 Professional qualifications 297
7.4.10 Language of instruction 297
7.4.11 Obstacles related to the implementation of NVET programmes in NVTCs 298
7.4.12 Recommendations for further studies 298
7.5 Summary 299
REFERENCES 301
APPENDICES 332
APPENDIX 1: Letter from the UNAM authorising the researcher to conduct research 332
APPENDIX 2: Letter from the Permanent Secretary of the Ministry of Education authorising the researcher to conduct research 333
APPENDIX 3: Letter from the Chief Executive Officer of the NTA authorising to conduct research 334
APPENDIX 4: Research Questionnaire (for trainees, instructors, graduates, MoE stakeholders and graduates' employers and potential employers) 335
APPENDIX 5: Interview questions 344
APPENDIX 6: Namibian Qualification framework and descriptor 347

APPENDIX 7: Diagram of the Common Core Standards of the Learning Support System 357

APPENDIX 8: Structure of the Cause-and-effect diagram (Fish-bones analysis) 358

APPENDIX 9: Organisational structure of the Ministry of Education 359

APPENDIX 10: Structure of educational stages in Namibia 360

APPENDIX 11: Structure of the VET system in Namibia 361

APPENDIX 12: Structure of the German Education system 362

APPENDIX 13: Structure of the VET system in Tanzania 363

LIST OF TABLES

Table 1: Adapted typology of TVET provision in Namibia.....67

Table 2: Total population per strata.....97

Table 3: Selected VTCs location and status.....98

Table 4: Demographic characteristics of trainees.....101

Table 5: Demographic characteristics of instructors in selected VTCs.....101

Table 6: Demographic characteristics of NVTC graduates.....102

Table 7: Demographic characteristics of MoE stakeholders.....102

Table 8: Demographic characteristics of NVTC graduates' employers.....103

Table 9: Demographic characteristics of trainees.....106

Table 10: Demographic characteristics of instructors.....107

Table 11: Demographic characteristics of graduates.....108

Table 12: Demographic characteristics of MoE stakeholders.....108

Table 13: Demographic characteristics of employers and potential employers.....108

Table 14: Required sample (n) for the research.....109

Table 15: Names of employers and related types of trades.....129

Table 16: Contribution of training facilities to the fall in educational standards in NVTCs.....133

Table 17: Explanation of the contribution of physical facilities to the fall in educational standards in NVTCs.....134

Table 18 Improvements to be made to training facilities to raise educational standards in NVTCs.....136

Table 19: Conditions at graduates' workstations regarding the fall in educational standards in NVTCs....136
Table 20: Explanation of conditions at graduates' workstations 140
Table 21: Views on what needs to be done at graduates' workstations or worksites 142
Table 22: Contribution of skills levels of instructors to the fall in educational standards 148
Table 23: Contribution of skills levels to NVTC instructors 149
Table 24: Views on what needs to be done to instructors' skills levels....151
Table 25: Contribution of MoE stakeholders' conditions to the fall in educational standards in NVTCs....153
Table 26: Contribution of MoE stakeholders' working conditions to the fall in educational standards in NVTCs 155
Table 27: Explanation of the contribution of MoE stakeholders' working conditions to the fall in educational standards in NVTCs....156
Table 28: Improvements to be made to MoE stakeholders' working conditions 158
Table 29: Contribution of trainees' learning ability to the fall in educational standards in NVTCs....165
Table 30: Explanation of NVTCs trainees' learning ability 166
Table 31: What needs to be done to improve the learning ability of NVTC trainees 168
Table 32: Skills levels of MoE stakeholders' contribution to the fall in educational standards in NVTCs 175
Table 33: Explanation of expressed opinions on skills levels of MoE stakeholders....176
Table 34: Improvements to raise MoE stakeholders' skills levels....178

Table 35: What needs to be done to NVTCs training facilities to accommodate people with disabilities.....180
Table 36: Comparative matrix of the selected benchmarking features 268

LIST OF FIGURES

Figure 1: P-value approach……..……123

Figure 2: Categories of respondents……..…….……...124

Figure 3: Age groups of respondents vs. categories of respondents…….…….……...125

Figure 4: Gender representation among respondents……...……...…….126

Figure 5: Types of organisations of respondents…….……..127

Figure 6: Description of the state of training facilities in NVTCs……..……...131

Figure 7: Instructors' knowledge of the subject…..……...144

Figure 8: Instructors' teaching skills as perceived by respondents…….…….……..145

Figure 9: NVTC instructors' experience in VET…..……146

Figure 10: NVTC trainees' study skills…..…….....160

Figure 11: Trainees' knowledge of VET procedures……..……..……161

Figure 12: NVTC trainees' interpersonal skills…...……..162

Figure 13: NVTC trainees' VET experience……...…….……..163

Figure 14: MoE stakeholders' knowledge of procedures in the management of VET activities…….....170

Figure 15: MoE stakeholders' interpersonal skills in the management of VET activities...…….…….171

Figure 16: MoE stakeholders' VET experience in the management of VET Activities…….…….....173

Figure 17: Observed weaknesses in the NVTC curriculum design features…….……183

Figure 18: Recommended improvements to the NVTC curriculum aims,

goals and objectives…….....**.....**185

Figure 19: Recommended improvements to the CBET curriculum

implementation procedures ……...……187

Figure 20: Recommended improvements to the CBET curriculum

Entry requirements…….…….....189

Figure 21: Recommended improvements to the recognition of prior

learning (RPL)……...……191

Figure 22: Recommended improvements to competencies and skills covered in

NVTC curriculum contents……...193

Figure 23: Recommended improvements to skills transfer processes

or teaching methods…….……..195

Figure 24: Recommended improvements to the CBET curriculum

Delivery mode……..…….197

Figure 25: Recommended improvements to the CBET unit standards..……...198

Figure 26: Recommended improvements to the CBET curriculum evaluation

system.....200

Figure 27: Recommended improvements to the CBET funding system…..…….202

Figure 28: Improvements to the system of job attachment or training

in the industry……204

Figure 29: Improvements to the CBET curriculum articulation with

the job market……206

Figure 30: Recommended improvements to the CBET programme

duration for certification……....208

Figure 31: Recommended improvements to the CBET curriculum for graduates'

prospects for the future……...……...209

Figure 32: Adjustments to the VET programme to address gender issues

in NVTCs ……211

Figure 33: Improvements needed to address the image of NVET……..……..213

Figure 34: Introduction of professional doctoral degrees in the

NVET curriculum……..……215

Figure 35: The introduction of professional master's degrees in the

NVET curriculum…….…….216

Figure 36: The introduction of professional honour’s degrees in the

NVET curriculum……218

Figure 37: The introduction of professional bachelor's degrees in the NVET curriculum……..219

Figure 38: The introduction of professional diplomas in the NVET curriculum……..220

Figure 39: Respondents' reasons for the NQF level chosen...…….……..221

Figure 40: Language of instruction to improve the educational standards in NVTCs...……223

Figure 41: Explanations of what needs to be done regarding the language of instruction in NVTCs……...……..224

Figure 42: Respondents' views on obstacles related to the implementation of NVET programmes in NVTCs……..226

Figure 43: Explanations of specified obstacles related to the implementation of NVET programmes in NVTCs……228

Figure 44: What needs to be done for the successful implementation of NVET programmes……..……..……...230

Figure 45: Explanation of what needs to be done for the successful implementation of NVET programmes……..……...231

Figure 46: CBET features that need improvement…..……...233

Figure 47: What needs to be done to enhance professional skills among NVET stakeholders……...235

Figure 48: Respondents' comments on NVET programme……..…….236

Figure 49: NVET benchmarking process……...…….……..273

Figure 50: Emerging NVET benchmark model…….…..……..…278

LIST OF ABBREVIATIONS AND ACRONYMS

ADEA:	Association for the Development of Education in Africa
ATE:	Association of Tanzania Employers
BEAR:	Better Education for Africa's Rise
CBET:	Competency-Based Education and Training
CCSLSS:	Common Core Standards for the Learning Support System
CEN:	Comité Européen de Normalisation (meaning: European Commission for Standardisation)
CNS:	Common National Standards
COT:	Classical Organisational Theory
ESR:	Education for Self-Reliance
ETSIP:	Education and Training Sector Improvement Programme
HTS:	Higher Technical School (Windhoek)
JMCSR:	Job market Compliance and Self-reliance
MoE:	Ministry of Education
MEC:	Ministry of Education and Culture
NEF:	Namibia Employer's Federation
MoLS:	Ministry of Labour and Social Welfare
NGO:	Non-Governmental Organisation
NIED:	Namibian Institute for Educational Development
NQA:	Namibian Qualification Authority
NTA:	Namibian Training Authority
NTTC:	National Trade and Testing Centre
NVTCs:	Namibian Vocational Training Centres
NVET:	Namibian Vocational Education and Training

PoN: Polytechnic of Namibia

VET: Vocational Education and Training

VTC: Vocational Training Centre

TVET: Technical Vocational Education and Training

CHAPTER 1: ORIENTATION OF THE STUDY

1.1 Background of the study

Namibian independence on 21 March 1990 marked the end of an era of discrimination along racial lines where high-quality schooling was the privilege of a few (Amukugo, 1998; Melber, 2005). The philosophy of education inspired by the apartheid system shifted the focus from the education of a privileged few to a more tolerant system of education where more access to education was opened to the mass of formerly underprivileged people (Amukugo, 1998; Swarts, 2003). Though the philosophy of education changed, the quality thereof did not improve rapidly in the less privileged communities of the black people (MBESC, 1999a; Sasman, 2010). According to the MBESC (1999b), Melber (2005) and Sasman (2010), after independence the government's mammoth task was to make educational reform one of its priorities in its efforts to improve the quality thereof at all levels and more specifically in the area of Technical Vocational Education and Training (TVET).

The Ministry of Education and Culture (MEC) (1993) introduced the philosophy of learning, focusing on the creation of an inclusive schooling system. The four major goals adopted were Access, Equity, Quality and Democracy (GRN, 2004a; MBESC, 1999a; MEC, 1993). These goals have not yet been fully achieved 23 years after independence and efforts are still being made to improve the effectiveness of the Namibian Technical Vocational Education and Training (NTVET) system (GRN, 2004a; Mabizela, 2005). Remarkable improvements in VET have been seen through the introduction of the Competency-Based Education and Training (CBET) system and the Education and Training Sector Improvement Programme (ETSIP) implemented since 2006 (MoE, 2007).

These positive initiatives are still accompanied by challenges and obstacles of diverse nature and magnitude (Pohamba, 2008; Brunette, 2006; Melber, 2005). Among others the VET system faced the challenge of being highly centralised and not being demand-led (GRN, 1999; GRN, 2007; MEC, 1993; MBESC, 1999b).

Though currently much criticism, such as poor quality of education in NVTCs and the weakness of the CBET, is levelled against the Namibian VET, there is no conclusive evidence to support such criticism (Likando, Wolhuter, Matengu & Mushaandja, 2011). President Pohamba noted that education in general and VET in particular should be improved to become a tool to empower the people and enable them to compete internationally (Hambata, 2010; Pohamba, 2008). Pohamba opined that it was through high education standards that social institutions would receive the best input from the academia without which stagnation and ignorance would invade the society.

Policies of the Ministry of Basic Education, Sport and Culture (MBESC) (MBESC, 2005b; MoE, 2007) on VET gave directives intended to address challenges that VET faced, e.g. the public outcry on the poor quality of education in Namibian Vocational Training Centres (NVTCs) and the dissatisfaction of employers with the poor performance of NVET graduates (MBESC, 2005b; MoE, 2007). For employers, NVET has been unable to equip graduates with entrepreneurship and key industry skills, resulting in acute skills shortages countrywide. This situation is the reason for the decrease in private sector confidence in the public VET (Gouws, 2008; Pupkewitz, 2006).

With regard to VET management, Kakunawe (2008) and Ekongo (2010) report that even though the Namibian Training Authority (NTA) has made efforts to provide solutions for

VET problems, students and employers still regard NVTC management as wanting with unqualified instructors. According to Kakunawe (2008), the CBET system is described by students as useless in the national development and an obstacle to their future. Kakunawe insists that the CBET is also not well clarified and has many weaknesses such as the lack of mathematics, engineering science and technical drawing that were replaced by theoretical teaching. According to Pupkewitz (2006) employers of NVTC graduates have expressed concern about NVET and he describes the skills deficiency in NVTCs as a serious crisis that needs an urgent solution. Because there were complaints about the ineffectiveness of NVET and its incapacity to address the implementation of its programmes (Pupkewitz, 2006), the NVET regulatory framework was created. The NTA was formed as a reaction to the public outcry to become Namibia's backbone for vocational skills through the facilitation of training and related services provision, organisational effectiveness, funding, regulation and the collection of the vocational education and training levy (NTA, 2011b). In an attempt to fulfill the above mandate, the NTA piloted the implementation of the CBET system and the imposition of a vocational education and training levy contested by stakeholders across the country (Mukendwa, 2012). Though attempts to transform the NVET into a tool to propel economic development, the prejudice surrounding the profession continues to hamper the fulfilment of the NTA mandate of transforming VET into a driving force in economic emancipation (Louw, 2013; Naanda, 2012).

1.2 Statement of the problem

Although efforts have been made to improve the standards of education in NVTCs, there are still complaints suggesting a widespread dissatisfaction among NVET stakeholders and the poor quality of its output (GRN, 2004a; Likando et al., 2011). This study deals with the poor educational standards in NVET and the absence of a research-based benchmark model of

educational standards. Employers accused the NVET system of providing poor-quality education and questioned the employability of NVET graduates (Naanda, 2010).

In their 2010 labour survey, the Namibia Employers' Federation (NEF) and the Ministry of Labour and Social Welfare (MoLS) reports that the Namibian tertiary sector including VET were not performing to the expectations of the job market (Links, 2010). The report by Links also accuses the NVET system of being too diverse and not having one single agreed-upon practice framework, thus the imminent justification of a need for a benchmark model of educational standards. Accusations similar to those reported by the NEF and MoLS stating that the performance and the skills offered by NVET are irrelevant to the situation in the job market cannot be taken lightly (Links, 2010). This study therefore endeavours to develop a benchmark model of educational standards as a response to the aforementioned deficiency.

In this respect, the GRN (2000), UNESCO and ILO (2007) argue that educational standards of any learning activity are measured by the performance of its outputs in the job market. Therefore the complaints mentioned above are an indication of problems that must be addressed. According to the GRN (2007), there are no technical subjects in the curriculum of the general school phase in Namibia. This weakness of the basic education phase as feeder of the VET system was viewed as unacceptable by the Minister of Education, hence his directive to reintroduce these subjects in schools in 2013 (Iyambo, 2011). Iyambo encouraged research to be done to enable stakeholders in NVET to make informed decisions about technological education at school and post-school levels (GRN, 2004a; Iyambo, 2011). To that end, this study investigated how the standards of education in NVTCs could be raised. It specifically analysed the current NVET educational standards model and sought to generate a new benchmark model. It also came up with strategies of how to raise the standards of

education in NVTCs and dealt with factors including poor training of NVTC instructors, preparation of the management cadre to manage changes in the programmes, the entry requirements for NVTCs, weaknesses in the NVET curriculum contents as well as the process that preceded the introduction of the CBET system to NVTCs.

1.3 Research questions

The study was guided by the following key questions:

1.3.1 What are the causes of the perceived poor educational standards in NVTCs?

1.3.2 What design features, e.g. objectives, contents, assessment methods, and admission and promotion criteria form the Namibian NVET programmes?

1.3.3 What are the problems of NVET programme implementation?

1.3.4 How are the NVET design features and programmes comparable to those of Tanzania and Germany?

1.3.5 What design features are the most suitable to raise educational standards in NVTCs?

1.3.6 What are the design features of the benchmark model resulting from the comparison of the current NVET system with those of Tanzania and Germany?

1.4 Hypotheses

The following hypotheses were addressed:

H_0: There is no significant relationship between the categories of respondents and the causes of perceived poor educational standards in NVTCs, improvements in the CBET curriculum design features, implementation of the CBET features, features of the CBET and recommendations on the NVET programmes.

H_a: There is a significant relationship between the categories of respondents and causes of perceived poor educational standards in NVTCs, improvements on the CBET curriculum design features, implementation of the CBET features, features of the CBET and recommendations on the NVET programmes.

1.5 Significance of the study

The data on the improvements of the features of the traditional VET system in Namibia are instrumental in raising the quality of education in NVTCs. This study anticipates an improvement of the features of the CBET model as a way to raise educational standards in NVTCs. By so doing, the study contends to contribute to the on-going debate by making a researched database for decision-making on NVET curriculum improvements and standard-setting processes of NTA and NQA available for NVET curriculum developers.

The proposed improvements might generate a response to the public outcry on the poor quality of training facilities, instructors and management as well as the CBET implementation procedures. The study might benefit the NVET management by uncovering problems linked to the poor skills levels of its instructors and managers and the shortage of study skills among trainees. That information might be instrumental in decision making for future strategies on human resources capacity development in NVTCs. The study clarifies the issue of how to foster the involvement of the industry in skills training and insists on the need for articulation across programmes and institutions so as to ensure that NVTC graduates progress to higher and better programmes. The study hopes to provide measures intended to help in averting possible future complaints on the ineffectiveness levelled against NVET. The study might cast light on the current aims and objectives of NVET rather than focusing on solving the rhetoric of unemployment that mainly concentrates on proposing employability skills as a solution to problems related to the Namibian job market. The study might clarify

challenges surrounding the implementation of employability skills as the solution to skills shortages due to the weak secondary sector in Namibia. The study might further clarify the fact that the Namibian industry is in the infant stage and that NVTCs are required to respond to transforming NVET into an engine of industrialisation. Therefore, the study might generate a benchmark model that concentrates on solving the issue of transforming Namibian raw materials exported to foreign countries for industrialisation in line with the Namibian Vision 2030. The new model might be useful for future human capital management given its potential to recommend policy strategies on how to harness the availability of the idle, unskilled and unemployed labour force in a market that exports raw materials and is highly dependent on the importation of all types of goods and services. Given the high unemployment rate in Namibia, it is expected that the study may generate a VET benchmark model that would define the road map towards self-reliance, wealth creation and job retention, thus a job market responsive model.

1.6 Limitations of the study

The data presented in this study were obtained through a researcher-administered questionnaire. Because the administration of the questionnaires was conducted in class groups there was the possibility of trainees copying responses from each other. The second constraint was that the study was conducted when NVET was in a transitional period when the CBET system was being introduced, riots of trainees in the streets were fuelled by the media, and politicians were rampant and the outcome of the government's efforts to solve the situation was not yet known (NTA, 2012). In such a volatile situation, the data obtained might be attributed to emotional reactions rather than to personal and individual perceptions of problems in NVTCs. Therefore, exaggeration or distortion of facts due to the prevailing situation might have affected the results.

The last major constraint was linked to the availability of the database on VET in Namibia. The research was conducted at the time of transition, as indicated earlier. The challenge linked to that was the absence of figures of either the size of the population of trainees per institution, or the number of employers, graduates and instructors at the NTA. Attempts to get the database from institutions proved futile, as their management was not willing to communicate these statistics directly to the researcher, but only through the NTA officials.

1.7 Delimitations of the study

The initial intention of the study was to study educational standards at all the VTCs in Namibia. It would have required an enormous amount of time and many resources to distribute questionnaires and collect responses from the respondents.

Given these constraints, the researcher opted to limit the study to selected VTCs, focusing on Windhoek, Swakopmund, Tsumeb, Okakarara, Okahandja and Arandis, which operate in similar conditions as those of the aforementioned VTCs to reduce the time to travel to and from remote regions. Given the current transitional nature of NVTC programmes the study was limited to post-secondary VTCs so as to be more focused.

1.8 Clarification of terms

Apprenticeship

Apprenticeship refers to any type of skills acquisition process that ranges from craft occupations or trades to apprentices seeking a professional licence to practise in a regulated profession. Apprenticeship is done while the trainees are working for an employer who helps them to learn the trade or profession, in exchange for their continuing labour for an agreed period after they have achieved measurable competencies (CEDEFOP, 2011). The definition given by the ILO (2012) was used in this study. The ILO defines *apprenticeship* as any system by which an employer undertakes by contract to employ a young person and to train him [or her] or have him [or her] trained systematically for a trade for a period, the duration of which has been fixed in advance and in the course of which the apprentice is bound to work in the employer's service.

Benchmarking

Benchmarking is an enquiry process through which the initiator assesses the position of the entity under analysis by comparing its characteristics, products, services or features with those of identified target international entities (Armacost & Wilson, 2003; Andersen, 2000). In the context of this study, *benchmarking* is understood as the comparative description of how the curriculum features ought to be in comparison with best practice. This definition captures the essence of benchmarking as learning from others (Andersen, 2000).

Common Core Standards

Common Core Standards are major interrelated functional areas or features that schools pursue day-by-day, regarded as an agreed-upon norm to which the enhancement of the quality education can be attributed (Armacost & Wilson, 2003; Thacher, 2012).

Design

In this study the word *design* refers to the process of conceptualisation, organisation and arrangement of various components of a curriculum or plan of action during its developmental stage by emphasising its features and their places in accordance with the intended objectives (Ornstein & Hunkins, 2009).

Model

The word *model* refers to a standard or a copy of an object, especially one made on a smaller scale than the original. It is a reference framework (standard) describing the specifications and characteristics for the conceptualisation, the organisation and the arrangement of various components of the real object, article, document or situation. In this study, the term *model* is used to mean a set of practices, criteria, norms or reference points used in the establishment of the quality of the features that constitute the curriculum (Tylor, 2012).

Occupational Unit Standards

Occupational Unit Standards are defined in this study as requirements one has to fulfill in order to be called competent. For every task, there is a level of performance expected by the industry. The training programme must determine what the standard is and use it to guide the instruction (UNESCO, 2011).

Performance

The word *performance* will be understood to mean achievement or the act of accomplishing something or a task. In the context of schooling, trainees' performance means the result achieved as compared to an educational aim, goal or objective (Guliano & Severo, 2000).

Standard(s)

In this study, the term *standard* refers to an interface or a link between the Namibian education system and the labour market (Guliano & Severo, 2000; UNESCO, 2011). Hence, *standards* will be defined as norms by which the performance of the NVET will be judged as compared to the targets set forth in its aims, goals and objectives known as design features.

Technical and Vocational Education (TVE)

The term *Technical and Vocational Education* is used as a comprehensive term referring to the aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of socio-economic sectors (Chappell, 2003; UNESCO, 2011).

Vocation

In the context of this study the word *vocation* means one's occupation or profession (Education International, 2009; Billet, 2011).

Vocational education

This is an education that prepares trainees for jobs at various levels, from a craft or trade to a professional position in engineering, accounting, nursing, medicine and other health practices, architecture, pharmaceuticals and law (Billet, 2011). Craft vocations are usually based on manual or practical activities, traditionally non-academic, related to a specific trade, occupation or vocation.

It is sometimes referred to as technical education, as the trainee directly develops expertise or the know-how in a particular group of techniques (Billet, 2011). This study uses TVET and VET interchangeably to mean the educational process through which the training provided is aimed at imparting knowledge and related know-how, also known as competencies, to trainees.

1.9 Summary

This chapter presented the problem of the study as the fall of educational standards in NVTCs. The main issues of the study focus on how to raise educational standards in NVET in order for NVTC graduates to meet the job market requirements, how to improve the image of NVET and how to make NVET an engine for social and economic development in line with the Namibian Vision 2030.

The statement of the problem and the questions of the study were stated and supplemented by a research hypothesis. The study also noted the lack of a benchmark model of educational standards in NVTCS and suggested that a research based enquiry in the poor performance of NVTCs graduates, poor performance of instructors, lack of articulation in NVTCs programmes and wesknesses in CBET curriculum design features. The outcomes from the study were found to be of great use for the current process of making NVET an engine of economic development and job market skills development. The limitations and delimitations of the study were also provided and discussed.

The next chapter will review the related literature.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature related to vocational education in general and vocational education in Namibia in particular. It also reviews the literature on VET in Tanzania and Germany as international countries for benchmarking purposes. The literature review was informed by published books, organisational reports, articles in journals, government policies in official gazettes and other official governmental documents as well as international non-governmental organisations, the United Nations and other international agencies.

In addition, this chapter describes and discusses the theoretical framework underpinning vocational education. It describes the benchmarking process and demonstrates its relevance for the improvement of educational standards in NVTCs.

This chapter further shows the theoretical model selected as a guide for the study of features of the NVET curriculum under scrutiny. It also gives global perspectives on international countries, namely Tanzania and Germany. The development of the new VET benchmark model and the selection of its major features lean not only on the Classical Organisational Theory (COT) of Weber but exploit complementary and supportive theories such as the Common Core Standards for the Learning Support System (CCSLSS) and the Common National Standards (CNS) (Vecchio, 2003; European Union Commission for Standardisation (CEN, 2009). The literature on the cause and effect suggested by Weber's COT theory is also supported by the Fish-bone analysis theory whose outlines are presented in Appendix 8.

2.2 Conceptual and theoretical frameworks

According to Harris (2001) a conceptual framework is used in research to present a preferred guiding approach to an idea, a thought or a study. This being a descriptive and exploratory study of educational standards in NVTCs, the preferred guiding theory was drawn from the COT of Weber (1947), stipulating that the identification of causes of educational problems is key to the process of finding solutions. This theory is supported by Vecchio (2003) and was used as the basic logic during the benchmarking process. Ornstein and Hunkins (2009) in their study on curriculum foundations and principles recommend the COT as a model for studying educational issues. The authors argue that in order to design an adequate programme one has to anticipate its end point and design the curriculum targeting the pre-set objectives. This argument is similar to Weber's classical organisational model that supports the idea that objectives of any system should be set beforehand, and then actions leading towards their achievement should follow (Vecchio, 2003).

2.2.1 Classical Organisational Theory (COT)

According to Weber's (1947) theory supported by Vecchio (2003), the COT is a system managerial theory stressing, among others, the need to reduce diversion and ambiguity in organisations with the focus to establish clear lines of authority and control. The theory further advocates for clarity in institutional curriculum articulation. (Also see extensive discussions in 2.4.4.). The COT emphasises cohesion, clarity and harmony among the diverse features of learning programmes as suggested in the emerging benchmark model in Table 36 (Almashaqba, Alajloni, & Al-Qeed, 2010).

Therefore, Weber's theory offers a guiding principle to consolidate the cohesion among NVET curriculum development approaches and features. The COT emphasises that aims,

goals and educational objectives, training methods, programme duration, structuring, evaluation, support systems and their implementation processes must be coherent and logically interlinked (Ornstein & Hunkins, 2009; Vecchio, 2003).

According to Marope (2005) and MBESC (2005a) the NVET system is made up of stakeholders with diverse backgrounds, thus guided by a multiplicity of approaches. The application of Weber's theory suggests that there is a need to consolidate the NVET system. The harmonisation and consolidation of the NVET system has the benefit of increasing its focus and effectiveness (Marsh & Willis, 2003). The consolidation sought can only be achieved through the development of a consolidating benchmark model of educational standards (GRN, 2007).

Weber's theory also indicates that organisational behaviour is a network of human interactions, where all behaviour can be understood by looking at causes and effects in the quest for suitable, rational and practical solutions (Marsh & Willis, 2003). Furthermore, Weber's theory argues that while dealing with deficiencies in a curriculum, all forms of confusion must be clarified in order for qualifications to have a credible academic power (Marsh & Willis, 2003). Thus, the academic power and the credibility of the CBET would be enhanced by, among others, the establishment of criteria for the development of educational unit standards and a step-by-step implementation process. The theory has thus been the basis for the identification of the steps to be taken for an improvement in identified core features presented and explained in the new NVET benchmark model. Collins, Hanges and Locke (2004) support the view that the identification of causes of an educational problem helps to deal with subsequent consequences.

2.2.2 Perspectives on Technical and Vocational Education and Training (TVET)

The relevance of TVET development and the challenges it poses cannot be overstated. Mapesela (2002) argues that the relevance of VET programmes is not disputable and that the challenge is the context and the place where it takes place. Layton and Lock (2007) agree with this idea by explaining that the quality of the outcome of education depends on the standards of the inputs, including the institutional atmosphere.

Atchoarena and Delluc (2002) as well as the GRN (2007) suggest that sub-Saharan technical and vocational education could be best summarised as highly centralised, of poor quality and of high cost. They explain that training is not suited to actual socio-economic conditions, and disregards the informal sector needs, the labour market and the high unemployment rate among graduates. Brunette (2006), Clegg (2004) and Angula (2000) also explain that there is a negative perception regarding TVET among parents in Namibia. They argue that trainees perceive technical VET as a less desirable occupation and that academic education is regarded as the route to success in life.

Focusing on educational quality assessment, Higgs (2006) and Laurillard (2005) argue that one of the most important roles of schooling institutions in their service to the community that sustains it is to contribute to its constant critical scrutiny and review. Therefore criticism against the current NVET system by the public is relevant and deserves attention. Amukugo (1998), GRN (2008a) and Swarts (2003) explain that Namibian education, and NVET in particular, is in a transition stage which is in the process of correcting the imbalances of the past. They urge NVET to be the driving force in socio-economic development, especially in the 21st century, as the world is shifting from an industrial to a knowledge-based economy.

2.3 Historical perspectives on educational standards in NVET

In this study, historical perspectives on educational standards in NVET are presented in four major defining moments. The first moment captures the records of vocational activities practised during the pre-colonial NVET, the second relates to the colonial NVET, the third discusses the post-colonial NVET and the fourth highlights VET activities and current developments in the NVET system.

2.3.1 Pre-colonial NVET

According to Du Plessis (2012), Melber (2005) and Satour (2012), although little written documentation specifies the state of vocational and technical education during the pre-colonial period, it is commonly known that during that period technical education or art existed. Like their counterparts on the rest of the African continent, Namibian ethnic groups had the technical skills to cook, milk cows, produce musical instruments, manufacture traditional defence weapons and produce fishing or hunting tools (Ember, M. & Ember, C.R., 2001; Murenge, 2012). Other anthropological sources confirm the existence of pottery, traditional weapons, jewellery and other hand-made objects in Africa and in Southern Africa in particular (Du Plessis, 2012). These artefacts were not manufactured or intended for commercial purposes, as is currently the case. They served as instruments to bring about community cohesion and regulate their relations (Satour, 2012). They were used as household facilities and commodities and given as gifts at weddings and other ceremonies and rituals (Ember et al, 2012).

The resemblance between these activities and our current education system is that there were acknowledged artists who specialised in crafting certain objects and passed these skills on to their offspring as a matter of tradition; more or less like the apprenticeship of today (Du

Plessis, 2012). The arrival of missionaries and explorers with more complex tools in sub-Saharan Africa, Namibia included, caused a slowdown and later a merge of their art works, leading to the extinction of original indigenous artistic and vocational skills (Du Plessis, 2012; Satour, 2012). The remains of these artistic and vocational skills can still be seen and experienced around and about our social settings (Murenge, 2012; Hoabes, 2011). In the same context, the National Heritage Council of Namibia deplores the absence of advertising Namibia's remains of artistic, cultural and vocational skills at the global scale (!Hoabes, 2011). The organisation explains that Namibia has tourism and heritage sites recognised by UNESCO on its data base. Unfortunately these vocational and artistic skills have not been fully marketed at the international level due to low interest in cultural tourism by tourists as compared to wildlife and scenic tourism in Namibia (!Hoabes, 2011). Further descriptions of the Southern African vocational and artistic skills indicate the following:

> The earliest art in this country was, as in many other regions, defined by the rock art that existed in South Africa at least 1 500 years ago in mountain ranges like the Drakensberg, Cederberg and Magaliesberg. These pieces revealed much about the lives and customs of the local tribes. They also advanced over time, becoming more complex, using colours (from plants and other rocks) and etchings to create a more visually appealing experience. At this time, art was not only for aesthetic purposes, but also for religious worship and healing rituals. Naturally occurring clay was used to sculpt three-dimensional figures. Remnants of such ceramic art have been dated back to about the 6th century of our Common Era. These countries were going through their own art movements, not least of all the French Renaissance. As they settled and interacted with the native South Africans, they introduced these ones to a more classic style of

> realism, as opposed to their cultural, often abstract, approach to art. However, while the colonialists tried to anglicise the Africans, they were influenced by local tribes. Gradually, even European art began to explore the African approach of using clay and rock, wood and beads, depicting human and animal forms out of proportion, and including a somewhat spiritual element to art pieces (e.g. wooden African masks) (Du Plessis, 2012, p.1).

Though VET in the pre-colonial era was not as structured as it was during colonial and post-colonial times, it did exist and it served its purpose of entertaining, healing, socialising and giving hope to the custodians (Du Plessis, 2012). Traditional vocational artwork of indigenous Namibians was functionally interwoven into everyday life and festive occasions as well as ordinary work (Mans, 2000). By so explaining, Mans testifies to the existence of artistic activities that entailed advanced technical and vocational skills, even before colonisers came to Namibia.

2.3.2 Colonial NVET

This study describes Namibian Technical and Vocational Education and Training (NTVET) in relation to four major characteristics. The first historical characteristic was marked by the German and South African colonial regime in the country, the second was based on the TVET practice by the South West African People's Organisation (SWAPO) education branch in exile; the third was the TVET that was spearheaded by foreign missionaries in Namibia and the fourth was the struggle to break away from the colonial educational models and transformation of TVET to suit the current social and political arrangements (Angula, 2010; Mutorwa, 2004).

According to Amukugo (1998), the colonial NVET practice was clearly marked by the presence of missionaries who conducted VET activities among indigenous people with the intention to satisfy the German settlement's ambitions. The German VET curriculum included subjects such as carpentry, bricklaying and domestic sciences (Amukugo, 1998, p. 44). Although the high quality of TVET offered in NVTCs by the South African colonial regime cannot be disputed, it is widely known that the NTVET practice during colonial times in Namibia was the duplication of the prevailing socio-political situation (Angula, 2010; Brunette, 2006). According to Kasanda (2005, p. 107), the education system was based on both racial discrimination and ethnicity. The South African government had a development plan in place that stressed the particular role that was to be played by Technical and Vocational Education in the whole country's development (Odendaal Commission, 1964). The ruling colonial government of South Africa planned rigorously all the capital projects to be run over more than 50 years. Some of them, planned for until independence and beyond, are still on the Namibian government's agenda, such as the Kudu gas project, the Neckartal Dam and the Hosea Kutako Airport (Odendaal Commission, 1964). The report stressed:

> Up to 1940 facilities for agricultural training were available at two places, namely the agricultural school at Gammams near Windhoek and the *Burgher School* at Stampriet where pupils received two years' training in agriculture (Odendaal Commission, 1964, p. 233).

In the period until independence more technical, vocational and capital projects were initiated by the South African colonial regime (Odendaal Commission, 1964). The Odendaal report explains that, while technical vocational training took place in some places in Namibia, the

training of instructors was done in South African schooling institutions in the Cape Province, Orange Free State, Transvaal and Natal (Odendaal Commission, 1964, pp. 233-235).

Namibian Technical and Vocational Education and Training in exile was characterised by the creation of VTCs for Namibians during the struggle for independence. The pilot project of Technical Vocational Education and Training (TVET) for SWAPO trainees in Loudima – Congo Brazzaville offered courses in construction, agriculture, commerce, accounting, woodwork and other technical fields (Agapitus, Svendson, Tjeldvoll, & Welle-Strand, 1991). The Namibian Association of Norway that evaluated the Loudima model of TVET stipulated that the model was unfit for Namibian conditions at independence and recommended further studies to be conducted by NIED to evaluate its possible future direction (Agapitus et al., 1991, pp. 81-84). The Loudima commission's recommendations specified the staff development strategy during the transition period and the conditions for transfer of trainees and staff to Namibian Vocational Training Centres (Agapitus et al., 1991, pp. 81-84). The third moment of Namibian's vocational education history was characterised by the involvement of missionaries in TVET (Agapitus et al., 1991). The curriculum of TVET during exile sought to introduce pre-vocational skills training based on arts and agricultural production (Angula, 2011b, pp. 4-7).

Vocational training inside Namibia was arranged in such a way that its quality was low in black technical and vocational training centres and high in white schooling institutions (Angula, 2011b). The VET for whites was based on innovation and wealth creation, while the VET for black communities was intended to prepare them to understand instructions from their masters and to acquire elementary skills, thus forcing them into perpetual exploitation (Angula, 2011b; Brunette, 2006).

According to Brunette (2006) and Mutorwa (2004), the quality of the content, the pedagogy, assessment practices and ethos of the colonial education offered in black institutions were irrelevant and unsuitable to the needs and aspirations of the post-independence Namibian people. Mutorwa and Brunette stress that all along until independence, the challenge for NVET was to build a new vocational education system, where quality education for all would became the cornerstone.

Concerning access, GRN (2002) and Mutorwa (2004) state that in colonial times schools that offered technical trades were insufficient, be it white or non-white schools. The demand for technical and vocational education was and still is higher than the available vacant places at these schools (GRN, 2002). Access to quality technical and vocational education by the whites was the reason for the observed inadequacy of technical and vocational skills of blacks (Brunette, 2006; GRN, 2002; GRN, 2007; OECD, 2007). Additionally, there was no middle- or higher-level technical training in the country (Melber, 2005). Towards the mid- and late 70s, Rössing Uranium, Tsumeb Corporation and Consolidated Diamond Mines (CDM) began to train blacks for semi-skilled jobs previously reserved for whites. The Turnhalle Conference of 1976 brought new improvements of educational standards in NVET with the construction of new technical schools such as Cosmos Technical High School. Other improvements in the VET curricula worth noting include the introduction of academic and technical courses (Brunette, 2006; GRN, 2002).

Even though the demand for vocational and technical education was high and efforts to open them to the masses were made, the policy of racial discrimination remained influential in VET practices throughout the years (Mutorwa, 2004). For that reason, despite many changes, promises of changes and multiple improvements, vocational education continued to be

perceived by blacks as the reason for their inability to ascend to higher occupations (Angula, 2011b; Mutorwa, 2004). According to Brunette (2006) the colonial NVET was dominated by the perception that technical and vocational education was of inferior value because it led to less desirable occupations. Manual labour was considered to be the occupation for colonised people (Angula, 2011b), a perception that has existed to the present day.

Concerning the youth, although few young people in the colonial era had access to secondary or higher education, many benefited from various types of vocational education, especially apprenticeship activities (GRN, 2002). Accordingly, boys and girls received VET up to the age of 15 years in the case of young orphans. The curriculum of the apprentices consisted of teaching a trade for males, sewing and housewifery for females. It was also spiced up by basic literacy skills as an addition to basic religious knowledge (Brunette, 2006). Children learned job skills from their parents or employers without passing through any formal apprenticeship like today's Technical Education, Vocational and Entrepreneurship Training (TEVET) (GRN, 2004c). Apprenticeship in Namibia was and still is a learning process through which the trainer shows the apprentice how to do a task and helps him to perform it (GRN, 2002; NTA, 2011a).

The present development in VET as described by Akoojee, Gewer & McGrath (2005) and Marope (2005) is mainly geared towards closing the gap in skills deficiency in the labour market. The expansion of vocational and technical education currently aims at the expansion and the increase of the intake capacity of technical and vocational education and training programmes. It is moreover currently understood that:

> The intake of high-quality technical and vocational education and training programmes should be increased to meet current labour market demands. Intake should be increased only where programmes meet the three criteria of quality, market relevance and cost-effectiveness (Marope, 2005, p. viii).

The above description of Akoojee et al. (2005) and Marope (2005) is in line with the current course of action undertaken by the NTA, the policy initiated by the Ministry of Education through ETSIP and programmes of the Namibian Vision 2030, the stage where the NVET is today (GRN, 2004b; GRN, 2007; GRN, 2008b).

2.3.3 Post-colonial VET and Transitional NVET

According to Angula (2010), at independence the VET system was dominated by transitional strategies intended to move away from colonial Bantu education. He reiterates that before independence the Namibian education planning served two purposes, namely designing practical teaching programmes for schools in exile and testing educational ideas in preparation for the reform and transformation of education in an independent Namibia.

Angula (2010) explains that in colonial times the curriculum in Namibian Secondary Technical Schools involved the teaching of academic subjects, pre-vocational skills, agricultural production and subjects dealing with sports and culture. The end goal was to provide a diversified curriculum to cater for the diverse needs of a variety of learners. Angula adds that the International General Certificate for Secondary Education (IGCSE) and the Higher International General Certificate for Secondary Education (HIGCSE) examination system of the University of Cambridge Local Examinations Syndicate was then adopted as an assessment framework.

The GRN (2002) pursues that idea by confirming that this assessment system encouraged the principle of learning with understanding as opposed to rote learning that characterised the Bantu education system in pre-independent Namibia.

The transition of the NTVET curriculum from rote learning to learning with understanding was built on and guided by psycho-pedagogical and policy principles aimed at improving the attractiveness of the VET practice in the Namibian Secondary Technical School curriculum (GRN, 2004c; Lasonen & Gordon, 2008).

MoE (2007) and UNESCO (2011) publications note that the post-colonial NVET was characterised by constant awareness that technical and vocational skills were key to economic participation and development. Consequently, efforts made over the years had the intention to transform the NVET into a more labour-market-driven system. It was realised that NVET was a reflection of the colonial socio-economic structure. In 1991 at a post-colonial conference on education in Namibia the then Minister of Education, Hon. Nahas Angula, made it clear that NVTC teaching programmes were too academic, irrelevant, non-uniform and unbalanced (Angula, 1991). Angula emphasised that this state of affairs was an impediment to quality outputs of NVET and an obstacle to national development in general (Angula, 1991; Angula, 2010). Similarly, Links (2010) emphasises that the poor quality of education in NTVET was due to the shortage of adequate facilities and the poor training of instructors, among others, as confirmed by the findings of this study in Chapter 4 (see 4.2.2.2).

With that in mind, in 2003 efforts to raise the quality of Vocational Training in NVTCs were stepped up with special emphasis on teacher training strategies (Swarts, 2003). Moreover, in 2008, the Namibian cabinet approved the establishment of the Namibian Training Authority (NTA) to take over all responsibility for managing the VET system under the direction of employers and other stakeholders (NTA, 2010c).

The Namibian cabinet also devolved greater authority to VTCs to improve their management capacity and contextual relevance. The Namibia VET Act No.1 of 2008 came into force and offered a regulatory framework to serve as a check before the development of various unit standards and as a yardstick during and after the implementation process. In essence, the government provided the necessary socio-political and economic support to implement the VET curriculum with the end goal of raising the standards of education in NVTCs (GRN, 2008a). Worth noting, however, is the fact that little or nothing notable was done to develop one common, scientifically acceptable model of NVET. The current CBET that is being implemented is reactionary to the current social and media pressure on NVET (Smith, 2010).

2.4 Current VET practices in Namibia and their challenges

2.4.1 Challenges in raising the educational standards in NVET

The challenge of solving the issue related to how to raise educational standards in NVTCs is closely attached to the complexity of the term *vocational education*, its applications and the vital role it plays in social and economic development (Clarke, 2012). In the points below, the concept of *Vocational and Technical Education* is explored further.

2.4.1.1 Understanding vocational and technical education

The term *vocational education* is generally understood in simple terms as a form of education in which people are provided with practical and technical skills that will allow them to

engage in careers that involve manual or practical activities (Wallace, 2012). More elaborate definitions explain that *vocational education* as a concept is closely linked to technical training while the term *vocational education* may be extended to any other form of education (UNESCO, 2004; UNEVOC, 2012).

Asche (2001), Lasonen (2008) and Wallace (2012) are of the view that to carry out any reform in the domain of VET requires a multi-sectoral approach. According to the European Committee for Standardisation (CEN, French: Comité Européen de Normalisation) [CEN] and European Telecommunications Standards Institute [ETSI] (2012), any quest in VET business leads to further academic and practical questions of what constitutes the field, the place where VET is provided, who VET students are, who VET instructors are and crucially, the issue that the VET system is meant to address, under which types of conditions and many more issues arising upon enquiry (Clarke, 2012). According to the African Union (AU):

> The delivery of quality TVET is dependent on the competence of the teacher; competence being measured in terms of theoretical knowledge, technical and pedagogical skills as well as being abreast with new technologies in the workplace (AU, 2007, p. 33).

In line with that view, the complexity of VET is justifiable due to the uncommon set-up of material and human resources required to implement VET programmes, thus the need for extra efforts to address challenges related to its practice (AU, 2007). Therefore, in the application of the prescription of the African Union, this study goes a step further by enquiring into the process of acquisition of technical skills and by explaining how to make them relevant to the current status of the Namibian job market as presented in the benchmark

model in Chapter 6 (see 6.3.2).

2.4.1.2 The role of VET in social and economic mobility and the need for research

One of the reasons that made the process of raising the standards of education in VTCs a challenging endeavour was the complexity of the role it played in the socio-economic development.

Better Education for Africa's Rise (BEAR) (2012) and UNESCO (2004) indicate that VET is important as it enriches a person for life and it provides the competencies that are necessary in a democratic society. Societal and economic development depends on the strength of VET as it provides access to skills and entry routes into the labour market. For underprivileged and marginalised groups in particular, it can be an alternative route towards a better life (UNESCO, 2004). The increase in intake capacity means compromising the standards given that there are countless prospective trainees without the needed entry requirements. In that context, increasing the intake capacity would mean stricter selection criteria, leading to taking the best performers and leaving out countless prospective trainees, thus determining who should benefit from the policy on mobility (Layton et al., 2007). The quality of skills acquired will determine the social involvement and mobility. The better the skills, the better the chances to access better opportunities and the faster the upwards social and economic mobility. Research and expertise are needed to determine how to increase access without compromising the quality of educational standards in NVTCs (Carnoy, 2005; Clarke, 2012).

According to Layton et al., (2007) social, economic and professional empowerment depends largely on individual skills and competencies. The much-needed research should thus focus on how to equip trainees with the skills and abilities needed for a smooth transition from school to professional life as per the aforementioned mobility (GRN, 1990; Layton et al., 2007). The policy of education on mobility enshrined in the Namibian constitution stipulates

that no one should be excluded from acquiring formal education and wealth (GRN, 2004b; Layton et al., 2007). Furthermore, research is needed to determine the entry points in VET curricula by various prospective trainees who do not necessarily fulfill the entry requirements but have a natural desire to pursue their VET careers so as to allow them to benefit from the constitutional provisions on social and economic mobility (GRN, 2012; NPC, 2008).

2.4.1.3 Policies, reform processes and social involvement in VET quality check

Due to the complexity and the diverse types of stakeholders involved in VET, research in that area is a multi-sector enquiry (UNESCO, 2004). For instance, the CBET system adopted by the Ministry of Education and reforms thereof were criticised for being adopted based on political interventions, media statements and criticisms (Shaketange, Mbanga, Jan & Nitschke, 2008). Shaketange insists that this stand constituted a positive move, but was guided by little or no research-based information. The VET Act No.1 of 2008 was, among others, a political response to poor educational outcomes in VET and skills deficiencies in the country (GRN, 2008a). The NTA as a body with technical professional staff members from various educational backgrounds was constituted and tasked to adapt and translate political intentions into implementable programmes in an effort to address the concerns of all stakeholders in NVET (Dude, 2012; NTA, 2011a).

Croom (2011) explains that improving education standards deals with factors, features and components that make its curriculum clear and easy to evaluate. He suggests that factors involved in the curriculum process are complex and intertwined and comprise all planned experiences provided by the institution to assist the trainee to attain the designated outcomes to the fullest. Given the multiplicity and the complexity of factors involved in raising educational standards in NVET, the NTA was compelled to adopt a multi-sector approach

involving the improvement of the NVET administration, the curriculum and the introduction of efficiency in the subject-delivery system (Dude, 2012; NTA, 2011a).

The NTA was also duty bound to align the VET curriculum with the industry's requirements and introduce in the curriculum scientific and entrepreneurship skills-focused subjects regarded as key factors for NVTC graduates' employability (GRN, 2004c; Naanda, 2010; NTA, 2011a). The challenge is also the improvement of quality within non-government VET institutions, as well as the reform of mechanisms of NVET funding (GRN, 2004c; GRN, 2008a; Mutorwa, 2004). Additionally, as stated by GRN (2004b), GRN (2008a) and Mutorwa (2004) over the past decade the NVET has experienced difficulties in responding to fast-changing socio-economic conditions due to factors such as isolation from the private sector, centralised management systems and limited institutional academic and financial autonomy.

2.4.1.4 Development of unit standards

The initiative to make use of VET to spearhead the economic development was identified by Naanda in 2001 (Naanda, 2001; NTA, 2011a). The study explains the challenge that VET faced by revealing that though unit standards have been developed, inappropriate curricula and lack of uniformity in the implementation of various training standards are a serious challenge (Naanda, 2001). Similarly, the GRN (2004b) and MBESC (2001) reveal that the current challenge to the Namibian government is to transform NVET into a dynamic component of Namibia's pursuit of higher living standards through industrialisation and the development of a knowledge-based economy. The challenge faced by NTA remains how fast to translate these goals from words to real remedial interventions (NTA, 2011a). This mission entails forming a competent team of instructors and administrative staff, and providing an employable workforce for industrialising Namibia as projected in the Namibian Vision 2030 and the Namibian Development Programmes (NDPs) (GRN, 2004b; GRN, 2011). The NTA

developed appropriate regulations on vocational education and training in response to emerging priorities for skills development and has provided guidance in the interpretation and operationalisation of the VET policy (NTA, 2010c).

The persistent confusion in NVET unit standards is due to the contradiction in NVET policy objectives whereby, on the one hand, the NVET policy encourages the creation of a knowledge-based economy, while on the other hand pursuing to create a skills-based society as projected in the Namibia Vision 2030 (GRN, 2007; GRN, 2008b). The conception of a knowledge-based economy on the one hand and the creation of a skills-based economy on the other, requires two different approaches in terms of unit standards (Justin, Coutrot, Graf, Bernhard, Kieffer, Solga, 2009; King, 2009; Links, 2010). As outlined in the findings of this study (see 4.2.3), the current Namibia job market requires a skills-based economy with artisans who, apart from their knowledge, have the technical abilities to produce goods to feed the Namibian infant manufacturing sector (GRN, 2004b; GRN, 2012; Ministry of Trade and Industry, 2012).

Although the NTA has been speeding up the process of reviewing vital aspects of high-quality training, the development of unit standards and giving top priority to the development of training materials, a lot still needs to be done to optimise the results as described by the developed unit standards (Gereon, 2007; NTA, 2011a). The MoE has consequently tasked a team of local and international VET experts under the auspices of the NTA Project Management Unit to assist in conducting the relevant reforms (GRN, 2007; Durango, 2012). The team took into consideration the contributions of stakeholders as a pre-condition to meeting the requirements of industry and training providers (Millennium Challenge Account, 2009).

Though regular collaborative teamwork and the involvement of industry representatives have been and remain an ongoing activity throughout the implementation process of CBET, the implementation has not been smooth due to numerous factors (NTA, 2011b). These include the resistance of trainees towards the CBET system, the ambiguity observed in developed occupational unit standards, national curricula and related training materials (NTA, 2010c).

Because of the understanding and appreciation of the new training approaches, intensive consultations with management and instructors and the training of assessors have been undertaken to ensure the smooth implementation of the newly developed unit standards (NQA, 2010). The unit standards followed the Namibia Qualification Authority's prescribed format and were in line with the descriptors of the National Qualification Framework (NQF). (See Appendix 6.) In addition, the curricula for these occupational standards were developed in a most consultative manner, involving expertise from the private sector and selected training providers (NTA, 2010c).

This undertaking was quite unique as in most countries the design and development of curriculum and training materials are left to the individual training providers (Mupinga, Busby & Ngatiah, 2006). Leaving the responsibility to develop training materials to individual training providers is not conducive to uniformity and quality assurance of the output of the system (Gereon, 2007).

Though criticism was still leveled against the NTA, in its effort to keep to the legal requirements, the institution adhered to a strict copyright policy, negotiating agreements and in some cases purchasing copyright from relevant publishers in various countries (Shaketange, Siyomunji, Jan & Nitschke, 2008). The NTA's intention was to make the

training material accessible at a minimal price, ensuring that all trainees could afford it. The NTA entered into a Memorandum of Understanding with the NQA in order to ensure that the progress of the curriculum reform was coherent with the NQF (Shaketange et al., 2008).

The implementation process of the CBET curriculum was started and followed by serious opposition from NVTC trainees (NTA, 2010a). The documentation used in the implementation process contained 66 curriculum modules, 66 unit standards and 22 training manuals for Levels 1 to 3 (Shaketange et al., 2008). The challenge at this stage was to convince NVTC trainees and the public of the necessity of the new curriculum since criticism against the NVET system had spread among all the stakeholders and riots demanding the rejection of the CBET system had taken place in many vocational training centres country wide (Ekongo, 2010).

According to MoE (2011) and Shaketange et al. (2008) there were still some misconceptions among VET stakeholders in Namibia that entry to VET required school-leaving or academic credentials only. This concept has long been done away with in the First World. Entry into VET programmes should also be based on criteria such as Recognition of Prior Learning (RPL) or on competency-based placement assessments in line with the individual's interest, talent and ability (MoE, 2011). The issue in this respect is how to change the negative image of VET built over many years from a system perceived as useless and of low standard to a meaningful, useful and quality education system.

2.4.1.5 Improvement of the image of NVET

The image of VET is closely linked to the quality of its output (NPC, 2012). The better the quality, the better the performance in the job market and finally the better the remuneration of its graduates (NPC, 2012). In this regard Kaulinge (2012) opines that Namibia is ranked very

low in terms of innovation and the availability of specialised skills (e.g. engineers and other scientists) who constitute the backbone of decent employment creation. The failure of the NVET to produce the much-needed skilled workforce is partly the cause of the negative image of the VET sector. The deficiency as explained by Kaulinge (2012) is the cause of the current negative image of NVET and consequently it remains the cause of its attraction of poor performers at secondary education level. In this respect, Mostert (2005) explains that the key factors that influence prospective trainees to opt for vocational studies are not academic in nature. Mostert (2005) states: "Aspects that are normally considered to have an influence on career choice are directly related to individual persons (intra-personal) while other factors are more related to other persons (inter-personal) and/or circumstances within the life situation (situational)" (p. 45).

Mostert's statement above requires an understanding that vocational education in Namibia is practised in a complex environment where prospective trainees are torn between many factors (Naanda, 2010). The biggest determining factor in vocational career choice in Namibia seems to be desperation, what Mostert terms *circumstances* (Mostert, 2005). MoE (2008h); Naanda (2012) and Louw (2013) point out that vocational education should not be taken to be the dumping ground of failures or perceived as life in the slow lane, but as a crucial area of economic development that should attract motivated and high-performing prospective trainees. Conversely, according to the MoE (2010), addressing issues pertaining to the image of NVET cannot happen overnight because vocational education is a multifaceted system with a diverse clientele and multiple goals, and a system existing in a complex policy environment. NPC (2012) reports that raising access requirements as well as standards of education in NVET at this time is a daunting task. In the same line of thought, Croom (2011) confirms that reforming, developing and implementing a system of performance standards for

vocational education require making important decisions on performance assessment and accountability based on action research. Therefore, political information alone cannot constitute grounds for reform decisions of any VET system. A systematic technical research is needed if one wants to optimise system transformation results (Croom, 2011, Vecchio, 2003; Mutorwa, 2004a).

In 1996 The Ministry of Higher Education, Vocational Training, Science and Technology (MHEVTST) also noticed and acknowledged major challenges facing the NVET system, challenges that impeded the quality of education delivery and pointed out the need for drastic reform in NVET (MHEVST, 1996; Iipinge, 1999, pp. 2-4). To that end, Iipinge describes weaknesses in training facilities, human capital and teacher training in NVTCs as the main culprits (Iipinge, 1999). Other studies including the report of Gereon (2007) and MoE (2010), note that official vocational training facilities are still quite new in Namibia and that constant studies and monitoring are needed. Additionally, MoE (2010) states that the few NVTCs in existence are still very young and have poor facilities and weak human capital. In this regard Kakunawe (2008) and Naanda (2010) state that, based on the geo-physical reality of Namibia, it has been proven that there are difficulties in delivering high-quality VET to a small population spread over a wide geographical area, thus there is a need to conduct detailed studies to address the issue of how the implementation of NVET curricula should be adapted to the unique geo-physical reality of the country. Naanda (2010) also stresses that the lack of resources such as money and human expertise are real challenges.

2.4.1.6 Management capacity of VET institutions

The African Development Bank (ADB) (ADB, 2009) indicates that the other challenge facing the NVET system includes a weak management capacity to respond to institutional and

employers' needs. The weakness in management has a negative impact on institutional outputs. Equally, involving employers in policy decisions and directing the system to make it more demand-driven have additional philosophical and interest-based challenges (Kaulinge, 2012).

Judging from the output of the NVET in general in its current form, the system has a weak capacity of trainers to provide employability skills as well as a limited coverage and unequal distribution of outputs across institutions providing VET (Dude, 2012; Naanda, 2010). The few privately specialised and better equipped VET institutions cannot meet the ever-increasing demand in qualified VET cadres to drive the envisaged economic revolution enshrined in the Namibian Vision 2030 (Iipinge, 1999; OECD, 2007).

2.4.1.7 Allocation of funds to VET

According to Dude (2012) the issue of how to manage the NVET funding system and how to mainstream VET activities at national level has also become a challenge to the NTA, given that VET practice is a costly activity requiring an increase in contributions from beneficiaries, both employers and trainees (Dude, 2012). Dude (2012) and Iipinge (1999) note that in Namibia until a few years ago, vocational training was not yet in the focus of the Ministry of Education and was substantially underfunded. Dude and Iipinge also state that VET practices rely on the government alone for financing its activities. Though more funds have been allocated to NVET recently, many improvements still need to be done on NVTC training facilities due to the ever-increasing demand for VET and the current poor state of training facilities in most NVTCs (Iipinge, 1999; NTA, 2011a).

According to Dude (2012), the government budget constituted a vulnerable and unreliable source of financing for training and therefore the implementation of the training levy cannot be implemented without the participation of the industry. The current imposition of the training levy is understood from the perspective of the pathway towards improving the funding system of skills development of Namibian workforce (NTA, 2011b; NTA, 2012).

According to the NTA (2013), the current development in the implementation of the training levy includes the negotiation or practical execution of the agreed-upon allocation of the training levy whereby the NTA will act as the levy collection agent. The allocation of the levy funding will be in the ratio of 50% for employer training, 35% for the key priorities and 15% for the NTA administration.

2.4.1.8 Alignment of the NVET curriculum within the labour market

Curriculum content is instrumental in any training institution since it determines the quality of the graduates it makes available for the labour market (Ornstein & Hunkins, 2009). According to ETF, ILO and UNESCO (2012, p. 16), TVET policy makers should look beyond the notion of access to participation to focus also on transition from and within TVET tracks.

In NVET, the need to align curricula is not only an issue of looking at the intra-curriculum alignment. It is also to ensure that specific policies on the articulation of various transitions from academic secondary to vocational education and post-secondary TVET are aligned with the job market opportunities and requirements (Durango, 2012; GRN, 2007). As stated by ETF, ILO and UNESCO (2012) there are many policy challenges that require broader analysis to address poorly articulated transitions within the VET curriculum and the labour market. The abovementioned institutions claim that the absence of these forms of pathways

and transfers across programmes at the same level and transitions to higher levels up to the job market are dangerous weaknesses.

According to Gereon (2007) NVTC programmes were not diversified and were limited to a few professions, thus limiting the number of pathways to and from the system. Gereon argues that some professions which could have been taken up by the official VET are taken up either by the Polytechnic of Namibia (PoN) or other private VET providers. The challenges related to curriculum alignment of NVET and the responses to the labour market it was meant for are discussed by Kukler (2007), who states: "The vocational training system in Namibia was not well suited to the learners utilising the system as it took for granted the time that people had to dedicate to training and also the level of schooling that learners would have prior to commencing vocational training. It was also isolated from the market needs of the private sector" (p. 36).

The logic displayed above by Kukler (2007) suggests more areas of improvement in NVET including, among others, the issue of how to harmonise and standardise the NVET curriculum, the issue of what should be the prerequisites and entry points in each NVET curriculum as well as the connection between NVET and the job market. These issues are briefly discussed below while others are covered in features of the new proposed benchmark model as presented in Diagram 14.

2.4.1.9 Locally based remedial approach

Mutorwa (2004) reveals that the harmonisation and the standardisation of VET practice pose a challenge to the education sector given the diverse origins of VET institutions, the origins of its funding and their respective objectives. For instance, in Namibia most vocational

training is still carried out informally in companies, without any content standardisation criteria (Dude, 2012; Mushauri, 2008). The NVET practice is currently an array of unrelated pathways to the acquisition of vocational skills. According to Metha (2008) the introduction and the management of a multiple-paths system, meaning a system with more than one option for entry and exit for various institutions, inevitably pose numerous challenges including quality assurance, funding and skills certification. Metha insists that due to difficulties in implementing the multi-paths system in various institutions, most countries are resorting to a single higher education path under the university system.

In Namibia, though the burden of providing VET is on the government, in reality there are many other players involved in the provision of VET (Links, 2010). Although diversification of VET practices is important, the same diversification raises the issues of how to standardise and how to utilise the outputs of these unrelated systems. Metha (2008) and Naanda (2010) have shown that at present skills shortage is one of the most critical constraints to economic growth and employment creation in Namibia. Little attention is paid to address the issue of how to harmonise skills outputs across both public and private VET institutions.

Although the concern about skills quality harmonisation remains a daunting task in NVET, the prime focus is on the improvement of the quantity and quality of the throughput of the Namibian general education system (GRN, 2007). The strategy to address the skills shortage and acceleration of economic growth has been to constantly upgrade job training strategies, increase access to VET institutions and step up the support to private VET institutions through public-private partnerships (MoE, 2011; NTA, 2011b).

The Presidential Commission recognised these challenges by paving the way to the 2005 efforts to embark upon the Education and Training Sector Improvement Programme that started in 2007 (GRN, 1999; GRN, 2007). According to GRN (2007) ETSIP was implemented with the purpose to improve service delivery in the education and training systems and particularly in VET. Additionally, the government formulated a Human Resources Development Plan by identifying existing and emerging skills gaps in the labour market (GRN, 2007).

The NTA was tasked to oversee the process of skills development and the implementation of government provisions on VET (MoE, 2008b). To date, the NTA is still trying to prove its ability to alleviate the problem of skills shortages in Namibia and improve the status of the public VET (MBESC, 2005b; MoE, 2008b). This is so important that since the NTA took over the lead of the NVET curriculum in 2008, constant riots and opposing criticisms on the VET practice have intensified and deepened (Kakunawe, 2008).

GRN (2008) explains that given the current problems in NVET programmes, the need for constant coordination and harmonisation of skills development and provision process, the problems of quality education in NVET are still a daunting task. According to GRN (2008), the skills supply requires actions, not only on the supply side, but also on the side of the improvement of the calibre of teachers, and the quality and volume of teaching materials, and other school facilities. In this respect, Kakunawe (2008) opines that such supply is essential in the improvement of NVET and the internal efficiency of the education system in general. To that end, GRN (2007) states that NVTCs must deal with, among others, factors and underlying causes of the poor quality and internal inefficiency of general education. ETSIP suggests that the deficiency in this regard is linked to the fact that the majority of learners enter the system without the prerequisite learning readiness (GRN, 2007).

Discussing the reform of the schooling environment in NVET, GRN (2007) argues that the involvement of parents and the society in VET activities is part of the process towards the creation of an enabling environment for trainees, instructors and the VET administration teams. According to GRN (2002), the absence of inputs from parents and other important stakeholders including teachers makes it difficult to achieve the set objectives and assess the output of the VET system.

Therefore, there is a need to develop a VET model that could connect and mainstream all VET stakeholders and address concerns posed by the society and NVET stakeholders.

2.4.1.10 Absence of a benchmark model in NVET

The absence of one common model for all stakeholders in the provision of vocational and technical skills is the cause of many of the malpractices observed in NVET today (Naanda, 2010). According to Mushauri (2008) the most obvious challenges the NVET system faces include the absence of uniformity and standardisation in the NVET curricula of various VET service providers. Second is the difficulty of making a difference between VET institutions and general technical or academic institutions. Mushauri (2008) indicates that currently vocational training centres offer academic subjects in addition to vocational subjects instead of offering only one single type of course. The third challenge is posed by the lack of articulation across programmes. The MoE (2011) states that there is no uniformity in terms of mobility across institutions; only individual arrangements are made to move from institution to institution. The fourth argument given by Mushauri (2008) focuses on deficiencies in the funding system and the curriculum direction of the NVET. Accordingly, the formal, informal, private and government VET operates to the satisfaction of the funding agencies (MoE, 2011). The funding agents have the power to influence curricula and other vocational activities (Mutorwa, 2004). Therefore, there are as diverse types of curricula as there are

donors and funding agencies. VET programmes are benchmarked against the objectives of the funding institutions (Mushauri, 2008).

2.4.1.11 Indigenous industry at the infancy stage

According to Oertzen (2010) and Rosenberg (2013) vocational skills in any economy consist of the secondary sector that forms part of the developmental process, the sector that spearheads the manufacturing or the transformation of raw materials into goods. Rosenberg also identifies five major sectors of any economy. The industry is classified second after the primary sector dealing with harvesting of natural raw materials and resources. Rosenberg emphasises that the secondary sector of the economy makes use of raw resources to generate wealth in the form of semi-finished and finished goods and services. Rosenberg (2013) states:

> All of manufacturing, processing and construction lie within the secondary sector. Activities associated with the secondary sector include metal working and smelting, automobile production, textile production, chemical and engineering industries, aerospace manufacturing, energy utilities, engineering, breweries and bottlers, construction and shipbuilding. (p. 1).

Vocational Education and Training activities are characterised by the practical production of goods and services (Rosenberg, 2013). The analysis of the current practice in NVET justifies that these activities are delivered and spread across the tertiary sector dealing with services and the quaternary sector dealing with intellectual activities including information communication and technologies. VET places emphasis on the secondary sector, because it is regarded as the sector where vocational activities take place most (Oertzen, 2010; Rosenberg, 2013). The weak secondary sector in Namibia implies the quasi-absence of manufacturing

activities whereby Namibia was rated 86th on the Global Competitive Report of 2012-2013 on total expenditure on research and development coupled with the absence of production skills among Namibians (Namibia Chamber of Commerce and Industry [NCCI]; Namibian Manufacturers Association [NMA]; Institute for Public Policy Research [IPPR] (2013) & Rosenberg, 2013). The complexity and weaknesses of the Namibian industry which is said to be at the infancy stage, are due to what Oertzen (2010) described as follows:

> The country's sophisticated formal economy is based on capital-intensive industry and farming. However, Namibia's economy is heavily dependent on the earnings generated from primary commodity exports in a few vital sectors, including minerals, livestock and fish. Furthermore, the Namibian economy remains integrated with the economy of South Africa, as the bulk of Namibia's imports originate there. (p. 4).

According to Central Bureau of Statistics [CBS] (2007); Nyambe and Amukete (2009), the secondary sector in Namibia suffered as a result of the legacy of economic apartheid that kept factories running in South Africa and in Western countries. This quasi-absence of industrialisation was attributed to the fact that Namibia had stayed dependent on goods and services imported from South Africa over the years (Oertzen, 2010). Thus the Namibian industry at the infant stage still remains dependent on its neighbour's factories (CBS, 2007). According to Oertzen (2010) the skills needed in Namibia are those that could enable its workforce to venture into manufacturing and harness the wealth of the natural resources at its disposal. From that premise, what is lacking in Namibia is not employability skills, but mostly production skills. Vocational skills are essential to the vitalisation of the engineering component of the Namibian industry (Oertzen, 2010).

2.4.2 Raising NVET educational standards in line with major educational goals

2.4.2.1 Access and inclusiveness

The evidence taken from the history of NVET shows that the struggle to raise educational standards and create a more inclusive VET system has always been a topic at the heart of the educational authorities in independent Namibia (GRN, 2007). This section is an analysis of raising educational standards in vocational education in line with major educational goals of the Namibian education system (GRN, 2004b).

i) Special needs in VET

The study conducted by Haihambo, February, Brown and Hengari (2009) recognises that although people with special needs have limitations in certain specific professions, they can contribute meaningfully to the socio-economic development if given the attention they need. Currently in the VET system efforts are underway to cater for people with disabilities. Haihambo et al. (2009) note that people with disabilities cannot learn normally and work alongside their normal counterparts in VET. Haihambo confirms, however, that people with disabilities have the potential to contribute to the economic development of communities through their higher potential for self-employment. According to Millenium Challenge Account (MCA) (2008), VET offers a good opportunity to people with disabilities, since it can cover a wider scope of students because at the entry point the requirements can be adapted to accommodate trainees with intellectual, cognitive and physical disabilities and people with difficulties to be integrated in the society due to their disabilities.

Giving an example regarding visual disability, the GRN (2002) and MBESC (2001) report that learners with visual impairments have been successfully included in schooling

institutions for over 10 years. A number of them have graduated from teachers' training colleges in Namibia and Zambia. The directorate in charge of students with special needs spearheads the awareness campaign on legal instruments, policies and integration of the concept of Inclusive Education in NVTCs (GRN, 2004c). Training of people with special needs is in progress, but still needs to be intensified as an ongoing process of addressing the issue of their inclusion in VET institutions (GRN, 2002).

To that end, the National Disability Council Act No. 26 of 2004 with regard to trainees with special needs specifies provision for institutional safety measures for their inclusion in training courses, thus creating options for learners who may not be able to follow the academic stream (GRN, 2004c). Following that trend, several work centres for people living with disabilities including Ehafo were created countrywide (GRN, 2002). Similarly, Valombola VTC admitted trainees with visual impairment for a three-year course in Office Administration and Business Management (MCA, 2008). Act No. 26 of 2004 clarifies provision for people living with disabilities to participate in the social and economic development of the nation in line with the Namibian Constitution that prohibits the exclusion of people from formal education on the basis of any physical, psychological or any other disability (GRN, 1990; GRN, 2002; GRN, 2007). Another remarkable progress relates to the efforts of the Directorate of Programmes and Quality Assurance which was tasked to conduct a pilot study on how to include Grade 11 learners with hearing deficiencies in VTCs. Efforts have been in progress since 2008 (MoE, 2008e; MoE, 2008f).

The Icelandic International Development Agency (ICEIDA) assisted the Directorate PQA with the mainstreaming of services to people with disabilities, the funding of interpretation services, the training of administration and teaching staff on hearing deficiencies education and developing the Namibian Sign Language in order to facilitate the inclusion of deaf

learners in schools (MoE, 2008e; MoE, 2008f). MoE explains that the Communication Centre on Deaf Studies was tasked by the Ministry of Education to research and promote Sign Language and its linguistics, as well as conduct training services for interpreters and deaf instructors (MoE, 2008f). The MoE also suggested that education in general should take into consideration people with disabilities starting from the 2009/2010 financial years under ETSIP (MoE, 2008f). In collaboration with the national organisation for the deaf, an elementary Namibian Sign Language Dictionary was developed (Haihambo et al., 2009; MoE, 2008a).

ii) Gender

The Konrad Adenauer Stiftung (2010) and MoE (2008f) recognise the active role played by women in the Namibian society. The Konrad Adenauer Stiftung notes that in Namibia, the different genders live in complementary spheres and are not ranked in hierarchical order where the man is at the top. The increase in the trend to include women in VET professions is thus not new in Namibia. With the constant growth of the awareness of vocational training as an alternative to alleviate unemployment, the involvement of women has increased over the last five years (MoE, 2008i). Compared to the enrolment of 2004, the 2005 statistics reveal that there has been an increase of more than 30% in the number of both female and male trainees enrolled in the commercial trades (MoE, 2008i). Existing policy frameworks on women emancipation haves encouraged female trainees to register in trades of their choice as a way of doing away with discrimination and encouraging their access to VET (Konrad Adenauer Stiftung, 2010; MoE, 2008e). With the clarity in the policy framework, the past discrimination against women in certain male-dominated professions has been eradicated (MoE, 2008e). Though there has been a successful increase in the percentage of women involved in vocational education and training as mentioned earlier, it is worth noting that the

current trends suggest a 50/50 equal representation of men and women in all the spheres of national development (GRN, 2004b). The current policy framework on VET provides for women's enrolment in NVTCs and vocational trades but does not specify the ratios in male and female representation (GRN, 2008b).

iii) Progression across levels

The MCA (2009) explains that the number of trainees enrolled in technical trades and commercial courses at various levels and institutions within the government-run VTCs and private companies continues to grow rapidly. The system is currently offering a three-year programme, which will lead to achieving a National Vocational Certificate Level 3 (MCA, 2008, p. 18).

The challenge is the persistent request from trainees to the NVET management to address, among others, the problem of progression from Level 1 to Level 3 and the issue of how to enable graduates of Level 3 to further their studies in higher learning institutions locally and internationally (Kakunawe, 2008; Shinovene, 2012). In its current form, the NVET system is silent on what should be the route for NVTC graduates who wish to further their careers at higher levels (Isaacs, 2009). For instance, Haufiku (2013, pp. 1-2) reports that the engineering graduates of the Polytechnic of Namibia (PoN) were in limbo due to the curriculum they followed that was not up to standard and was irrelevant to the Namibian job market. Furthermore, credit was not granted to graduates with VTC qualifications from across the country wishing to enter Polytechnic engineering programmes (GRN, 2007; GRN, 2008a). The described situation indicates the weakness in the articulation and alignment of VET in Namibia.

iv) Vocational Training Centre enrolments

Based on the government's effort to diversify education after independence, enrolment in VTCs has increased more than sixteen times from about 150 trainees to 2 500 (MCA, 2009). In addition, Community Skills Development Centres (COSDECs) have been established in nine locations to provide non-formal short-term training for youths and adults (GRN, 2004a; MCA, 2008). An instructors' training programme has been established at the PoN, however, the subjects cover only the theory and provide no practical training. The government of Namibia in collaboration with the Millenium Challenge Account and the PoN and other key stakeholders has already planned some reforms that will respond to weaknesses in the sub-sector (MCA, 2008, pp. 18-20).

According to the MoE (2011, p. 6) there was a significant increase in enrolment at VTCs with a total of 4 741 trainees in 2007. The admission for 2008 increased to 5 733, an increase of 12% compared to the previous year. Based on the projection of the increase in the enrolment in VTCs of 2%, the increase of 12% in 2011 shows that the targeted number of intakes for the year was exceeded (MoE, 2011).

Given the current increase in the demand for VET in Africa, and Namibia in particular, the NTA has called on stakeholders to increase their support of the existing VET institutions to improve the quality of their outputs (NTA, 2011a). The private sector has been urged to join the efforts of the MoE by funding and building new vocational education facilities (NTA, 2011b; MCA, 2008, pp. 18-20). According to Taapopi (2013), the name change from the PoN to the University of Science and Technology will create a gap in that the institution's mandate will no longer concentrate on offering mid-level skills, diplomas and certificates. Taapopi is of the view that a revamp of Namibian higher education should be the logical

solution as a way to align institutional curricula to meet the ideals of the Namibian Vision 2030.

2.4.2.2 Quality of education in NVET

Much has been done to maintain or raise the quality of education in higher education in general and in NVTCs in particular. The Promulgation of Higher Education Act, 2003 (Act No. 26 of 2003), explains that in order to uphold the quality of education in higher education the registration of any higher learning institution must be preceded by a check on its financial capability to run such an institution. Act No. 26 of 2003 also specifies that higher learning institutions must satisfy their obligations towards prospective students by offering adequate curriculum contents. The same act makes it clear that after having consulted the National Council of Higher Education and the Namibian Qualification Authority (NQA), the teaching staff to be employed by such institutions must be sufficiently qualified and higher education programmes delivered by such institutions must be of a high quality (GRN, 2003; Shaketange et al., 2008).

The Constitution of the Republic of Namibia also stipulates that Namibians have the right not only to education but also to quality education. The Constitution makes it clear that the standards of education in schools and institutions of higher education should not be inferior to those maintained in comparable schools and institutions of higher education funded by the State (GRN, 1990). With regard to industrial development, the Namibian Vision 2030 suggests that the industrialisation of Namibia will largely depend on the pace of modernisation and the improvement of the quality of the VET system as a human resources developer (GRN, 2004b). Akooje (2005), GRN (2005) and UNESCO (2011) are of the same view, namely that constantly increasing the effectiveness and efficiency of vocational

education and training in producing a competent and employable workforce will eventually lead to an industrialised Namibia.

Adding to the process of addressing the issue of how to raise the quality of education in NVET, Durango (2012) suggests the articulation of the VET skills development process with the requirements of the job market. Durango also indicates that one of the objectives of the VET authority is to develop quality standards and teaching and learning materials with the aim of the localisation and decentralisation of curriculum development in NVET in line with Porter (2002) who emphasises that decentralisation and quality standards development are key to the evaluation of the standards of the VET curriculum. Comments and suggestions that led to the current course of action to improve the quality of education in NVET were based on the social outcry, the media and the political environment whose expectations from the NVET system were high (UNESCO, 2011). Attempting to address the issue of how to raise the standards of education including the NVET system, the National Conference on Education took place from 27 June to 1 July 2011 under the theme "Collective delivery of the Education Promise: Improving the Education and Training System for Quality Learning Outcomes and Quality of Life" (Haufiku, 2011, p. 1-3). Currently, preparations for the implementation of the recommendations emanating from this conference are under way.

2.4.2.3 NVET for equity

The promotion of socio-economic equity has been one of the priority objectives of the Government of the Republic of Namibia over the years (GRN, 2012). The Fourth National Development Plan of Namibia endeavours, among others, to “increase the provision of

opportunities for VET, targeting the entire country, but impoverished areas in particular" (GRN, 2012, p. 49).

The focus of the Government of Namibia on improving the living standards of the poor section of the population is aimed at creating equal access to opportunities through VET skills development (GRN, 2012, pp. 45-47). Naanda (2010) describes Vocational education as the fastest tool to open up the doors of opportunity to make a living. In the same vein Ikela (2012) agrees that the Namibian education system must continue to focus more on the segment of students who may thrive with a more practice-oriented mode of instruction, unlike their academically oriented counterparts. Initiatives such as ADEA (2012, pp. 15-25) and BEAR (2012) propose an update of NVET curricula to respond to national and international standard requirements, a commitment shared by countries across the SADC region. As stated by Naanda (2012), Namibia's vocational education and training lacks esteem due to the continued government decisions to refer high school failures to vocational training. Marope (2005) notes:

> Inequalities inherited at independence persist, despite major efforts to eradicate them. They are evident in the distribution of access, learning outcomes and resource inputs. These inequalities render the education and training system a weak instrument for facilitating poverty eradication, and for reducing social inequalities. They also represent a threat to national cohesion, peace and political stability, and a failure to realise the productive potential of a large proportion of the population. (p. xviii).

UNESCO (2011), Education International (2009), UNEVOC (2012) and GRN (2004a) recommend that vocational education should continue to be regarded as the propeller of the economic engine of any country. Concerning the role of education, its benefits and its impact on the quality of life, it is worth noting that OECD (2010) indicates the following:

> Education plays a key role in determining how you spend your adult life – a higher level of education means higher earnings, better health and a longer life. By the same token, the long-term social and financial costs of educational failure are high. Those without the skills to participate socially and economically generate higher costs for health, income support, child welfare and social security systems. (p. 1).

Considering vocational education in Namibia in particular, there was a public outcry regarding the current system that seemed not to give any hope, as suggested above. The NVET system was not uniform across Namibia (MoE, 2008i). The Ministry of Education's National Report on the Development of Education specifies that currently there are privately funded and government-funded VTCs (MoE, 2008i). Therefore, access to VET institutions of good quality requires extra resources, a fact that does not work in favour of poverty-stricken communities, thus creating an imbalance and perpetrating discrimination against the socio-economically disadvantaged VET candidates (OECD, 2010; MoE, 2008i). Moreover, government-funded VTCs are regarded as an option for early school leavers from secondary education, implying expectation of poor quality VET (Naanda, 2010).

In much of the debate, the non-governmental VET institutions have been characterised as fostering inequality, segregating society on socio-economic grounds, preserving privilege and increasing the growing gap between skills levels among the haves and have-nots (Marope, 2005; MoE, 2008h: OECD-CERI, 2009).

Given the negative perceptions about the possible derailment of the NVET system, there was a necessity to assess the NTVET to ensure that negative consequences were averted (MoE, 2008f). Promotion of equity being a difficult task given the aforementioned circumstances, the present study sought to identify challenges and propose rectification measures.

2.4.2.4 NVET for democracy

According to Douban (2010, p. 6) competence reflects the capacity to interact effectively in certain socially ascribed environments, and in certain self-selected and self-developed environments. Similarly, Douban suggests that competent graduates are those who can interact and integrate effectively in their social, economic and political environments. In line with Billet (2011) and MoE (2008c), VET outcomes should match the socially ascribed, self-selected and self-developed roles their graduates would be facing upon graduation, thus promoting creative thinking and democratic participation. The NVET graduates as per government policy are supposed to be self-reliant and are expected to impart self-employment skills (GRN, 2004b; GRN, 2008a; Links, 2010). These competencies would eventually allow graduates of NVET to take part in wealth creation and influence government policies as a matter of individual rights as provided for in the Namibian Constitution (GRN, 1990; Links, 2010).

The high unemployment rate among NVET graduates and the ever-increasing demand for VET training testify about the necessity of the alignment of VET to the pre-defined objectives of making education a tool that enables graduates to be employment creators (GRN, 2004b; GRN, 2012). Due to the impediments related to the quality of education including poor training of instructors, low entry requirements of trainees and poor training facilities, management and implementation procedures, the focus is on solving procedural issues rather than on concentrating on transforming NVETs' abilities to be a tool for economic and democratic freedom (NPC, 2012; Louw, 2013). According to Douban (2010, pp. 4-6) and Pupkewitz (2006) graduates do not meet the expectations of the Namibian labour market, and consequently do not have the opportunity to exercise their democratic rights. Thus the VET system seems not to favour their democratic participation. The deficiency in the implementation as indicated by GRN, ILO (2013) and Haufiku (2013) constitutes a setback as it lengthens the curve of training on the job. Naanda (2010) and Douban (2010) argue that the needed competencies and skills for employability are expensive and time-bound because they cannot be developed overnight. Naanda and Douban maintain that once graduates have acquired employability competencies and skills, these skills and competencies would allow them to enter the job market and compete effectively in their society, thus fighting unemployment.

2.4.3 Specific NVET legal provisions and reforms

Since independence, much has been done to put into place policies intended to improve the education sector and VET in particular (Haufiku, 2011). The VET system however, seems to have occupied the back seat in the national development with its graduates being perceived as of poor quality (Pupkewitz, 2006; OECD-CERI, 2009). Since the VET system has received

little attention over the years, little technical research has been done to address the issues it posed (OECD-CERI, 2009). Consequently, the legislation specific to VET was found to be politically motivated (MoE, 2008d; Pupkewitz, 2006).

The following paragraphs discuss the legislations passed by the Namibian government after independence in order to mitigate the possible effects of the absence of legislation in NVET. The end goal is to demonstrate the efforts made by the government to address the issue of skills shortages from the legal perspective and thus explain how legislation has affected the evolution of VET activities in Namibia.

According to MoE (2008b), at independence in 1990 laws and other basic legislation concerning VET were passed. Kamupingene (2002, pp. 13-14) and MoE (2008) report that the drafting of a new Education Act commenced around the mid-1990s and it was tabled in Parliament in 2000. In the Act referred to above, it was stated that vocational education needed more attention in the national budget (MoE, 2008b; MoE, 2008g; MoE, 2008i; UNESCO, 2011).

Though Education Act No. 16 of 2001 circulated in December 2001, supported the call of the government to make VET a tool in economic development, this legislation did not directly address the issue of how to bridge the gap in skills shortages through VET (Kamupingene, 2002; MoE, 2008i). Act No.16 of 2001 provided for the establishment of a Code of Conduct for the teaching profession, and established the Teaching Service Committee that affected the entire education system, including the VET curriculum, the VET human resources management and the NVET funding system (Mutorwa, 2004b). According to Angula (2004, p. 3) and Mutorwa (2004b, pp. 1-3), the introduced strict education Code of Conduct under

Act No.16 of 2001 set the standards for professional service, accountability and responsibility in the teaching profession, including the process of vocational skills acquisition.

Concerning the issue of funding the skills training process, Vocational Education and Training Act No. 1 of 2008 made provision for the management of the VET sector by regulating the funding of the NVET system (GRN, 2004c; GRN, 2008b; UNESCO, 2011). Among others, this act specifies the National Training Fund that comprises, among others, the money voted by the Namibian Parliament, the money used by NTA for the administration of the act, donations or interest earned by the NTA and any education and training levies (GRN, 2008b, p. 14).

Kamupingene (2002, p. 6) notes that in NDP S1 and 2 the education sector was given priority in that the mission of the sector included, among others, the provision of opportunities to learners to acquire vocational knowledge and skills, values and competencies promoting self-development. Kamupingene's statement on legal provision on the general education is in line with the National Vision 2030 that insists on the use of knowledge for the economic self-sufficiency that the NVET strives for (GRN, 2004b).

The other legislation on VET is based on the interpretation of the Namibian Constitution that specifies the right of all citizens to education, implying also the right of access to Vocational Training facilities and other VET-enabling conditions in line with the Namibian Vision 2030 (GRN, 1990, GRN, 2004b). The constitution specifies that education is a right and should be open to all people who wish to acquire practical skills without any form of discrimination (GRN, 1990). In the spirit of creating a legal framework for Vocational Education in Namibia, Act No. 33 of 1994 established the PoN by merging the Technikon Namibia and the College for Out-of-School Training (COST). The act provides for the gradual phasing out of

vocational training courses and the granting of degrees by the Polytechnic. By allowing the discontinuation of VET courses from the Polytechnic of Namibia, the act created a gap in vocational skills training, leading to the consequences we face today, namely a shortage of a qualified technical workforce to drive the industrialisation process (GRN, 2004b; Ministry of Trade and Industry, 2012). In essence, the Polytechnic's mandate is, among others, to build a high-level technical workforce that will be able to respond to labour market demands in vocational skills (PoN, 2010). This means that the VET at the tertiary education level is the area of training engineers and other highly specialised technical workers (GRN, 2004b; NPC, 2012). The act referred to earlier removed the task of providing the job market with a highly skilled workforce, which is an impediment to industrial development in Namibia (NPC, 2012).

The Namibia Qualifications Authority Act No. 29 of 1996 is a cross-cutting legal instrument providing for the establishment of the NQA as a statutory body dealing with the evaluation, accreditation and recognition of educational credentials, being it local or foreign, in Namibia. In line with the discussion at hand, the NQA is therefore an essential government body that, together with the NTA, assists the Ministry of Education to manage the issue of curriculum standards evaluation. Durango (2012) states:

> The NTA's legislative obligations involve setting up the occupational standards for any occupation or job in any career structure and setting the curriculum standards for achieving such occupational standards. It also promotes the development of benchmarks of acceptable performance norms for any occupation and accredits persons, institutions and organisations, providing education and courses of instruction or training. (p. 10).

Another legal provision for VET is linked to the status of NVET that, in its current form is part of higher education (GRN, 2003). Therefore, the Higher Education Act No. 26 of 2003 is another legal instrument that regulates higher education, provides for the establishment of the National Council for Higher Education and the registration of private higher education institutions and for funding public higher education institutions including NVET.

The National Youth Service (NYS), being a vocational training institution in essence, is worth mentioning among NVET entities. The NYS Act No. 6 of 2005 is a VET legal instrument, because it specifies the government's strategy on youth advancement, participation in the national economy and the mainstreaming of activities of youth skills acquisition (GRN, 2005). The act specifies further that, among others, the NYS is tasked, like any other VET institution, to impart skills training and professional development programmes to young Namibians (GRN, 2005).

The most specific legal instrument that gave new direction to the NVET is the current Vocational Education and Training Act No. 1 of 2008 that provides for the establishment of the Namibia Training Authority and the National Training Fund (NTA, 2010a; Shaketange et al., 2008; Smith, 2013). The act gives the prerogative to the NTA to be the catalyst in the transformation of VET into a dynamic component of Namibia's pursuit of higher standards of living through industrialisation and the development of a knowledge-based economy (Dude, 2012). In order to realise this, the NTA is to ensure increased effectiveness and efficiency of vocational education and training to produce a competent and employable workforce for an industrialised Namibia (GRN, 2008b).

The NTA is thus tasked with developing appropriate regulations on VET in response to emerging priorities for skills development and providing guidance in the interpretation and operationalisation of the VET policy (GRN, 2008b; Marope, 2005; Shaketange et al., 2008, p. 14).

On the other hand, as stipulated in its policy framework, the Ministry of Education through the Directorate VET has the mandate to, "... ensure an effective, sustainable system of skills formation closely aligned with the labour market that equitably provides the skills needed for accelerated development and the competencies needed by the youth and adults for productive work and increased standards of living" (GRN, 2005, pp. 5-7).

The NTA has a direct role to play in skill standards setting; it is responsible for curriculum development and unit standards setting for vocational trades. It is not, however, clear how the articulation of VET programmes between the end of primary, secondary and tertiary education systems is designed. The gap is filled by ad hoc decisions through ministerial directives that technical subjects and pre-vocational skills be introduced in schools with immediate effect, and that mechanisms be put into place to ensure that those completing Level 3 of VET are given a chance to pursue their studies in tertiary institutions if they so wish (Iyambo, 2011; GRN, 2008b; Haufiku, 2011).

The aforementioned literature on legal provisions for NVET demonstrates that although much has been done in the political arena to create an environment that is conducive to VET practice, a lot of effort in consolidating these regulations and policies is still needed. This can be done through the creation of a research-based benchmark model with the intention to consolidate policies as a uniform framework for the best VET practice in Namibia.

2.4.4 NVET curriculum articulation

2.4.4.1 Approaches to articulation in NVET context

The approach to articulation in this study raises three fundamental questions. The first is, "What is articulation in the context of NVET?" The second is, "How are articulation principles applied (or not applied) in the current NVET practice to raise the quality of education?"

The third question is, "What are the consequences of the application (or poor application) of articulation principles in NVET?" The review of the existing literature seems to provide possible answers.

2.4.4.2 Articulation and alignment of curriculum design features

The word *articulation* has been used in many domains including medicine, linguistics and biology (Porter, 2002). Porter states that in education, articulation means the arrangement, organisation or inter-connection of various components of a work. According to Ornstein and Hunkins (2009) the definition of the word *articulation* is made in context of curriculum studies. It is preceded by the word *curriculum* and reads *curriculum articulation*. *Curriculum articulation* or *alignment* means the arrangement of various components or features of the curriculum in accordance with certain identified principles (Porter, 2002; Rhode Island College, 2008).

According to Case and Zucker (2008) *curriculum articulation* is used to mean curriculum design, curriculum alignment, continuity, progression or harmonisation with the common purpose of bringing coherence in the educational system. In all these contexts, the emphasis is on the organisation and arrangement of components of the curriculum (Case & Zucker, 2008). With regard to the vocational education curriculum as stated (Rhode Island College,

2008), it is imperative to have all the VET system components or features such as the contents and the evaluation system in harmony. The idea is that vocational education activities should be conducted based on agreed-upon logical progression, linkages across sequences, sections and principles (NTA, 2010b; GRN, 2002). The most common principles of curriculum alignment in VET include inter- and intra-institutional articulation and vertical and horizontal articulation (Porter, 2002; Rhode Island College, 2008).

According to AU (2010), Van der Merwe (2011) and GRN (2008a), the articulation of curriculum design features refers to the arrangement of various curriculum aims, goals, objectives, contents, resources and methods. In the NVET, though all aims, goals and objectives are interlinked in a logical fashion, there are numerous accusations levelled against the NVET system of lacking connections between pre-vocational skills and vocational skills (Iyambo, 2011). Iyambo (2011) and Sasman (2012, pp. 1-2) also report that NIED supports inclusion of vocational subjects in the school curriculum by suggesting that the curriculum should be multi-stranded with academic and vocational subjects complementing each other. The study conducted by Brunette (2006) premises the minister's decision to reintroduce technical subjects in the NVTC curriculum. Despite the unilateral injunction of the late Minister of Education to reintroduce pre-vocational courses into the school curriculum with immediate effect, this directive remains a political move considered as a response to the public outcry and not a decision informed by research work.

2.4.4.3 Types of articulations and their application to the VET curriculum

Billet (2011) argues that articulation is an inter- or multidisciplinary exercise involving linkage of all features of the curriculum practice. Vocational and technical education curriculum workers need to be able to identify and make use of the three commonly used

types of articulations. These include the *inter-institutional* arrangement evoking the articulation which takes place between institutions, *intra-institutional* meaning an articulation that occurs within an institution also known as coordination and *horizontal* articulation, meaning a cooperative planning involving one level of instruction (Billet, 2011; O'Lawrence, 2007). *Horizontal articulation* is the connection in the curriculum of all sections of the same course at the same level (e.g. the first year of VET or the third semester of College). *Vertical articulation* is the planning that takes place between grade levels or levels of instruction. Articulation therefore implies the linkage of the curriculum from level to level within and across institutions, e.g. from the first through to the fifth year of high school and from the fifth year of high school to the appropriate semester of college (O'Lawrence, 2007; Billet, 2011).

In VET practice, articulations have many advantages, including, among others, enhancing communication between stakeholders and preventing conflicts during curriculum implementation. According to O'Lawrence (2007) and Porter (2002) curriculum articulation enhances coordination and provides well-informed educational decisions, thus improving the quality of education.

The contents alignment implies that the selection and the placement of the contents is made in such a way that each piece is selected and placed in accordance with the aims, the level, the available facilities or the resources (O'Lawrence, 2007). The confirmation of the quality of the curriculum, the learning process and subsequently the educational output involve the verification of the process that generated the output if it is congruent to the expected curricular process. Any observed irregularities diminish the value or the standard of the output or education in the same proportion (O'Lawrence, 2007; Van der Merwe, 2011).

According to Van der Merwe (2011), the selection of the type of articulation is guided by the objective the curriculum worker intends to achieve. The discussion below demonstrates the ideal situation of articulation as prescribed by the expertise in VET curriculum development and standards setting.

The difficulties related to the articulation between NVTCs and the job market were identified by the Ministry of Education (AU, 2007; GRN, 2007). ETSIP documents state that more productive results in the improvement of the link between NVTCs and the job market could be obtained by placing the VTCs under local skills development boards, and making them responsible for finding their markets and mobilising their own resources (GRN, 2007). The document continues by stating that the devolution of authority to VTC management promises benefits in terms of increased productivity and accountability, but cannot be implemented without careful planning and preparation (NTA, 2010c; GRN, 2007; GRN, 2008b; MoE, 2006a).

In short, the NVET system under scrutiny was accused of lacking courses that would enhance the ability of graduates to pursue their studies at higher levels. The system was also accused of not being the actual preparation to the labour market it was meant for. According to Van der Merwe (2011), rather than guessing solutions and conclusions regarding the matter on the basis of the media and politicised arguments and allegations, the researcher should pose research questions with the intention to generate solutions. Therefore, this study posed research questions that intended to gather a research data base on the prevailing situation in Namibian VTCs.

2.4.4.4 NVET curriculum articulation

The Namibian VET does not have a single agreed-upon type of curriculum and there are as diverse types of curricula as there are founders (Van der Merwe, 2011). Technically, in a so diverse VET system, the most common characteristic is the multiplicity of types of curriculum articulation, being it within the system or with external institutions (Van der Merwe, 2011b). The diversity is more obvious in Namibian private VET due to the number of stakeholders involved (NTA, 2011a). That absence of harmony during the curriculum implementation is the reason behind the diversity in the quality of output currently observed in the Namibian labour market (NTA, 2011a; Van der Merwe, 2011). Accusations leveled against the NVET are that the implementation stage preceded the dissemination of the information among stakeholders and that the NVET curriculum content did not suit the expectations of the job market it was meant for (Links, 2010; O'Lawrence, 2007). This deficiency is attributed to poor curriculum articulation in VET activities whereby gaps and content mistakes were found in the current CBET curriculum.

Several authors including Gualino and Severo (2000) and Links (2010) indicate that the articulation of the VET system started from checking the existence of stages in VET practice. They stressed that the *Pre-VET* stage should be followed by *Primary VET* and then *Secondary* and *Post-secondary* VET stages, which should also be parallel to *the Informal VET*, also known as the *Apprentice*. According to Gualino and Severo (2000) the VET curriculum was not supposed to be a disjunction or a juxtaposition of contents, but a body of coherent, meaningful features. Similarly, the progression from level to level should not be left to chance, but should be guided by the mastery of the previous levels, thus increasing the parity of esteem between VET and the general education system (Lasonen & Gordon, 2008).

According to MoE (2007) VET was promoted as an educational option to learners in secondary schools. Subsequently, Level 1 Vocational Education Training was open for up to 2000 Grade 10 learners who did not make it to Grade 11 in 2008. MoE (2007) and MoE (2010) emphasise that one of the ETSIP activities was to explore the possibility of introducing skills development courses at an earlier age, especially to learners with special educational needs. Therefore, technical skills development courses were suggested by ETSIP to be introduced in schools at an earlier age (MoE, 2007).

An international perspective on the improvement of VET, its access, attractiveness and productivity was summarised by Lasonen and Gordon (2008, p. 1) who stated:

> Making VET systems more open, flexible and attractive has been identified as a major part of the European economic, employment and social agenda. Opening and consolidating a range of new pathways between VET and higher education as well as VET at tertiary level are defined as key aspects of improving education and training systems which have a dynamic role in developing labour force, human skills and economy. Some of the measures to making VET more attractive include improved vertical and horizontal mobility, workplace learning and recognition of prior learning.

The suggested VET curriculum alignment ideally should flow from Pre-vocational, to Vocational and Post-secondary VET in a concentric manner. The informal VET should provide branching opportunities to informally trained artisans to move to the formal VET system through Recognition of Prior Learning (RPL) (Lasonen & Gordon 2008, pp. 1-5).

2.4.4.5 Types of VET and related stages

Understanding the importance of streamlining the technical and vocational education in Namibia requires a brief study of successful organisational vocational experiences in some thriving economies in the world today. It also requires the presentation of the current types of vocational education provision locally and the various stages leading to VET qualifications.

i) Organisational brief of vocational education in thriving economies

Education in China is provided at three levels, namely Junior Secondary, Senior Secondary and Tertiary level (Ministry of Education of the People's Republic of China, 2006; UNESCO, 2004). In Bangladesh, the education system is split into three main educational sub-systems. The first is the General Education System, the second is the Madrasah Education System and the third is the Technical-Vocational Education System (Anonymous, 2013; UNESCO, 2004). The Bangladesh system has a complementary Professional Education System that deals with all activities pertaining to skills and competencies development in Bangladesh (World Bank, 2006; Anonymous, 2013). Each one of these three main sub-systems is divided into four levels: Primary (years 1 to 5), Junior (years 6 to 8), Secondary (years 9 to 10) and Upper Secondary (years 11 and 12) (World Bank, 2006; Anonymous, 2013). The South Korean and Indian education systems, as in many other education systems in Asian countries, consist of five levels: Pre-school, Primary, Secondary, Higher and Continuing Education (World Bank, 2006; Goodman, Hatakenaka, Kim, 2009; UNEVOC, 2012; UNESCO, 2009).

According to Marope (2005), the German education system is compliant with the European VET Quality Assurance Reference Framework (EQAF). It is known as a quality assurance cycle structure and comprises four phases. The phases of the structure are systematically linked to each other. Additionally, the Framework has quality criteria comprising the

planning process, the implementation procedure, the evaluation and the review mechanism. Complementary descriptive indicators have been developed and apply to all the signatory countries (EQAVET and Education and Culture Directorate General, 2013).

ii) Typology of local vocational education and training provision

Table 1 below outlines the existing types of vocational institutions in Namibia. The higher the number of types of vocational institutions, the bigger the challenge to reach harmony in the way vocational education activities are conducted.

Marope (2005) and Mutorwa (2004) explain the diversity of the education system in Namibia by stating that some institutions may not fall in the structures commonly known to us due to their countries of origin, their funding sources and other factors.

Table 1: Adapted typology of TVET provision in Namibia

<table>
<tr><td rowspan="6">1. Institution-based training</td><td rowspan="2">(i) Provided by the formal education system</td><td colspan="2">(a) Under the supervision of the Ministry of education</td></tr>
<tr><td colspan="2">(b) Outside the supervision of the Ministry of education</td></tr>
<tr><td rowspan="4">(ii) Provided outside the formal education system</td><td>(a) Public</td><td></td></tr>
<tr><td rowspan="2">(b) Non-public</td><td>For profit</td></tr>
<tr><td>Not for profit</td></tr>
<tr><td rowspan="3">2. Workplace based training</td><td rowspan="2">(i) Pre-employment training</td><td colspan="2">(a) Modern apprenticeship</td></tr>
<tr><td colspan="2">(b) Traditional apprenticeship</td></tr>
<tr><td colspan="3">(ii) In-service training</td></tr>
<tr><td colspan="4">3. Combination of multiple types of training (e.g. sandwich programmes, dual systems)</td></tr>
</table>

(Source: Marope, 2005, pp. 43-46)

The diversity of the domain of VET in Namibia leads to the confirmation of the necessity of a benchmark model that captures the acceptable standards of VET in Namibia applicable to all stakeholders in TVET delivery. The non-existence of such a model is the reason for the unharmonious delivery of VET in Namibia from which result the complaints, allegations and accusations currently experienced in the country.

iii) Adjusting TVET stages to suit skills scarcity

Unlike the general education systems that follow normal education stages in NVET provision, stages leading to qualification in NVET are as diverse as there are stakeholders and funding agencies (Links, 2010). Current attempts to realign skills development through VET in Namibia should be arranged in such a way that the flow of VET activities runs according to the four stages of education, namely Pre-primary, Primary, Secondary and Tertiary education (Kamupingene, 2002). From these Pre-vocational, Primary, Secondary and Post-secondary Vocational Educational stages are derived (Brunette, 2006; GRN, 2002; Iyambo, 2011).

In this respect, the explanation of skills shortages in Namibia leans on the understanding that although there is a massive supply of vocational skills in the labour market, the perception that there is a skills scarcity persists (Links, 2010). The continued supply of certified artisans and diplomas in technical fields does not respond to the skills needed to implement the ideals enshrined in the Namibian Vision 2030 (ADB, 2009; Links, 2010; Marope, 2005). Equally, there is a shortage in specific scarce skills that are only obtainable through high-level training given in post-secondary education institutions, as specified by Links (2010, p. 6): “A shortage indicates a situation in which there would be a large skills pool with regard to a particular skill, but that demand and potential growth in terms of additional numbers on a regular basis

within that skills pool do not correlate with growth in demand for individuals possessing the particular skill. Simply, supply does not meet demand."

According to the Ministry of Trade and Industry (2012), skills shortages and scarcity of skills can be addressed by conducting joint research between stakeholders and by improving the education system to suit the needs on the job market. The Ministry of Trade and Industry (2012, p. 9) suggests a strategic option of creating regional vocational training centres of excellence, in addition to the current practice in NVET. Similarly, Links (2010) outlines the skills that are needed in the Namibian job market comprising specialised dental professionals, medical professionals, engineers and financial practitioners. The above provision made by Links (2010), the provision of the Fourth National Development Plan (NDP4) (GRN, 2012) and the provision of Vision 2030 (GRN, 2004b) on skills development in Namibia, do not match the types of skills provided by NVTCs, suggesting that the need for the Competency-Based Education and Training (CBET) system under implementation in Namibia should be adjusted to suit the demands of the national developmental requirements (GRN, 2004b; NPC, 2008; GRN, 2012).

2.4.5 The advent of the CBET system and its justification in Namibia

Prior to the CBET system, NVET operated under a modular system also known as the traditional system that emphasised the process of skills acquisition through structured courses. According to the OAS Hemispheric Project (2006), in the traditional system each subject or course was stretched over the whole semester period with usually three lecture hours a week. The evaluation of traditional courses is part of skills acquisition and known as *formative evaluation* or *continuous assessment*. During the learning process, the formative (or continuous assessment) is conducted to ascertain that trainees are on the right path for remedial guidance of the instructor (GRN, 2002). At the end of the course the summative

evaluation is conducted to award marks that will determine pass or failure and certification in the case of terminal classes. At the beginning of the course and during the course (if needed) diagnostic evaluation may be conducted to determine either the entry behaviour or certain difficulties facing the trainee (OAS Hemispheric Project, 2006). The modular system emphasises the notion of pre-requisites that are determined by the diagnostic test conducted at the registration to any level (VTAC, 2013).

The advent of VET sought to streamline the notion of practical abilities of trainees as a focal feature that differentiated VET as a professional subject from academic subjects (Wallace, 2012). The introduction of CBET to the Namibia VET curriculum was based on the notion that though minimum requirements should be fulfilled to enter any professional or academic programmes, in VET the focus should be the ability of the trainee to execute the tasks that demonstrate the competency required with observable evaluation criteria (Rhode Island College, 2008; Porter, 2002).

The major contrast between the CBET programmes and the traditional VET system is that while the CBET is skills-focused, the traditional VET system emphasises three types of evaluation, namely the diagnostic, the formative and the summative evaluation and is time-bound (Ornstein & Hunkins, 2009). The evaluation process in CBET has one sole intention, namely to assess the mastery of the competency of the trainee in practice as a way to determine the degree of his or her ability to perform the task with pre-set evaluation criteria (GRN, 2007; OAS Hemisphere Project, 2006; NTA, 2012; Nkaza, 2003). The advantage of the CBET system is based on its flexible nature to allow trainees time to master the skills and the possibility of the assessment to be conducted at any given time after skills acquisition (DeiBinger & Hellwig, 2011; NTA, 2012). Equally, in the CBET system the specification of

knowledge and skills and the application of the latter to the pre-set standards of performance at the workplace is an added advantage (DeiBinger & Hellwig, 2011; NTA, 2012).

2.4.6 CBET versus other learning approaches

This section presents approaches used in VET delivery in order to establish the link between these theories and the CBET system.

Douban (2010) indicates that Competency-Based Education (CBE) or learning is one of four main learning approaches used in VET. The four approaches are identified as behaviourism, cognitivism, experientialism and constructivism.

According to Culata (2011) behaviourism is about the learning of behaviours on how we conduct ourselves in relation to the environment, regardless of whether it is social or physical. Behaviourism requires the involvement of the whole person and emphasises the doable, observable and measurable acts of humans responding to the environment (Culata, 2011). The primary focus of behaviourism is not on the role of the brain or mind in learning, but on conditional stipulations and disciplines, which are controlled through reinforcement, behaviour modification and contingency management (Faraday, Overton, Cooper, 2011). Behaviourism provides little guidance for complex mental tasks such as synthesis, analysis and evaluation, and considers the learner and learning environment as passive. Learning of behaviours eventually culminates in habit formation and naturalisation (Lave, 2011; Culata, 2011). Behaviourism applies to vocational skills development, thus constituting the base for the CBET system. The similarity between behaviourism and the CBET hinges on the fact that skills acquisition in essence is behaviour change (Lave, 2011). Thus VET curriculum implementation is logically based on positive or negative reinforcement of the desired or undesirable character, behaviour or performance (Culata, 2011; GRN, 2007; Kamupingene 2002; Naanda, 2010).

According to Sweller (2003), cognitivism is the branch of knowledge that focuses on learning as a function of the brain and thoughts as the basis of learning. The cognitivists argue that thoughts control perceptions and that perceptions change or shape our thoughts and create mind-sets to accomplish tasks (Lave, 2011, p. 9). Lave believes that there is a possibility to influence or change behaviours through thoughts. Therefore, cognitive learning takes place as a process of perceiving and developing insight (Sweller, 2003). The cognitivist theory relates to vocational education in that competencies and skills come as the result of periods of learning (e.g. rehearsal of behaviour) from which originates change in thoughts (Sweller, 2003).

According to Howe (2004) and Culata (2011), experimentialism is closely connected to behaviourism. Howe indicates that the theory of experientialism was put forth when cognitivism could not completely explain all aspects of behavioural learning. Howe (2004) and Culata (2011) also insist that experimentalism is sensory-based and requires direct personal involvement of the individual with a fervent desire for the learning objective. Experientialism relates to vocational education in that the skills acquisition is behaviour change in nature (Howe, 2004). Similarly as evoked by the experimentalism theory, skills acquisition is based on getting into contact with the real situations (i.e. experimenting) that arouse and involve self-reflection and the desire for personal change (Howe, 2004).

The constructivism approach emerged later than behaviourism, cognitivism and experientialism and dealt largely with tacit learning (Howe, 2004). Constructivism made learning more explicit, whereby people could point out and exchange information and essentials (Sweller, 2003). Sweller states that constructivism provided an intellectual approach to learning. Constructivism relates to vocational education in that the theory gives ground for trainees to make use of multiple levels of thinking during the execution of tasks

(Howe, 2004). In any execution from simple to complex tasks, there is involvement of multiple levels of thinking, which is in line with Howe's theory (Howe, 2004).

This study was informed by the behaviourism theory of the emphasis on skills acquisition through observable competencies. The theory gives guidance on the necessary changes expected from trainees and makes it possible for the evaluation in line with the CBET provisions. According to Jones, Voorhees and Paulson (2002), the competency-based approach is governed by three major factors: performance tasks, criteria and standards. Proponents of CBET such as Waghid (2000) and Butler (2004) describe Competency-Based Education (Training) CBE (T) also termed Competence-Based Learning (CBL) or Outcomes-Based Learning (OBL) as the most appropriate learning system for industry or career development. Waghid (2000) defends the view that CBET is skills-oriented and involves the use of tools, techniques and methods that are attributed to special tasks and duties. Waghid argues that CBET focuses on developing abilities and capabilities, giving the learner the opportunity to be more proficient in the career undertaking.

He insists that CBET is aimed at getting trainees to think beyond the information given to them. In essence CBET implies integrative skills of bringing knowledge, skills, understanding and experience together in problem-solving activities and environment, which provides students with the best kind of preparation for life-long independent learning (Waghid, 2000). CBET emphasises hands-on and do-it-to-learn practices.

According to Van der Merwe (2011), there are standards or levels that have to be attained as the learning outcomes are estimated from the entry level or prerequisites. Therefore, the issue of how promotion is done from level to level or prerequisites emerged as a crucial problem in VET. Van der Merwe explains that the prerequisite in the subject enters into play in the sense

that the mastery of the previous level of skills allows successful trainees to pass to the next level. Consequently, in vocational education the expectation is that pre-vocational skills should precede vocational skills and that the process goes on to more specialised and expert competencies (Van der Merwe, 2011; Haufiku, 2011). Accordingly, the MoE (2007) states that the development of CBET curricula was inspired by the process of determining the complexity of the subject matter and its prerequisites. Most subjects in VET have been compiled following the CBET guidelines. The MoE indicates that the compiled subjects were used in some of the institutions offering pre-vocational and vocational education and training courses countrywide.

There is common ground here with Angula (2011) who explains that he was amazed to see how Germany tackled unemployment among the youth. Round about 64% of the youth in Germany attend vocational schools, while only a few are in academically oriented fields. Angula concludes by advising that NVET graduates should be given opportunities to excel in what they are good at. Angula (2011) and Van der Merwe (2011) observe that there are separate entry points and streams in VET in Germany, which do not necessarily require the achievement of a certain level of school-leaving credentials. The intention of this study was to explore the merit for Namibia to learn from the current German practice as an internationally successful VET model.

2.4.7 NVET stakeholders

In general terms, there are as many stakeholders in NVET as there are VET institutions (UNESCO, 2011). The determination of NVET stakeholders presented below was based on the need to indicate unequivocally who the major players in NVET are and what they contribute to this study.

The following taxonomy of stakeholders captures the description of groups of stakeholders in VET in general and does not distinguish those directly involved in educational standards management in VTCs as specified in the population of this study in point 3.3.

2.4.7.1 Government institutions

Notwithstanding the role played by international organisations in conducting and supporting VET activities (UNESCO, 2011; BEAR, 2012), the Directorate Vocational Education and Training, under the Department of Lifelong Learning in the Ministry of Education, is by law responsible for Vocational Training Centres and Community Skills Development Centres (MBESC, 2005b). The Namibia Training Authority (NTA) and the National Training Fund were established by the Vocational Education and Training Act of 2008 to regulate the provision of vocational education and training and to provide for the funding thereof, the imposition of a vocational education and training levy and the appointment of inspectors and designation of quality system auditors (OPM, 2008). According to Dude (2012) and Durango (2012) the NTA contributes to the establishment of an effective and sustainable system of skills formation. Moreover, the NTA promotes access, equity and quality to vocational education and training. Subject to the policies and procedures determined by the NQA, the NTA also develops occupational standards, curriculum standards and qualifications, accredits education and training providers and programmes, registers assessors, conducts assessments including the recognition of prior learning and conducts quality audits, issues awards and certificates, and negotiates articulation arrangements between VET programmes and other education and training programmes in Namibia (NTA, 2010b).

2.4.7.2 The labour market

According to Naanda (2010), unemployment and poor skills supply constitute the two major characteristics of the Namibian job market. Shaketange (2008, pp. 63-64) describes the

Namibian labour market as characterised by the rise of the unemployment rate estimated to be above 50%. Shaketange further states that the rise of the unemployment rate constitutes a barrier to economical growth. Other interacting reasons for the high unemployment rate are identified as the lack of skilled labourers for sustainable industrial production, the weak domestic market and low investment rates (Shaketange, 2008, pp. 63-64). The African Development Bank [ADB] (ADB, 2009, p. 6) states that in Namibia, there is a mismatch in the labour market between supply of and demand for labour, and this is one of the main reasons for the rising unemployment rate that the country witnesses today. The U. S. Department of State (2012) indicates that although Namibia has a high literacy rate (estimated to be 88%), the number of Namibians who are functionally literate and have the skills that the labour market needs, is significantly lower, thus the skills shortage in the Namibian job market.

According to ADB (2009), with a weak vocational education system, any future progress in bridging the "skills gap" in Namibia will remain a dream. According to ADB (2009) and Gereon (2007) a low number of qualified Namibians are mentioned by most analyses of the economy. Approximately 20% of employees in Namibia have no education for the profession they are working in, and about 45% of employees in Namibia attended primary school (Gereon, 2007). The low educational standard and the lack of skilled workers are the legacy of colonial times (Gereon, 2007; Naanda, 2010). The ADB (2009) adds:

> The number of trained workers and the profile of their skills do not match the requirements of the production structure that Namibia's development agenda envisaged. The government is determined to address this challenge head-on by implementing intensive capacity building programmes and vocational education

> courses as well as on-the-job training in the context of the Education and Training Sector Improvement Programme (p. 9).

According to NTA (2011b) the current attempts to implement the CBET system as a guiding philosophy of vocational education and training in Namibia was a deliberate measure organised to improve the learning process in NVTCs. The NTA indicates that the CBET was implemented as a pathway for the preparation of trainees for a work task in designated occupations or clusters of different occupations and was mainly aimed at improving labour productivity of NTVC graduates. Constant pressure from the streets, NVTC students and the industry caused the new management of NVET to redirect the CBET implementation process based on consultations and constant reviews of facts on the ground (NTA, 2011a).

The 2012 national consultation conference of stakeholders in NVET sought to put into place new strategies to implement the CBET system. It was a reaction to the media comments on the fall in educational standards in NVTCs (NTA, 2012). For NTA, the national conference gave answers to media publications and the social and political outcry on the fall of educational standards in NVTCs. The fall in educational standards had equally been the concern of the Ministry of Education over the years and several attempts were made to generate solutions, but to no avail (MoE, 2006b; MoE, 2006c). Participants identified areas needing improvement and strategies for effective implementation of the CBET system. Among others, the conference suggested that close cooperation and jointly coordinated actions through regular meetings between VET training institutions and the industry should be enhanced (NTA, 2010a).

As indicated by the Konrad Adenaurer Stiftung (2010), quality control through output assessment is among the key strategies of quality control in VET. The strategy implies and prescribes a regular check of performance indicators. The process involves an on-the-job

assessment of the performance of employees graduating at various NVTCs. The result of the assessment would be an indicator of on-the-job failure or success, poor or good performance and a testimony of low- or high-standard education (Tylor, 2012).

The terms *educational indicator*, *quality indicator*, *outcome indicator*, *performance standard*, and *performance measure* were used interchangeably in the literature review, and there was a general agreement that indicators or standards are single or composite statistics that reveal something about the performance or health of an educational system (Butler, 2004; Lave, 2001). According to Lave (2001) and MoE (2006c) quality or performance indicators constitute a barometer of education wellness. Consequently, the quest for educational standards in NVTCs was inspired by Lave (2011) who states that the determination of the quality of Namibian vocational education was based on various indicators, including the assessment of the NVET outcomes. That it is the assessment of NVTC graduates' performance in the labour market gives an indication of the quality of their programmes. The productivity-based assessment of the VET system is suggested by Naanda (2010, p. 17), who states that vocational education and training refers to deliberate measures organised to bring about learning as preparation for a work task in designated occupations or clusters of different occupations, and are aimed at improving labour productivity. In this regard, the check on the quality of skills outputs of the VET sector and the process of redirecting the CBET implementation process require a closer look at the performance of NVET graduates in the job market as one of the indicators of the quality of the inputs. O'Lawrence (2007) recommends that the study involving performance should not only analyse various features of the system under review, but should also investigate and compare the features of training

curricula with those of successful countries. In this respect, this study was inspired by vocational education practice in successful countries, namely Germany and Tanzania.

2.4.7.3 Private, community, informal or non-formal NVET

According to Balati and Falk (2000) vocational education in its general meaning is the process of learning an occupation found in every community and conducted in diverse forms. Balati indicates that community capacity to work with VET institutions could open up new ways of looking at how vocational education and training fits into the lives of people. Linking community capacity and VET suggests a two-way scenario of interconnections and possibilities of a two-way impact where, on the one hand, community capacity influences and receives from VET and on the other, VET influences and receives from community capacity, resulting in earning a living or exercising a profession (Balati & Falk, 2000).

In the context of this research, these two dynamics enter into play in the process of raising the quality of skills in the Namibian labour market and also, the public VET is instrumental in the equation as official custodian of skills development for national development (GRN, 2008b; GRN, 2007).

The inter- and multi-sector approach used by the NTA (2011b) to tackle the issue of skills deficiency and VET quality improvement in Namibia was discussed with special attention given to the role of informally acquired skills. The informal NVET in this case implies skills acquired out of the school system in a diffused manner (NTA, 2011a). The NTA opines that to date, the scope of skills acquired in the informal NVET is not known. Equally the impact of such skills on the quality of VET graduates in the job market is not known. It is however known that there are many self-taught artisans with companies in the country (NTA, 2010a).

Discussions were raised on non-formal VET to highlight the issue of how to recognise the skills and competencies acquired informally in the formal qualifications framework (NTA, 2010b; Jordi, 2009). Jordi (2009) indicates that the recognition of informally acquired skills in the formal qualifications framework was in itself a controversial issue, because it required accessing a demanding process of comparing systems in a broader sense, looking for specific similarities which might simply be implicit.

The present study, though analytical and exhaustive, did not venture into studying skills acquired in the informal VET sector in Namibia, since these are the concerns of individual apprenticeship providers and companies.

2.4.8 Measuring educational standards

2.4.8.1 Performance standards in VET

For Afeti (2010) Technical Vocational Education and Training (TVET) has emerged as one of the most effective human resource development strategies that African countries need to embrace in order to train and modernise their technical workforce for rapid industrialisation and national development. Therefore, the current effort by the Namibian government to enhance the quality of VTC outputs is a step in the right direction.

During the last decade, state and local programmes in the NVET have developed experience with defining and measuring performance-oriented outcomes of vocational education (GRN, 2007). Three of the most frequently used outcome measures were identified as labour market, learning and access (Fiksel, 2002). Although each of these has its strengths and weaknesses, they reflect the broadly accepted definition of the principal objectives of vocational training, the preparation of individuals for productive and gainful employment, as well as a primary policy concern with programme access (Fiksel, 2002).

2.4.8.2 Measuring performance standards by performance indicators

Indicators of labour market performance of vocational graduates and the traditional standards by which the effectiveness of vocational education and employment training should be measured include job placement, earnings and duration of employment and unemployment. When outlining the challenges facing the education sector in Namibia, Angula (2011b, p. 3) observed:

> Right here at home, the structure of our economy – which produces both growth and unemployment – calls for a serious rethink of our knowledge-producing systems. Is our education and training system relevant to the social and economic challenges facing our country? Are we getting value for the money we invest in education and training? Is our learning population performing optimally? These and many other questions must be addressed if Vision 2030 is to be translated into shared growth and development.

This argument bears meaning in this context because it raises the linkage between education, knowledge and skills as well as economic growth. There are features at the core of vocational education activities and the primary function of vocational education and training. The NVET system, by producing growth and unemployment, is an indication that there is a mismatch between skills acquired in Namibian vocational higher learning institutions and the skills in demand in the job market (Haufiku, 2013).

Economic indicators have been widely used as a measure of the effectiveness of vocational education for years (Fiksel, 2002). Information provided by programme graduates has questionable validity, and there is also potential for bias in data provided by school personnel.

Angula (2011b) argues that the Namibian education system produces growth and unemployment and that the information given by programme graduates must be corroborated and validated by academic research to establish how the Namibian education system produces growth, based on accurate economic indicators. In the past, the use of state wage records to collect accurate information about education standards was proposed by several authors as a yardstick to measure educational standards (Fiksel, 2002). The use of information about education as a performance indicator by which they can be judged, strengthened the importance of the image portrayed by the graduates from any given VET institution in the society (Fiksel, 2002; McNulty & Gloeckler, 2011).

The primary aim of learning is to facilitate desired changes among the trainees by increasing knowledge, developing skills and positively influencing attitudes, values and judgment (Butler, 2004). Learning as a yardstick to measure the quality of education, embodies the idea that the best way to learn is first to determine desired changes at the end of the learning process (Butler, 2004). The case made in this study is that the quality of the product or outcome of the CBET system should be a determining factor in establishing the efficiency and the quality of strategies, processes, techniques and other means put into place during its implementation (Butler, 2004; Tylor, 2012). The accusations about poor performance of NVET graduates can be linked to a disapproval of the quality of the CBET system and the quality of education in NVTCs in particular. Therefore performance indicators, be it political, economic, social or academic, require the support of a structured research (Fiksel, 2002; Angula, 2011b). The idea of measuring and benchmarking educational standards has also been discussed by Tylor (2012) who argues that any reform or initiative intended to assess or raise the standards of education must attend to three *Common Core Standards for a Learning Support Component* or major interrelated functional areas that schools pursue day in and day

out. Similarly, Tylor (2012), Wiggins and McTighe (2012a) describe common features of interest that professional institutions all have in common, firstly as the instructional component commonly known as the curriculum or teaching, secondly as the governance and resource management component and thirdly as the enabling component, also termed Learning Support, intended to address barriers to teaching and learning.

In addition to the views of Tylor (2012) on the standards of education, Wiggins and McTighe (2012a) suggest that a complete and accurate conception, in line with the meaning of the term, recognises that standards also refer to the desired qualities of student work and the degree of rigour that must be assessed and achieved, elements often overlooked. This research placed the curriculum and its related evaluation process at the centre of the benchmarking process (see 6.4.1).

Discussing the benchmarking process, Armacost and Wilson (2003) explain that benchmarking as the standard of vocational education requires studying and learning from similar working systems. Therefore, the researcher identified world-class NVET systems that have proved to be success stories in the CBET implementation as presented in 2.4.10.1 and 2.4.10.2.

2.4.9 Identified features that influence the quality of education

Kamupingene (2002) and Marope (2005, p. 6) identify features that are likely to raise educational standards. These are the curriculum, the evaluation and the support system. Marope (2005) explains that raising the quality of education is about enhancing inputs, including the physical teaching and learning environment. The National Conference on Education held in Namibia stressed the importance of the learning environment as a catalytic

factor in the improvement of educational standards (MoE, 2011; Wiggins & McTighe, 2012b). The conference recommended that, in order to create conditions that are conducive to the performance of NVET, public-private partnerships for all areas of education, particularly for Early Childhood Development (ECD) and Technical Vocational Training must be stepped up (MoE, 2011). The conference highlighted the need for an improvement of the support given to technical and vocational training in Namibia. The MoE indicated that the private sector and local authorities supported the efforts made by the government to partner with them, but wanted to see more direct partnerships entered into between the private sector and the government. The major concern that was expressed related to the provision of internships and apprenticeships to VET trainees and the required support during their studies (MoE, 2011).

The conference also discussed other important factors for raising educational standards in general, including teaching space and furniture, qualified teachers, competent teachers, competent learners, books and instructional materials, the curriculum as well as the teaching time (MoE, 2011). Marope (2005) elaborates on two important factors often forgotten when dealing with raising educational standards in VET. He states that the competence of learners and teaching time are important in raising educational performance. The performance of learners is explained as dependent on their entry behaviour, the teaching time, the duration of the course of study, the number of contact hours, the delivery mode and other assessment-related factors (Marope, 2005). The CBET, being an outcome-focused system, does not care much about the factors mentioned above, a weakness pointed out by many authors (Marope, 2005; MoE, 2008j).

2.4.10 Justification for the choice of international VET models

Laurillard (2005) and GRN (2008b), suggest that raising educational standards VET can only be achieved by carefully studying intervening factors and comparing the system with the most successful systems globally. Laurillard is of the view that a quick-fix solution would not be appropriate. To that end, the researcher chose two VET models, namely the German dual VET system and the Tanzanian self-reliance VET model for purposes of comparison.

At the global scale, the Switzerland, the German, the Chinese and Indian VET systems seem to enjoy popularity due to their capacity to propel their economic emergence at the global level (Hall, 2009). The choice of the German and Tanzanian VET models was motivated by their capacity to generate jobs and promote self-employment, thus gaining international recognition. Though the Dual model run into controversy in Germany due to the cold support it received from the industry, the model proved to command authority in producing competent labour force that earned Germany a place of choice in its industrialization (Organisation for Economic Cooperation and Development [OECD] (OECD, 2010; NTA, 2010c).

2.4.10.1 The German dual VET model

i) Justification

According to the OECD (2010) the German VET model as an industrialised nation is a well-developed dual VET system and is thus typical of a well-organised, demand-driven VET model worth emulating. Brunette (2006) and KMK (2005) argue that in the German VET system, training firms and vocational schools work together with the aim of providing quality vocational skills and qualifications to trainees. According to the Centre for International Education Benchmarking [CIEM] (2013), the German VET model is worth emulating because it receives government subsidies and integrates information and communication

technologies in the world of work, employers and potential employers get involved in VET as a way to reap long-term economic benefits through public-private partnerships. The German VET model integrates work-based and school-based training to prepare apprentices for a successful transition to full-time employment (KMK, 2005). The current Namibian VET practice can be described as a multiform system that is less organised, in transition to CBET, and pays less attention to the process of competencies acquisition. OECD (2003, pp. 76-99) reports that not only does the dual system pay attention to the process of acquisition of competencies, but the model is also ideal for perfect involvement of graduates in the productive force. The Ministers of Education of German-speaking countries affirmed that "the dual system with its apprenticeship focus offers viable and well-accepted routes into skilled employment and modes of socialisation without being part of the formal education system" (OECD, 2003, p. 76).

The dual system provides a wide spectrum of apprenticeship as it looks into many aspects of skills employment without being in the formal education system, which is essential for the growth and development of graduates that, in turn, make them productive.

ii) International recognition

Over many years, the German dual VET system has been the country's vocational pathway that has been considered to be a reliable and successful skills training method, both locally and internationally (OECD, 2003; CEDEFOP, 2011). The dual model of VET is the reflection of the German general education system, which has been praised for having articulated programmes with the ability to provide quality general education. The system has been praised for being a combination of an excellent specific vocational training and a clearly defined profession or a skilled occupation (Justin et al., 2009; OECD, 2003; UNESCO, 2011). According to Schneider, Krause & Woll (2007, p.13), about a decade ago the Federal

Government and the Employers' Associations of German industry concluded a Memorandum of Understanding, the *Nationaler Pakt für Ausbildung und Fachcraftenachwuchs in Deutschland* (known as the apprenticeship pact) in which the partners undertook to offer training provision to every young person desirous and capable of undergoing training in close cooperation with the government. As a result of this the number of training contracts signed in 2004 and 2006 rose (Schneider et al., 2007, p.13). Given the projection that the population would rise, the Federal Ministry of Education in Germany launched initiatives to improve the supply of training places and the industry capacity to give support to trainees during apprenticeships (OECD, 2003). These initiatives included the Federal Ministry of Education and Research programme "Jobstarter" or *für die Zukunft ausbilden* (training for the future). The aim of this programme was to improve regional training structures and hence increase the supply of in-company training places. Equally, structural incentives were given instead of per capita incentives (CEDEFOP, 2011). Similar programmes included the initiative to involve and harness the labour force of immigrants (Schneider et al., 2007, pp.13-16).

The strength of the German Technical and Vocational Education (GTVET) system does not only lean on the involvement of the industry in training. As argued (UNEVOC, 2012), the GTVET system is deeply rooted in the German culture of wealth creation and its capacity to adapt to constant demographic changes and supply the market with skilled labour. UNEVOC (2012) and CEDEFOP (2011) report that three strategies have been adopted for a successful response to skills shortages in the job market in Germany, namely the establishment of stronger links between the dual vocational education and training system and institutes of higher education, the improvement of vocational education through integration of basic training skills and the establishment of national coverage of regional continuing vocational training centres. With regard to the ageing society, implying skills loss and degradation, the

GTVET has fostered the strategy of high investment in lifelong learning and the recognition of formal and non-formal learning (UNESCO, 2011; UNEVOC, 2012).

iii) Pre-vocational programme in the dual system

The strength of the German VET was built upon the junior secondary programme that in essence was organised as a school of pre-vocational training. The *Berufsschulen* are vocational schools that prepare young people for a profession (Schneider et al., 2007). According to Brunette (2006, p.84) these schools have become the best choice for career options for many young Germans.

iv) Intermediate Technical Schools (ITS)

The *Berufsfachschulen*, also known as Intermediate Technical Schools (ITS), are vocational training centres that offer full-time, specific vocational programmes. These schools are attended by students who wish to receive specialised training or students who are already in the workforce and want to obtain the equivalent of a school certificate from a formal school or *Realschule* **(**Schneider et al., 2007, pp. 13-16**).**

v) Duration of studies

The full-time ITS programmes take between twelve and eighteen months, and part-time programmes take between three and three and a half years. Other types of schools designed to prepare students for different kinds of vocational careers are the Higher Technical School (HTS), the *Fachoberschule*, the Advanced Vocational School (AVS) and the *Berufsaufbauschule*. Trainees are given the opportunity to choose to attend one of these three kinds of schools after graduating with an intermediate school certificate from a *Realschule* or an equivalent school (Schneider et al., 2007).

vi) German training system and duration

The training model used in German vocational schools is the dual system, because it combines classroom study with a work-related apprenticeship. The length of training depends on prior vocational experience and might entail one year of full-time instruction or up to three years of part-time training, as presented in the diagram explaining the German Education System (Appendix 12).

Students proceed to the *Fachhochschulreife* after successfully completing vocational education and passing a qualifying entry examination (Schneider et al., 2007). The *Fachhochschulreife* entitles a student to enter a *Fachhochschule,* or a training college, and to continue post-secondary occupational or professional training in engineering or technical fields. Such programmes last from six months to three years (full-time instruction) or six to eight years (part-time instruction). Some students with many years of practical experience or those with special skills may also attend a *Fachhochschule* **(**Schneider et al., 2007).

vii) Aims and objectives

Though the German VET is praised as the driving force in providing employability skills to the youth, its strengths and efficiency reside in its ability to respond to the demand of the industry in the qualified workforce (OECD, 2003). Unlike the Namibian VET, the German VET is crafted and tuned to play a catalytic role in national socio-economic development (OECD, 2003; Brunette, 2006). The system has benefited from the high demand in the qualified workforce to satisfy the ever-growing German industrialisation over the years (OECD, 2003). The objective of the dual system is mainly having trainees involved in actual production during the learning process.

This strategy ensures trainees an automatic transition from schooling to working, and socialisation **(**Schneider et al., 2007).

viii) Articulation and funding

The OECD (2003) and UNEVOC (2012) describe the German VET as a joint government-industry programme. Schneider et al., (2007) further indicates that the Federal government and the *Länder* share the financing of vocational education in public vocational schools, with the Federal government bearing a slightly higher share than the *Länder*. On-the-job vocational training, whose cost is entirely borne by companies and businesses, is more costly to provide than vocational education, as referred to in the German VET Model (Appendix 12).

2.4.10.2 Tanzanian self-reliance VET model

i) Self-reliance philosophy in the Tanzanian TVET model

According to Kent and Mushi (1995) and Short (2008) the Tanzanian VET model enjoys the perception that it is a well-organised VET model since it is inspired by the government's national policy of self-reliance. Unlike the Namibian model that is mainly based on learning how to repair broken objects with less creative thinking (Kakunawe, 2008), the Tanzanian model is more innovative and responsive to the immediate needs of its people (Shinovene, 2012; Mwanyika, 2006; GRN, 2007). The model encourages a flexible approach to skills acquisition with a dual vocational education combining gradual specialisation through practical experience at work and the effective production for self-reliance (Mwanyika, 2006).

ii) Historical and political foundation of the self-reliance model

The self-reliance VET model of Tanzania has its roots in the government's policy of self-reliance, introduced in the community as the backbone of the country's social development (Mwanyika, 2006). For many years, the education policy in Tanzania played an important role in the orientation and provision of Vocational Education and Training. In 1967, the Government of Tanzania initiated a policy on TVET called *Education for Self-reliance* (ESR) which was passed in 1968. The policy promoted the idea that:

> Primary school should be a circle for education in itself and not merely a selection step and mechanism for further education. Accordingly it was expected that primary schools should prepare the children and students for life in villages and communities. In fact, one of the major objectives was to set up an effective educational and training instrument that would equip young people with skills applicable and relevant to the mainly rural environment (Redecker, Wihstutz & Mwinuka, 2000, p. 7).

This policy justified the introduction of pre-vocational subjects in Tanzanian schools (Mwanyika, 2006), unlike the Namibian VET system which removed these subjects from the school curriculum after independence (Iyambo, 2011), resulting in the catastrophic situation of high failure rates in VTCs, a rural to urban exodus of unskilled productive forces and skills anorexia unfolding today in the Namibian industry (Iyambo, 2011, MoE, 2011; Redecker, Wihstutz & Mwinuka, 2000).

The Tanzanian model evolved over the years after its mainstreaming with the creation of production units attached to schools (Mwanyika, 2006; Redecker et al., 2000). A more current TVET practice in Tanzania is the Folks Development Colleges (FDC's) and Post Primary Technical Centres (PPTC's) aimed at improving the living standards of beneficiaries, thus promoting individual and community self-reliance (David, 2012; Wolhuter, 2004). The FDC's, VTC's, PPTC's and VTCs operate under Vocational Education and Training Authority (VETA) (David, 2012). According to Wolhuter (2004), the VETA oversees vocational training quality and related issues across Tanzanian VTCs. These vocational training centres play an important role in national socio-economic development since they serve as centres for practical activities for Tanzanian rural communities, unlike the Namibian situation where attachments are sought as a way to get trainees exposed to the industry (Dotto, 2009; Marope, 2005; Redecker et al., 2000).

The Association of Tanzania Employers (ATE) explained the articulation process between the TVET and the industry and insisted that TVET explain with clarity the path of progression between vocational, technical and university level education for those that qualified (ATE, 2010; Kwikiriza, 2012). In 2009, the Ministry of Education and Vocational Training in Tanzania conducted an assessment to determine the adequacy of Tanzania's existing vocational and technical education system (ATE, 2010). The assessment was motivated by the belief that not all educational policy recommendations were implemented correctly, whether due to inadequate funds or to the structures that can adequately implement the policy recommendations (ATE, 2010). According to ATE (2010, p. 7), the assessment led to recommendations which were incorporated into a policy brief entitled *Sera ya Elimu na Mafunzo* (meaning Guide or plan of Knowledge and Teaching known as Curriculum Policy). Subsequently, there was a broad distribution of the *Sera* to the education community.

iii) Motives for applicability of international models in NVET

According to the MBESC (2005b), studies on the Namibian VET have fallen short of an adequate and research-based explanation of the shortcomings in the VET system. Political and mediatised statements of problems and solutions have filled in the gap. According to Harris (2001) and Ahmed (2009), when confronted with street opinions it is advisable to conduct empirical research to confirm or reject street opinions and prejudices. Therefore, in this context, research is more credible, because it uses rigorous and fact-based approaches, in line with the advice given by Ahmed (2009) and Harris (2001). The value of the research out-weighs all forms of speculation, even if they are presented consistently and persistently as in the case of NVET. Similarly, Harris (2001) notes that when organisations want to improve their performance, research must be conducted that brings together ideas from all stakeholders to create a benchmark model that consolidates its activities. Harris explains that benchmarking is to compare and measure organisational features such as aims and objectives, policies, practices, philosophies and performance measures against those of high-performing organisations elsewhere.

Therefore, this dissertation offered an opportunity to conduct a step-by-step research and design a benchmark model for the NVET system. By comparing the current model features with international models, the researcher positioned the study to serve as an instrument to analyse the current NVET model and come up with a more logical and research-based benchmark model.

2.5 Summary

This chapter examined vocational education, present and past experiences, within the context of assessing the quality of outputs of VET. The review of the existing literature revealed that the CBET is the guiding model of NVET. Two international VET models were described and briefly discussed and compared with NVET.

The next chapter presents the methodology used in this study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used to collect the data. It also explains the type of research design adopted and why, the sample and the sampling procedure used in the study. The chapter further explains the variety of research instruments used to collect the data from the sample. It finally describes the data analysis and ethical considerations related to the research process.

3.2 Research design

This study used a mixed-methods design. McMillan and Schumacher (2006) note that in the mixed-methods design, both qualitative and quantitative data are collected about the phenomena of interest. The mixed methodology was used due to the nature of the data needed in the study. The study scrutinised the existing documentation on the NVET features and at the same time collected qualitative data from NVET stakeholders. Creswell and Clark (2011) and Walford (2001) explain the advantages of the mixed-method design by indicating that triangulation is used when the strength of one method offsets the weaknesses of the other and that their combination provides a comprehensive set of data.

The qualitative approach as stated by Chillisa and Preece (2005), James (2006), Lee (2009) and McMillan and Schumacher (2006) refers to the type of inquiry in which the researcher conducts the research about people's experiences in natural settings, using a variety of techniques, in words rather than in numbers. The researcher analysed phenomena in terms of meanings that people assigned to them. In the context of this study, the researcher explored and analysed views and experiences collected from MoE stakeholders, NVTC instructors,

trainees and graduates as well as NVTC graduates' employers. The end goal was to improve on identified weaknesses that would eventually lead to the emergence of an improved benchmark model.

The quantitative approach as stated by Gall, Gall and Borg (2003) is aimed at establishing facts, statistically explain and predict phenomena and show relationships between variables. Creswell (2002) stresses that quantitative research leads to hard, empirical or statistical data. The interpretation of the data was done by comparing and partitioning the obtained numbers in accordance with their categories. The use of the qualitative and quantitative approaches enabled the researcher to generate a complete body of information on the NVET system.

3.3 Population

Ahmed (2009) and James (2006) define population as a group of individuals, cases or items that conform to specific criteria to which the researcher intends to generalise the results of the research. The population for this study comprised five major groups according to their influence on the standards of education in NVETCs and were established according to their roles in educational standards management. Group 1 was made up of NVTC instructors, Group 2 of NVTC trainees, Group 3 of NVTC graduates, Group 4 of MoE stakeholders including the VET Directorate, the staff in standards setting and accreditation units, e.g. the Namibia Institute for Educational Development (NIED), the NTA, NQA and the Namibia Trade and Testing Authority (NTTA), while Group 5 comprised NVTC graduates' employers and potential employers.

In accordance with the statement on sampling made by Ahmed (2009), James (2006) and Lee (2009) the researcher may choose the sample by selecting a representative sample from the population in his vicinity, provided they have the same characteristics as the general population under consideration. Accordingly, as referred to earlier in section 1.5., the researcher focused the study on NVTCs situated in Windhoek and other towns since they were of the same structure as those in the remote areas of Namibia. The study chose Windhoek VTC for the pilot study, and Katutura Youth Entreprise Centre (KAYEC) in Windhoek, Ehafo in Windhoek and Development Aid from People to People (DAPP) in Windhoek for the main study. The main study was also conducted in Okakarara VTC situated in the Okakarara Constituency, NIMT situated at Arandis, COSDEC at Gobabis, COSDEC at Otjiwarongo, National Youth Service (NYS) at Grootfontein and in Windhoek as well as NAMWATER at Okahandja. Though it was difficult to obtain precise figures of trainees, instructors, graduates, graduates' employers and potential employers as well as of MoE stakeholders, the researcher managed to create such a database with the help of the NTA statistics desk at NTA Headquarters in Windhoek. Difficulties in this respect were due to the transitional nature of VTC practices countrywide. Equally VTCs were not ready to release such statistics, partly because these figures constituted a criterion for the size of the subsidy they were supposed to receive from the NTA. To release such figures without verification would mean to reveal their shares in the subsidy. The numbers obtained with the assistance of the NTA statistics desk are given in Table 2.

Table 2: Total population per strata

Instructors	Trainees	Graduates	MoE stakeholders	Graduates' employers or potential employers	Total number of categories	Total population
199	7762	2540	359	491	5	11 351

3.4 Sample and sampling procedure

3.4.1 Selected Vocational Training Centres

A total of 10 VTCs were selected for the sample. The 10 selected VTCs are presented in Table 3.

Table 3: Selected VTCs location and status

Location	Selected VTCs	Status	Number of VTCs
Arandis, Tsumeb and Keetmanshoop	NIMT	Government funded	1
Gobabis	COSDEC	Government funded	1
Swakopmund	COSDEC	Government funded	1
Grootfontein	NYS	Government owned	1
Okahandja	NAMWATER	Government funded	1
Okakarara	OVTC	Government owned	1
Windhoek	DAPP	Government funded	1
Windhoek	EHAFO	Government funded	1
Windhoek	KAYEC	Government and other NGOs funded	1
Windhoek	Windhoek Vocational Training Centre (WVTC)	Government funded	1
Total number of VTCs covered	**10**		**10**

Note: The population covered in Table 3 under NIMT reflects all NIMT trainees and instructors (see Table 2) due to the lack of separate figures per town. This information was collected at the time when the NTA was in the process of creating its database. Neither NIMT nor NTA was able to provide such information at the time.

3.4.2 Sampling strata

3.4.2.1 Characterisation of strata

Five major demographic groups were identified, each one having its own particular characteristics. The expectation was that each of them would give distinct and specific information pertaining to that specific group category.

According to Vavrus, Thomas and Bartlett (2011) trainees constitute a category of great importance given their role in education. Therefore every effort to conduct productive teaching must rely on the interest of the learner or the trainee in this context (GRN, 1990; GRN, 2001; Vavrus, Thomas & Bartlett, 2011). Institutions such as ADEA (2008), GRN (2001) and GRN (2004b) describe the learner-centred approach during the teaching and learning process as the centre of the skills acquisition process. They argue that instruction should be centred on the interests of the trainee (MBESC, 2004). Accordingly, the stratum of trainees was treated as an essential source of information needed in the process of NVTC curriculum design, development, implementation, evaluation and monitoring.

The justification of the stratum of NVTC instructors was based on the view that instructors are essential in the curriculum implementation and the evaluation process. Quality assessment cannot be effective without instructors. The study by Duffield (2011, p. 358) discovered that instructors had a fundamental role to play in influencing their trainees positively or negatively. Duffield (2011) notes that if the teacher has little knowledge, interest or enthusiasm towards a subject, a negative attitude might easily be conveyed to his trainees. Equally, a high level of interest in a subject observed from an instructor may affect the trainee positively, thus supporting learning.

Judging from the above and from the view of educationists in Britain, vocational education and training instructors are worth to be treated as a group apart, because they occupy a central role in educational development in general and in VET quality variation in particular (Government of Britain, 2010; Marope, 2005; MoE, 2007).

The group of MoE stakeholders was chosen due to their obvious role of oversight on the curriculum design, development, implementation, evaluation and policy monitoring (MBESC, 2004; NQA, 2010; GRN, 2008a). MoE stakeholders are custodians of issues pertaining to curriculum development, standards setting, instructional evaluation and management of educational standards in NVTCs, thus they form a distinct category (GRN, 2008b).

According to Development of Higher Education Management Systems (DEHEMS) consortium (DEHEMS, 2011) graduates constitute a yardstick to measure the efficiency of education systems. DEHEMS is of the view that the employability and the capacity of graduates of any given institution to deliver to the expectation of the industry determine the quality, efficiency and effectiveness of the institution. Therefore, the responses of the NVTC graduates were essential to this study and were collected under such a distinct category.

Deriving from DEHEMS (2011), testimonies about the effectiveness of graduates from NVTCs can only be given by the group of employers and potential employers who are in charge of evaluating them in the job market. Consequently, this study placed employers and potential employers in the category of NVTC graduates' employers.

3.4.2.2 Demographic characteristics of trainees

Table 4 gives the demographic characteristics of trainees according to the selected VTCs.

Table 4: **Demographic characteristics of trainees**

Selected VTCs	**Number of 2012 trainees intake**	**% of trainees**
Namibian Institute of Mining and Technology (NIMT)	2764	34.5
Community Skills Development Centre (COSDEC) Gobabis	130	1.7
COSDEC Swakopmund	186	2.4
National Youth Service (NYS)	500	6.4
NAMWATER	75	0.9
Okakarara Vocational Training Centre (OVTC)	64	5.6
Development Aid from People to People (DAPP)	163	1.6
EHAFO	121	1
Katutura Youth Enterprise Centre (KAYEC)	2604	32.2
Windhoek Vocational Training Centre (WVTC)	1155	13.6
Total population	**7347**	**99.9**

3.4.2.3 Demographic characteristics of instructors in selected VTCs

Table 5 gives the demographic characteristics of instructors in the selected VTCs.

Table 5: Demographic characteristics of instructors in selected VTCs

Selected VTCs	**Number of 2012 instructors**	**% of instructors**
NIMT	74	37
COSDEC Gobabis	4	2
COSDEC Swakopmund	4	2
NYS	23	6
NAMWATER	6	3
OVTC	23	11.6
DAPP	12	6
EHAFO	9	4.5
KAYEC	22	11.1
WVTC	22	11.1
Total population	**199**	**100**

3.4.2.4 Demographic characteristics of NVTC graduates

Table 6 gives the demographic characteristics of NVTC graduates in their selected VCTs.

Table 6: Demographic characteristics of NVTC graduates

Selected VTCs	**Number of 2012 graduates**	**% of graduates**
NIMT	124	4.8
COSDEC Gobabis	70	2.7
COSDEC Swakopmund	225	8.8
NYS	218	8.5
NAMWATER	51	2
OVTC	426	16.8
DAPP	81	3.1
EHAFO	80	3.1
KAYEC	875	34.4
WVTC	390	15.5
Total population	**2540**	**100**

3.4.2.5 Demographic characteristics of MoE stakeholders

Table 7 gives the demographic characteristics of MoE stakeholders in their identified institutions.

Table 7: Demographic characteristics of MoE stakeholders

Identified MoE Institution	**Number of 2012 MoE stakeholders**	**% of MoE stakeholders**
NQA	24	6.7
NIED	77	21.4
NTTC	7	2.0
NTA	248	69.0
MoE (Directorate of Vocational Education and Training)	3	1.7
Total	**359**	**100**

3.4.2.6 Demographic characteristics of NVTC graduates' employers per trade

Table 8 gives the demographic characteristics of NVTC graduates' employers and potential employers in their selected trades.

Table 8: Demographic characteristics of NVTC graduates' employers

Selected Trades	**Number of 2012 graduates' employers**	**% graduates' employers or potential employers**
Auto-mechanic	50	10.1
Auto-electric	52	10.5
Brick-laying	52	10.5
Diesel mechanic	51	10.3
Hospitality	50	10.1
ICT	53	10.8
Joinery	49	9.9
Office administration	49	9.9
Plumbing	49	9.9
Welding	49	9.9
Total number of trades	10	...
Total population	**491**	**100**

NVTC graduates are usually placed for attachment in any region of the country in the industry of their specialisation. NVTC graduates are open for recruitment for employment anywhere in the country. In some instances, graduates are also recruited in trades different from their area of specialisation (MoE, 2011). Therefore, Table 8 reflects only selected trades and does not specify the exact locations. In this stratum, any employer or potential employer found in the range of the study was included in the sample in line with the principle of the stratified random sampling method (Lewis & Saurro, 2006). For practical reasons however, the researcher concentrated on trades found in towns, councils and cities where trainees and graduates had found attachment or employment.

3.4.3 Calculation of the sample size

According to Lewis and Saurro (2006), the researcher should ideally apply simple random sampling to each stratum to approximate the required sample size by setting p=0.5, as no prior information is involved due to the fact that the intention of the research is to make use of primary data. The calculation of the sample size with reduced baiasness i.e representative sample necessitated the identification of a formula and, as Lewis and Saurro (2006) advise, the calculation of any representative sample should be based on the formula $D=B^2/4$, where B=0.5/100=0.05. D is the sample size while B^2 is a constant used in the calculation of the stratified random sampling (Lewis and Saurro, 2006). Since B= 0.05, the required sample size i.e the needed sample to accomplish the study n will be as follows: n=Npq/(N-1) D+pq. In this context p is the the percentage of success, q the percentage of failure and N the total population.

Under ideal conditions where this formula is applied to the letter, the sample size would be an estimate of 800 people. That means, the same number of questionnaires should be distributed and analysed, a less practical and very cumbersome task. For practical reasons and based on the sample population, it was opted to take a 5% sample from each cluster as a representative sample. As indicated by Lewis and Saurro (2006), it is much better to ask a few of the right people what they think than a lot of the wrong people who have little or no information. Lewis and Saurro (2006) note that the representative samples mean asking the people in your population of interest. They stress that it has less to do with the right sample size than with the right target. They further indicate that it is better to select respondents from the appropriate population in some random way. Saurro (2010) agrees that randomness has proven to be of less importance than representativeness. In this study representativeness included the following:

1. The prescription that “it is better to ask a few of the right people than asking a lot of the wrong ones”. The study chose 5% from each stratum known to have the information required for this study instead of a higher percentage which would include asking many of those who have little or none of the information required.

2. The prescription that “the representative sample has less to do with the right sample size than with the right target”. This study did not have as main target the right size, but targeted the inclusion of all categories of respondents in the sample.

3. The prescription that representativeness is more important than randomness. The determination of the respondents did not primarily focus on being “random” but was more concerned about being “representative” of each population category.

3.4.4 Margin of error versus sample size

3.4.4.1 Margin of error

According to Yu (2007) and James (2006) the margin of error is how precise the researcher needs to be. The only way to be as accurate as possible is to keep a minimal margin of error during the research process by administering the questionnaire to the entire population. The present research dealt with a very large population and could not survey everyone. Therefore the researcher opted to follow the advice of Yu (2007) who notes that under such circumstances the researcher must deal with a margin of error he is comfortable with. Calculations of the sample size are all about balancing precision with cost. When it is necessary to limit costs, the researcher must deal with more uncertainty in the estimate. Yu (2007, p. 87) advises that the researcher must strike a balance between opting for the sample size and representativeness known as “Saturation Trade-off” and randomness.

According to Yu (2007) and James (2006), in certain circumstances researchers have to make sampling decisions based on available resources (e.g. time and money). This trade-off means that the bigger the emphasis placed on the representativeness of the quantitative sample, the smaller the emphasis that should be placed on the saturation of the qualitative sample and vice versa. Accordingly, while striking a balance between the sample size and the saturation trade-off of all stakeholders by retaining a certain percentage of each stratum, the researcher reaches and keeps the margin error of 5% that is manageable and comfortable.

3.4.4.2 Sample size

In accordance with the premises set in 3.4.3 and 3.4.4, a percentage of sample size (n) was drawn from the populations of trainees, instructors, graduates, MoE stakeholders and graduates' employers or potential employers.

i) Category of trainees

Table 9: Demographic characteristics of trainees

Category	Total population	5% of the total population = Total sample	Representative sample = 388/10
Trainees	7762	388	39

The total population of trainees (N) = 7762. For the category of trainees the calculations led to obtaining 5% sample size (n) = 7762 X 0.05 = 388. The number of institutions = 10, thus sample size (n) for each institution = 388/10 = 39 for each institution in the trainee strata.

ii) Category of instructors

Table 10: Demographic characteristics of instructors

Category	Total population	15% of the total population = Total sample	Representative sample = 30/10
Instructors	199	30	3

The total population of instructors (N) = 199. For the category of instructors the calculations led to obtaining a 15% sample size (n) = 199 X 0.15 = 30. The number of institutions = 10, thus sample size (n) for each institution = 30/10 = 3 for each institution in the instructors' strata.

Due to the low sample size of instructors, the researcher decided to raise the percentage of the sample size in this category to 15% in order to cover at least 3 instructors per vocational training centre. This practice is in line with the prescription by Lewis and Saurro (2006) who suggest that during sampling, if one of the groups has a low sample size, a higher percentage may be used to increase its representation, as was the case for instructors in this study. If the initial decision to apply 0.05 was maintained only one instructor would be selected per institution. That would have caused a bias of under-representation of opinions from informed instructors. Additionally, the researcher was more specifically interested in increasing the number of instructors because they are key to NVTC curriculum implementation (NTA, 2010b; GRN, 2007).

Having obtained the total population of instructors as 199, 15% of the total population was taken, leading to the sample size to be equal to 30 (n = 199 X 0.15 = 30). The number of sampled institutions was 10, thus a sample size (n) for each institution equalled 3.

iii) Category of graduates

Table 11: Demographic characteristics of graduates

Category	Total population	5% of the total population = Total sample	Representative sample = 127/10
Graduates	2540	127	13

The total population of graduates (N) = 2540, led to obtaining a 5% sample size (n) = 2540 X 0.05 = 127. The number of institutions =10, thus sample size (n) for each institution = 127/10 = 13 for each institution in the graduates strata.

iv) Category of MoE stakeholders

Table 12: Demographic characteristics of MoE stakeholders

Category	Total population	5% of the total population = Total sample	Representative sample = 19/10
MoE stakeholders	359	18	4

The total population of MoE stakeholders (N) = 359, led to obtaining a 5% sample size (n) = 359 X 0.05 = 18. The identified number of institutions of MoE stakeholders = 5, thus sample size (n) for each institution = 18/5 = 4 for each institution in the MoE stakeholders strata.

v) Category of graduates' employers and potential employers

Table 13: Demographic characteristics of employers and potential employers

Category	Total population	5% of the total population = Total sample	Representative sample = 25/10
Employers and potential employers	491	25	3

The total population of employers (N) = 491, therefore 5% of the sample size (n) = 491 X 0.05 = 25. The number of trades individuals graduates can be attached to or employed into = 10, thus sample size (n) for each institution = 25/10 = 2.5 for each employer in their respective trades for the employers' strata. Rounding to the nearest whole number is 3, thus the total number (n) of employers required for the research would be 3 X 10, namely 30 employers. Since the proportion of the different trades identified did not differ significantly by percentage from each other, the researcher opted to take any three employers per trade.

vi) Required sample (n) for the research

The required sample (n) for the research is the summation of the sample from each stratum. Accordingly, Table 14 indicates the sample size used in this research.

Table 14: Required sample (n) for the research

Strata	**Sample size per institution**	**No. of institutions or trades**	**Sample size (n)**
Trainees	39	10	390
Instructors	3	10	30
Graduates	13	10	130
MoE stakeholders	4	5	20
Graduates' employers and potential employers.	4	10 (trades)	30
Total sample required for the research			**600**

3.5 Sampling procedure

The sampling procedure is the selection of a representative number of units from the population of the study (Chillisa & Preece, 2005; Ahmed, 2009). Ahmed (2009), Chillisa and Preece (2005) further explain that sampling is used to minimise errors that may occur when some respondents are over-represented or under-represented and is employed to produce a sample which is the closest representative of the population as a whole. In this study the

stratified random sampling method was used. James (2006) notes that in the random sampling method the sample is divided into groups, and each individual found within the scope of the research has an equal chance of being selected.

According to Barreiro & Albandoz (2001) as well as James (2006), what matters for the variability of a statistic from a random sample is its composition.

3.6 Research instruments

3.6.1 Selection and classification of instruments according to the data required

According to Jacobs (2012), three types of instruments can be used to collect information from the sample. The selection of one of them depends on the type of data required for the research. Jacobs (2012) classifies these instruments as cognitive, affective and projective. He explains that the cognitive instruments measure achievement, aptitude and characteristics. The affective instruments measure attitudes, values and personality inventories while the projective instruments measure respondents' feelings, thoughts and reactions to diverse situations. This being a descriptive and evaluative study, the researcher opted for the combination of affective and projective instruments as prescribed by Barnett (2006) and Duffield (2011), who state that it is advisable to combine instruments so that they can complement one another.

The questionnaire used to collect data in this study comprised questions that sought information on attitudes, feelings and thoughts as well as the respondents' reactions and appreciation for the current state of educational standards in NVTCs. Ahmed (2009) and Jacobs (2012) recommend the combination of two forms of instruments when carrying out an evaluation of some characteristics in a research inquiry. In such conditions, Bernard (2012) recommends the direct interview questionnaire and the written questionnaire. Since the task

was to study the current state of educational standards in NVTCs through the collection of opinions of respondents on features that make up the VET curriculum in Namibia, two forms of instruments were selected, namely the questionnaire for the orally recorded interviews and the written questionnaire. Instructions were issued to all respondents to give their opinions on features discussed and included in the questionnaires.

3.6.2 Construction of the questionnaire

Questionnaires were constructed and a pilot study was conducted at the Windhoek Vocational Training Centre. The aim was to ascertain the validity of the questions. Bernard (2012) and Tylor (2012) indicate that any effective pilot study should lead to adjustments of the contents and the form of the questionnaire. Accordingly, at the end of the pilot study an adjustment to the form and the depth of the contents of the questions was made to address the weaknesses identified in the items.

The instructions indicated the expectations of the researcher towards the respondents. They also indicated that personal identification was not required, while careful reading was necessary to understand the questions. Instructions also highlighted the necessity of objectivity in providing opinions and that there were no wrong or right answers.

All the questions focused on gathering the data needed for the design of the new benchmark model. They addressed among others, programmes, instructional methods, the CBET implementation problems and the perceived causes of the drop in educational standards in NVTCs, and possible solutions. The final questionnaire comprised both structured and open-ended questions and sought to collect the data from the NVTC instructors, trainees, graduates, MoE stakeholders such as NTA, the MoE Directorate VET and NTTC, NTA, and

NIED, and NVTC graduates' employers and potential employers. Structured interview questions were used in face-to-face interviews with sampled subjects. Voice and video camera recorders were used to record interviews.

The questions for the interviews followed the same pattern as the administered questionnaire to facilitate recording, audition and visualisation of video-recorded responses (Appendix 4). The difference was in the administration; interview questions were asked and the researcher recorded the responses. The administered questionnaire was either left with the respondents to complete or the researcher waited for respondents to complete the questionnaire and collected them immediately after completion.

3.6.3 Pilot study

The primary intention of a pilot study is to check the validity and the reliability of the questionnaire. According to Jacobs (2012) validity refers to the degree to which the instrument measures what it purports to measure and the reliability of an instrument refers to the degree to which the instrument consistently measures what it purports to measure.

Accordingly, the first version of the questionnaire comprising 103 questions was administered to 37 randomly selected respondents at the Windhoek Vocational Training Centre. The respondents comprised a total of 37 people, namely 25 trainees, six instructors, two MoE stakeholders, two graduates and two graduates' employers from the industry. The median age of respondents was 35 years with the highest percentage in the category of trainees with 65.7%.

During the pilot study, the researcher found that the questionnaire was not too long as was feared, but was of appropriate length, given the amount of information needed to address the issues at hand. The following amendments were made, though:

Question C4 was deleted because it was a repetition of Question C5 and both addressed the same issue. Questions F1, F2 and F3 were meant to address any other issues the study could have omitted. Because all the issues captured in Questions F1 to F3 were covered in detail in other questions, they were replaced by one question, numbered F, which captured any other relevant matters that could have been omitted. The aim of Question F was not only to capture any other issues that the researcher might have omitted, but also to collect respondents' closing statements.

The pilot study also identified a shortage of questions on how to deal with the mainstreaming of NVET to make it an attractive field of study, given that NVET is regarded as a dumping ground for failures of secondary education. During the administration of the pilot study questionnaire it was clear that the respondents were not familiar with certain acronyms used in the questionnaire. To solve this problem these acronyms were written out in full and placed at the beginning of the questionnaire for easy reference. The researcher rechecked all the questions. At the end of the process the questionnaires reflected the research objectives and the key research questions as required by the study.

Before and after the construction of the questionnaires and the interview questions, the thesis supervisors gave correctional remarks that suggested adjustments in the form and content of the questions to ensure the validity of the questionnaires. Supervisors further ensured that the

pilot study was conducted to test the questionnaires and to ensure that the questions were clear and valid before the administration of the final questionnaire.

3.7 Data collection procedures

The researcher obtained introductory letters to do the research from the University of Namibia and the Ministry of Education and the Namibia Training Authority (Appendices 1 to 3). These letters were presented to the heads of institutions in order to obtain the necessary permission to carry out the research. Questionnaires were distributed to selected respondents by the researcher who collected them immediately upon completion. Questionnaires were left with respondents who did not have time to respond to questions immediately and were collected at the end of the day before closing time or two days later, depending on the appointment made with the respondents. During the administration of the questionnaires, a number of respondents insisted on being interviewed. In instances where interviews were pre-arranged, the researcher ensured that they were conducted in a place free from disturbances to allow accurate recordings. The collected data in the questionnaires were marked in a coded fashion to avoid exposure of the identities of the respondents. Structured interviews were video-recorded to allow the researcher to review the recorded responses, thus confirming the reliability of the exercise. (See Appendix 5.)

The data collection was conducted between May and November 2012. Respondents were found either at their VTCs or were approached at random at the NTA premises. Instructors and trainees were approached at their VTCs while conducting or attending meetings or on job attachments at an establishment. Graduates were found at their workplaces in various establishments where they were employed. Since all the respondents were not at the same place, the snowball method was used to find them.

3.8 Data analysis

A combined questionnaire requesting both qualitative and quantitative information was used to collect the data from respondents. The respondents were asked to mark their responses by a tick (√) or a cross (X) in the indicated boxes on the questionnaire. Additional space was provided where they were asked to give their opinions or to justify their answers.

3.8.1 Hypothesis testing

This study involved hypothesis testing. The statistical significance of a variable is well modelled by hypothesis testing for significance (Tylor, 2012; Saurro, 2010). The abovementioned logic was adopted because it was in line with the objectives of the study, namely to test the relationship between categorical variables. Saurro (2012) establishes that the use of either confidence interval or hypothesis testing reaches the same conclusion on the rejection or acceptance of the null hypothesis. The nature of this study dictated the use of hypothesis testing.

The null hypothesis states that "there is no significant relationship between the categories of respondents and causes of perceived poor educational standards in NVTCs, improvements to the CBET curriculum design features, implementation of the CBET features, features of the CBET and recommendations on the NVET programmes". The null hypothesis was tested at 5% significance level (at 95% confidence level). The test of the null hypothesis was based on the assumption that the identification of the causes of the fall in educational standards in NVTCs would allow the researcher to suggest improvements to the current practice of NVET in line with Max Weber's Classical Organisational Theory (Almashaqba et al, 2010; Weber, 1947).

3.8.2 Qualitative data

The qualitative data gathered were used to establish the background of the study. The information was also used in the benchmarking process during comparisons of various features that were obtained as responses to questions against the ideal practice as revealed by the German and Tanzanian models.

The quantitative data were first coded to suit the Statistical Package for the Social Sciences (SPSS) software PASW Statistics, version 20.0, which was used to interpret the coded data (Alan, 2012). After entering all the data the researcher undertook the process of data screening to remove odd and other incoherent data as well as other outliers. Inconsistencies and incoherencies in views among respondents were identified, and their causes were determined before they were rectified. The researcher found that some answers given by some trainees were contradictory and undertook to apply a logical flow of respondents' views by removing opinions that were not in line with the questions asked.

3.8.3 Quantitative nominal data

The frequencies of the variables that were identified were determined as a way to establish the causes of the fall in educational standards in NVTCs. The data obtained from the VTCs were interpreted in line with the identified themes. The analysis involved regrouping answers according to the flow of questions asked during the research process. Answers to each question were regrouped to show common trends and differences. The regrouping of common trends in opinions was followed by assigning values to each of the identified themes. The frequency of responses determined the popularity of arguments and opinions of respondents on which the researcher's judgement was based.

The stratified simple random sampling method was used to collect data from the VTCs. The collection of data was carried out through video-recorded interviews and the collection of data through the administration of the questionnaire. The researcher refined the questionnaire after the pilot study to obtain the final version. The final version of the questionnaire was administered to the five identified categories of stakeholders in NVET, namely trainees, instructors, graduates, MoE stakeholders and graduates' employers and potential employers. Since the research design of this study led to the use of the χ^2 statistic to test categorical data, the analysis depended on establishing frequencies within categories and hypotheses to determine whether there was a significant difference.

3.8.4 Prevention of possible bias

Ahmed (2009) and Creswell et al., (2011) identify four major sources of bias in research, namely the design bias, the measurement bias, the sampling bias and the procedural bias.

The researcher in this study avoided the influence of the design bias by making use of the triangulation design that ensured the complementarity between the qualitative and quantitative data collected. Therefore, during the collection of the qualitative and the quantitative data, the researcher took precautions that methodological procedures were adhered to rigorously and the accurate recording of facts was diligently conducted to avoid interference of his prior knowledge of respondents, the contents or any other factors that could have influenced his position as researcher. To avert the measurement bias, the researcher ensured that no socially ascribable descriptions or questions that could lead respondents to produce automatic answers to please the researcher or to avoid self-description rather than focusing on factual reporting were used in the study. The sampling bias was avoided by including all categories of respondents in the study through the representative

sample as shown in Table 14. The study was conducted in the time of students' riots, the media's negative reports on NVET and the on-going transformation of VET by the NTA. To avoid procedural bias, the researcher ensured that negative utterances, insinuations and other negative rhetoric from the students, the media and elsewhere were not used during either the interviews or the administration of the questionnaires. Only objective questions and attitudes were adopted during the study.

3.8.5 Ethical considerations

The consideration of ethical issues during the research process implies protecting the respondents from being harmed in any way or from experiencing any physical discomfort. According to McMillan and Schumacher (2006) the researcher should be as open as possible. Respondents were informed about the objectives of the study. The avoidance of harm was dealt with through reassuring respondents that no information collected would be used against them. Respondents were allowed to ask questions and were informed about their right to consent to interact with the researcher willingly. They were assured that confidential information would not be disclosed to any other parties and that no names would be given in the final report.

3.9 Summary

The stratified simple random sampling method was used to collect data from the VTCs. The collection of data was carried out through video-recorded interviews and the collection of data through the administration of the questionnaire. The administration of the questionnaire was preceded by a pilot study carried out at the Windhoek Vocational Training Centre to ascertain the validity of the questions. The final version of the questionnaire was

administered to the five categories of stakeholders in NVET, namely trainees, instructors, graduates, MoE stakeholders and graduates' employers and potential employers, and the data obtained were structured to show the trends in the opinions of the respondents.

The analysis depended on establishing frequencies within categories and on hypothesis testing for significance, using the statistics. Categorical descriptions resulted in the establishment of frequencies of emerging trends.

The next chapter presents and analyses the findings of the study.

CHAPTER 4: PRESENTATION AND ANALYSIS OF FINDINGS

4.1 Arrangement of the results

The presentation and analysis of the results were arranged in accordance with the six key questions that the study sought to address. The first five questions were addressed by the results presented in chapter four. Each emerging variable was presented and analysed as an entity of information, concentrating on specific challenges in NVET features as explained in 4.1.1. The sixth question namely the features of the new benchmark model, were covered in point 6.4.3.1 as the result of the benchmarking process covered in point 6.4.1.

4.1.1 Emerging themes and equivalent variables

In this study, six themes with their equivalent variables were identified, presented and analysed. Variables under respective themes were analysed in this chapter under each point.

The first theme concerned biographical information of the respondents, the second focused on causes of the perceived causes of poor educational standards in NVTCs, the third involved the analysis of NVTC curriculum design features, the fourth focused on the CBET curriculum implementation challenges, while the fifth addressed CBET features followed by respondents' concluding comments on educational standards in NVTCs.

The analysis of each theme was followed by the summary of the results in the form of emerging trends. The analysis of the results is presented step by step, considering each variable as an informative entity with a set of data purposely collected to address specific issues in accordance with the statement of the problem, the hypothesis and the significance of these results (Culatta, 2011). Variables were cross-examined, their frequencies noted and illustrated graphically. Table 36 comprises a comparative matrix of selected benchmarking

features. Features of the German and Tanzanian models were also incorporated and analysed in the emerging benchmark model. The details of the emerging benchmarking model are explained in the matrix presented in Table 36.

4.1.2 Frequencies and inferences

According to Kessel, Rosenfeld and Anderson (2008), after concluding the Chi-square tests each presentation of data and establishment of frequencies should be followed by its inferential analytical part as done in Chapter 4. Regarding inferences, Sandelowski, Voils and Knafl (2009) explain that inferences should be presented by the identification of the null hypothesis (H_0), the alternative hypothesis (H_1) and the significance level (α), the calculation of the Chi-square and related cross-tabulations to allow the study results to be generalised to the entire population. Accordingly, this study made use of the pre-identified hypotheses in 1.4 and concluded the acceptance or rejection of the null hypothesis based on the results of the Chi-square tests.

According to Armacost and Wilson (2003) the importance of Chi-square statistics is to establish the relationship between categorical variables during data analysis. Armacost, et al. (2003) argue that although the central aim is usually to identify relationships between variables, the researcher might also be concerned with describing how the values of one variable vary according to the values of another variable. Ahmed (2009) and Bernard (2012) also suggest that the researcher may be concerned with testing hypotheses concerning the effect of one variable on another or may explore the patterns of association among a set of variables. Bernard (2012) insists that for each of these purposes, the researcher must examine the association between two or more categorical variables. One of the simplest methods of

doing so, and a method most suited to the analysis of categorical variables, is cross-tabulation (Bernard, 2012). Essentially, the cross-tabulation of two variables shows the distribution of one variable separately for each category of another variable (the "conditional distributions") (Alan, 2012; Few, 2005). This is equivalent to preparing separate frequency distributions of one variable for cases having each particular value of the other variable.

According to Few (2005, pp. 2-5), when performing a Chi-square test, the data must satisfy important assumptions. Although these assumptions may be stated differently in different textbooks, they generally assert that firstly the sample must be randomly selected from the population (N), as was the case in this study. Secondly, the sample size n or n_1 to n_5, one and the others representing the total sample and the stratum samples respectively, must be large enough so that the expected count in each cell is greater than or equal to 5 (Alan, 2012; Clarke, 2012; Few, 2005; Creswell, 2002**).** These assumptions were satisfied in this study, therefore legitimating the use of the χ^2 statistic.

4.1.3 Calculation of p-value

The p-value was established through the use of the SPSS software version 20. The obtained value was used to decide whether to reject or accept the null hypothesis at the 0.05 confidence level (p-value $\leq$ 0.05). The application of the Chi-square values from which subsequent analyses were conducted, resulted in inferences presented in Chapter 4 and discussed in Chapter 5. Inferences were informed by Young and Weiss (2012, p. 30) who explain that if *P-value* $\leq$ 0.05, reject the null hypothesis, as illustrated in Figure 1 below.

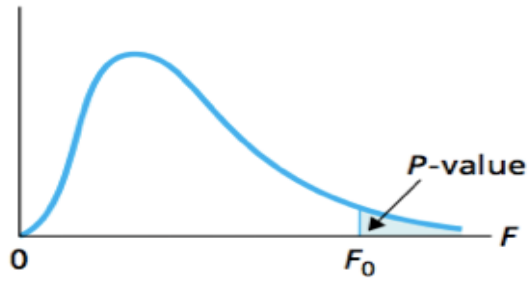


Figure 1: P-value approach

(Source: Young & Weiss, 2012, p. 30)

The decisions to accept or reject the association between variables was based on the rule that "If *P-value* ≤ α, the decision is to reject H_0; otherwise H_0 should be accepted" (Young & Weiss, 2012, p. 30).

4.2. Results

4.2.1 Biographical data

In the following sections, the categories of respondents, age groups, gender and types of organisations are provided.

4.2.1.1 Categories of respondents

The aim of capturing biographical data was mainly to check whether the study was inclusive of all identified categories of respondents and if the collected data came from the expected sample. Figure 2 shows, in percentages, the representation of the different categories of respondents.

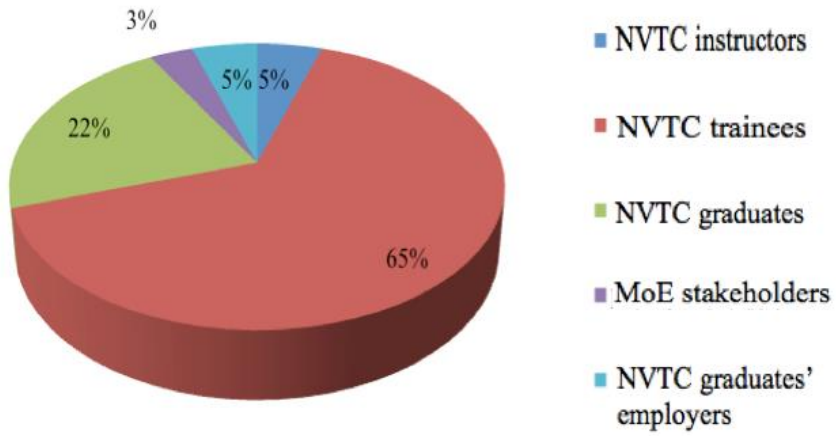


Figure 2: Categories of respondents

As indicated in 3.4.4.2, the total sample size (n) was 600 individuals. Figure 2 shows that there were 30 NVTC instructors who represented 5% of the sample population, 390 NVTC trainees who represented about 65.0%, 130 NVTC graduates who represented 22%, while 20 MoE stakeholders accounted for about 3%, and 30 NVTC graduates' employers about 5%. (See Fig. 2). The five categories of respondents were proportionally represented in this study.

4.2.1.2 Ages of the respondents

In this section, the results regarding the ages of the respondents are provided according to their categories.

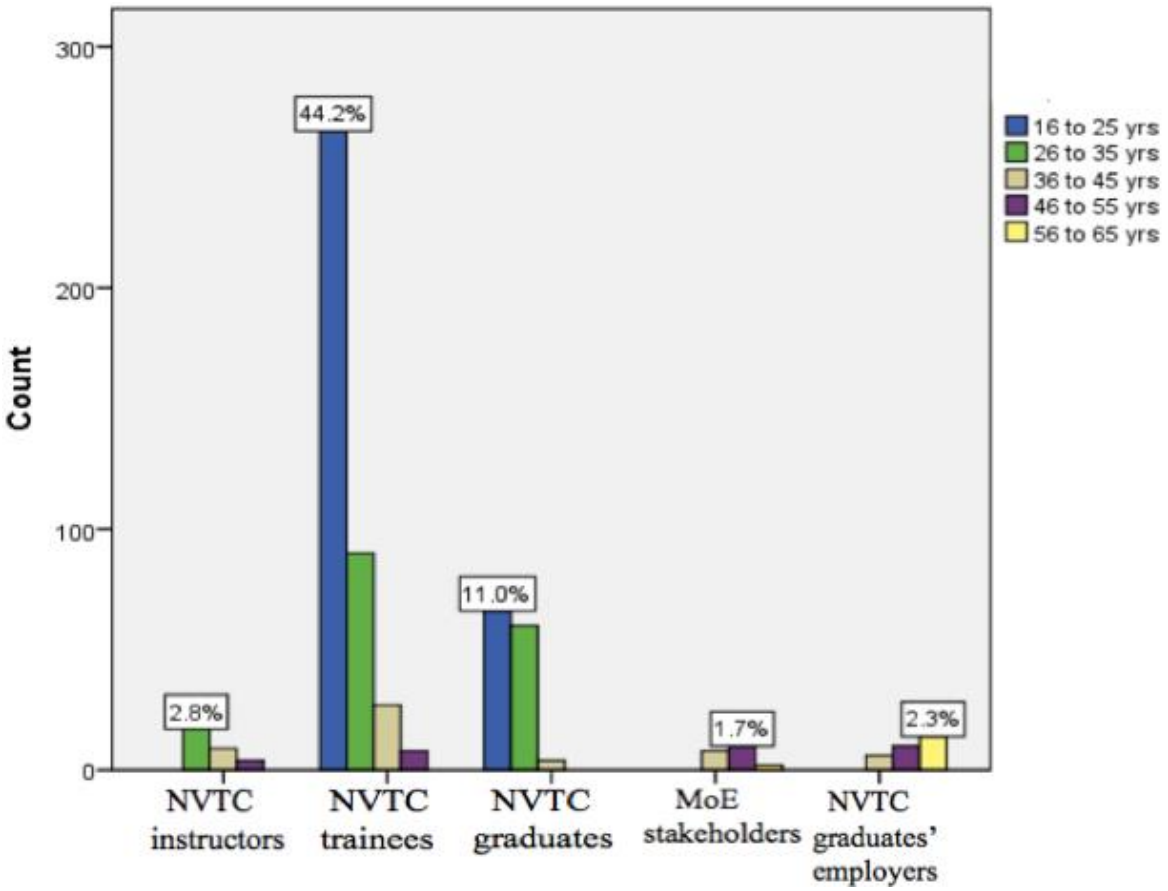


Figure 3: Age groups of respondents vs. categories of respondents

Figure 3 shows that no respondents fell under the age group "over 65 years" or below the age of 16, in line with the prescription on child labour (ILO, 2012). Close to 55% (55.2%) of the respondents were between 16 and 25 years of age, 27.8% were between 26 and 35 years, 9.0% were between 36 and 45 years, 5.3% were between 46 and 55 years and 2.7% were between 56 and 65 years. The majority (44.2%) of the respondents were between 16 and 25 years, followed by the age group 26 to 35 with the least represented age group 56 to 65. The age group 56 to 65 was more common among the employers who happened to be either company managers or owners of companies.

Most of the NVTC trainees were in the age group 16 to 25 years. The MoE stakeholders were mostly represented in the age group 36 to 45 years.

4.2.1.3 Gender representation among respondents

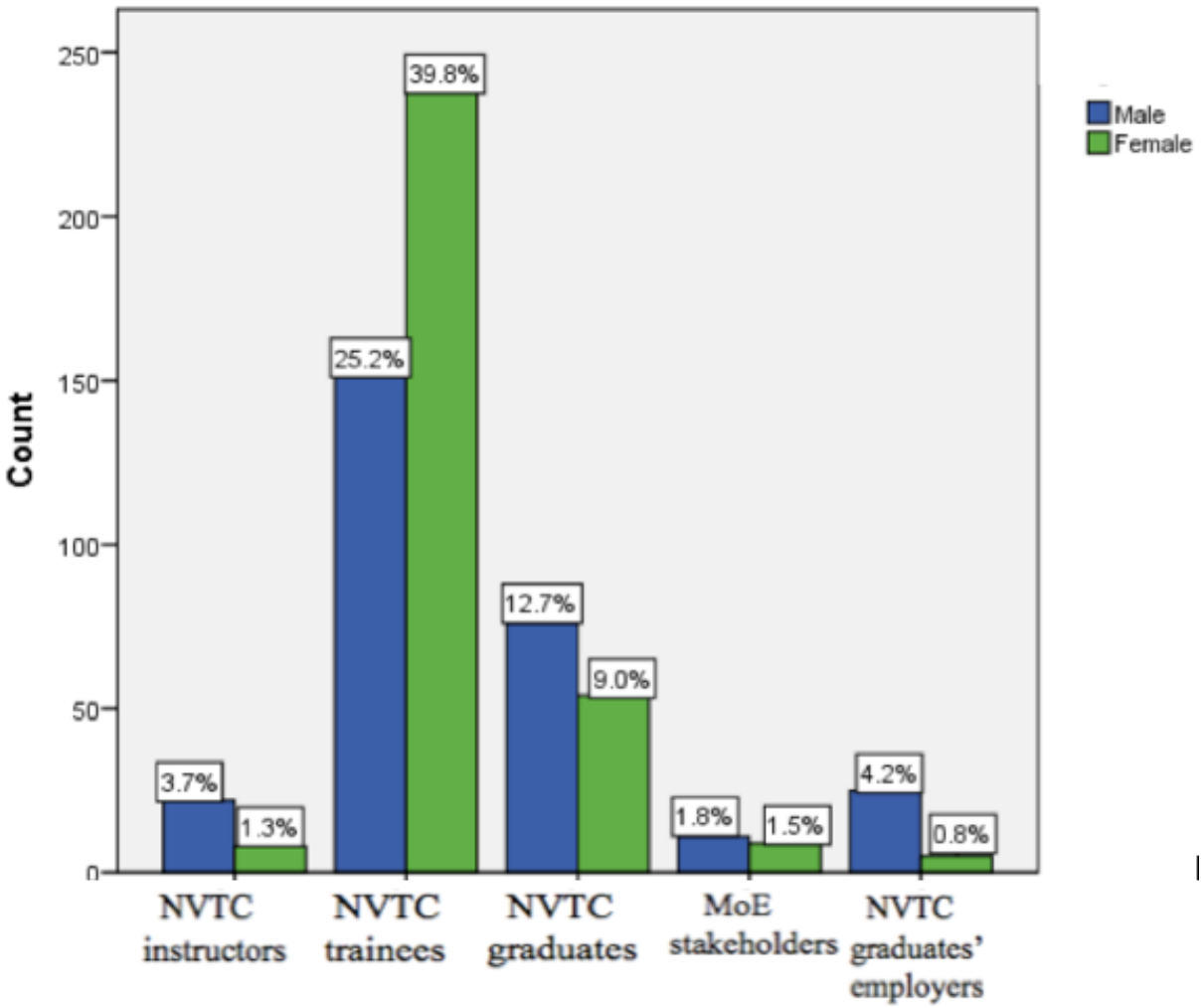


Figure 4: Gender representation among respondents

Figure 4 shows that 52.4% of the respondents were females and 47.6% were males. The observed closeness in percentages between males and females could be attributed to the current emphasis on the integration of females into NVTCs. In this study there were more female students among the NVTC trainees, and more males among the NVTC instructors, NVTC graduates, MoE stakeholders and NVTC graduates' employers.

4.2.1.4 Types of organisations where respondents were based

This section shows the types of organisations where respondents were based, their representation and their names.

i) Types of organisations

Figure 5 shows the types of organisations by respondents during the study.

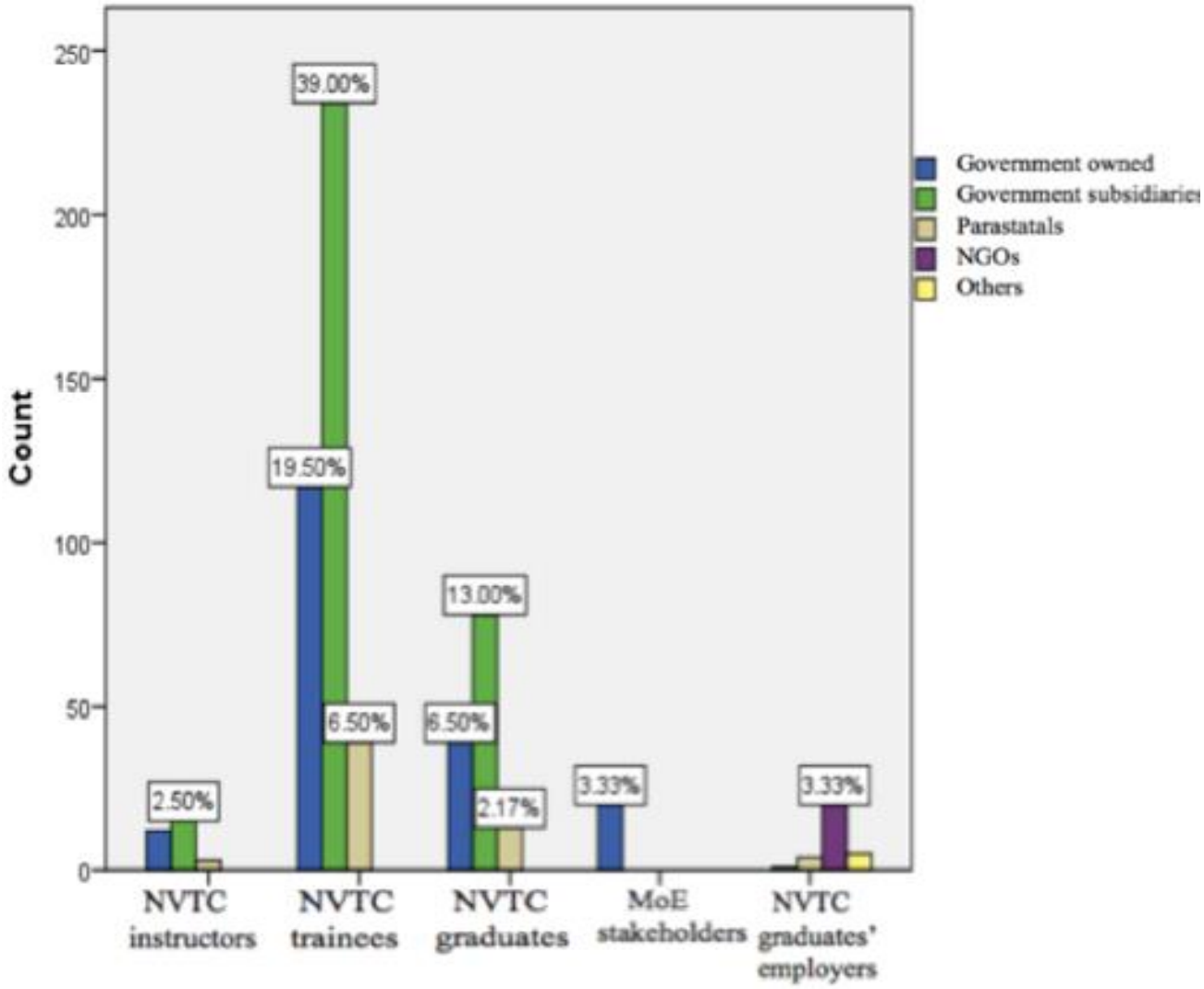


Figure 5: Types of organisations of respondents

Figure 5 shows that government subsidiaries formed the majority of organisations with a total of 54.5%. Some 31.3% of the respondents were from government-owned institutions. Apart

from government-owned and government subsidiaries, other institutions accounted for less than 4.0%. NVTC trainees and NVTC graduates were the highest represented category under government subsidiaries. MoE stakeholders were the highest represented among government-owned organisations. The NVTC graduates' employers were mostly represented in non-governmental organisations. Accordingly, government institutions were the highest represented in all the categories, as anticipated (Dude, 2012, p. 9).

iii) Tracking of networks of respondents

Prior to the administration of the questionnaire and interviews, the researcher received lists of trades from NTTC and NTA from which the sample was chosen (Table 8). During the distribution of the questionnaires trainees and graduates from identified institutions were either on job attachment or working at firms across the country. A follow-up of these respondents was done through their friends. Their whereabouts were identified by following the list of addresses of companies hosting NVTC trainees on job attachment obtained from the NTA head office. The same opportunity was used to either administer the questionnaires or interview the employers of the graduates. The researcher administered questionnaires and interviewed employers at the same time as graduates, instructors and trainees on job attachment at the same institutions. A closer look at the organisations mentioned by the respondents, shows that 10 organisations where trainees and instructors' questionnaires were distributed and interviews conducted, were mentioned (see Table 3). The employers and potential employers as well as managers and staff from various trades were also interviewed or given questionnaires as pre-scheduled. Table 15 outlines the trades mentioned by respondents, followed by their frequencies. Respondents in this respect are displayed in Table 15.

Table 15: Names of employers and related types of trades

Name of Employers	Type of trade	Frequencies (%)	
		NVTC trainees	NVTC graduates
Autoboss Panel Beaters	Auto mechanic	25 (6.4)	8 (6.2)
Autohaus	Diesel mechanic	22 (5.6)	7 (5.4)
Baumann and Meier	Diesel mechanic	17 (4.4)	5 (3.8)
Bezers Trailer	Welding	15 (3.8)	4 (3.1)
Chameleon Backpackers	Hospitality	2 (0.5)	1 (0.8)
Diesel Electric	Diesel mechanic	10 (2.6)	3 (2.3)
First National Bank (FNB)	Information and Communication Technology (ICT)	6(1.5)	2(1.5)
Hilton Hotel	Office administration	2(0.5)	1(0.8)
Kathy's Joinery and Renovations cc	Joinery	5(1.3)	4(3.1)
Komeho Joinery and Cabinets cc	Joinery	23(5.9)	7(5.4)
Krazty Marine	Plumbing	12 (3.1)	4 (3.1)
Matiki Safari	Hospitality	7 (1.8)	3 (2.3)
Ministry of Youth	Office administration	12 (3.1)	7 (5.4)
Murray and Roberts	Bricklaying and plastering	26 (6.7)	10 (7.7)
Namib Auto Electric	Auto electric	12(3.1)	4(3.1)
Namibia Construction Company	Bricklaying and plastering	14(3.6)	5(3.8)
Nature Friend	Hospitality	10 (2.6)	3 (2.3)
Pupkewitz Toyota	Auto mechanic	21 (5.4)	7 (5.4)
Purity Manganese	Plumbing	10 (2.6)	4 (3.1)
Raylin Engineering	Welding	14 (3.6)	5 3.8)
Roads Authority	Bricklaying and plastering	6 **(**1.5)	2 (1.5)
Silnam	ICT	2 (0.5)	1 (0.8)
Skrypzeck Auto Electric	Auto electric	12 (3.1)	4 (3.1)
SOLTEC	Plumbing	14 (3.6)	6 (4.6)
Telecom	ICT	5 (1.3)	2 (1.5)
Tischlerei	Joinery and Carpentry	**7 (**1.8)	2 (1.5)
Windhoek Electric	Auto mechanic	18 (4.6)	6 (4.6)
Windhoeker Maschinenfabrik	Welding	20 (5.1)	4 (3.1)
Zamnam Exclusive Furniture cc	Welding	16 (4.1)	3 (2.3)
Zimmerman Garage	Auto mechanic	25 (6.4)	6 (4.6)
Total		**390 (100)**	**130 (100)**

Table 15 captures the names of the employers or potential employers and their identified trades. Most (17.4%) of the NVTC trainees did auto-mechanic work. The lowest represented trades were Hospitality and Information Communication and Technology. Murray and Roberts employed most (7.7%) of NVTC graduates as bricklayers and plasterers.

4.2.2 Causes of perceived poor educational standards in NVTCs

This section presents the respondents' views on causes of perceived poor educational standards in NVTCs.

4.2.2.1 State of training facilities in NVTCs

Question B1 was: "How do you best describe the state of the physical facilities in NVTCs?" Respondents were asked to choose between "Excellent, Good, Fair, Bad, Insufficient and Don' t know". Figure 6 gives the respondents' views.

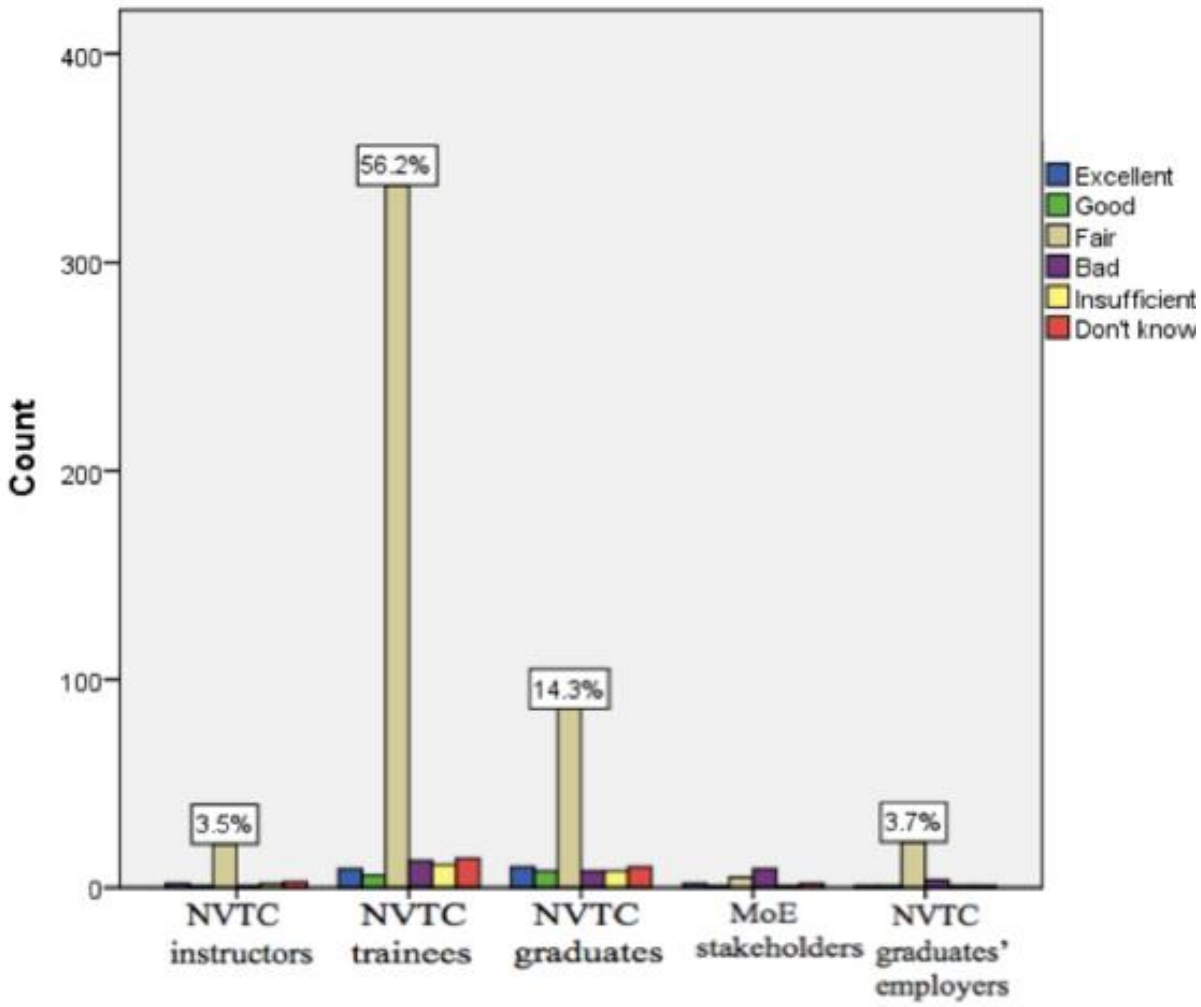


Figure 6: Description of the state of training facilities in NVTCs

The results in Figure 6 show that a vast majority (77.7%) of the respondents were of the view that the state of the training facilities in NVTCs could be best described as "fair".

The observation that the training facilities in the NVTCs are in a fair condition could be one of the root causes of the low educational standards in NVTCs. This finding seems to support the idea that NVTC training needs cannot be addressed without revisiting the issue of how to improve NVET training facilities (Kakunawe, 2008; Ekongo, 2010).

The results further show that NVTC instructors, NVTC trainees, NVTC graduates and NVTC graduates' employers were all of the view that the state of the training facilities is fair. It is interesting to note that the MoE stakeholders viewed the state of training facilities as bad (see Fig. 6).

4.2.2.2 Contribution of the state of physical facilities to the fall in educational standards in NVTCs

Question B2 collected opinions regarding the contribution of the state of training facilities in NVTCs and was divided into two parts whereby (i) solicited the views of respondents in the form of yes or no, while (ii) requested an explanation pertaining to the opinions given in (i).

i) Contribution of training facilities to the fall in educational standards in NVTCs

Question B2-(i) (Appendix 4) was: "In your opinion, do physical facilities contribute to the fall in educational standards in NVTCs?" The respondents were expected to respond by answering yes, no or don't know. The responses to that question are summarised in Table 16.

It is interesting to note that with the Chi-square test (χ^2 (4) = 66.62, with the p-value of 0.000 < 0.05, it was evident that there was a significant association between the categories under which the respondents fell and the contribution of the state of physical facilities to the fall in educational standards in NVTCs.

Table 16: Contribution of training facilities to the fall in educational standards in NVTCs

Categories under which respondents fall	Frequencies (%)		Total
	Yes	No	
NVTC instructors	21 (70.0)	9 (30.0)	30 (100.0)
NVTC trainees	355 (91.0)	35 (9.0)	390 (100.0)
NVTC graduates	106 (81.5)	24 (18.5)	130 (100.0)
MoE stakeholders	7 (35.0)	13 (65.0)	20 (100.0)
NVTC graduates' employers	19 (63.3)	11 (36.7)	30 (100.0)
Total	**508 (84.7)**	**92 (15.3)**	**600 (100.0)**

Further analysis of the findings shows that 508 (84.7%) respondents selected the option "yes", confirming that the state of physical facilities contributes to the fall in educational standards in NVTCs. Checking category by category shows that 355 NVTC trainees, 21 NVTC instructors, 106 NVTC graduates and 19 NVTC graduates' employers said "yes", agreeing that the physical facilities contribute to the fall in educational standards in NVTCs. On the other hand, 92 (15.3%) said "no", implying that physical facilities do not contribute to the fall in educational standards in NVTCs.

ii) Explanation of the contribution of training facilities in the fall of educational standards

Question B2-ii (Appendix 4) asked respondents to explain why they thought that physical facilities contributed to the fall in educational standards in NVTCs. The question was aimed at explaining the respondents' reasons for their answers to question B2-i. Their reasons are given in Table 17.

The Chi-square test of inter-categorical comparisons reflected in Table 17 confirms that there was a significant association between the categories under which the respondents fell and the explanation of the contrubution of physical facilities to educational standards in NVTCs. The χ^2 (20) = 372.90, with the p-value = 0.000 < 0.05.

Table 17: Explanation of the contribution of physical facilities to the fall in educational standards in NVTCs

Categories under which respondents fall	**Frequencies (%)**						**Total**
	Old machines and books	**Equipment just bought without needs assessment**	**Books with errors**	**Laboratories not up to date**	**Limited training facilities (books and machines).**	**Don't know**	
NVTC instructors	12 (40.0)	10 (33.3)	0 (0.0)	2 (6.7)	6 (20.0)	0 (0.0)	30 (100.0)
NVTC trainees	234 (60.0)	7 (1.8)	88 (22.6)	35 (9.0)	26 (6.7)	0 (0.0)	390 (100.0)
NVTC graduates	79 (60.8)	15 (11.5)	0 (0.0)	11 (8.5)	25 (19.2)	0 (0.0)	130 (100.0)
MoE stakeholders	3 (15.0)	1 (5.0)	0 (0.0)	0 (0.0)	7 (35.0)	9 (45.0)	20 (100.0)
NVTC graduates' employers	5 (16.7)	10 (33.3)	0 (0.0)	6 (20.0)	5 (16.7)	4 (13.3)	30 (100.0)
Total	**333 (55.5)**	**43 (7.2)**	**88 (14.7)**	**54 (9.0)**	**69 (11.5)**	**13 (2.2)**	**600 (100.0)**

Besides the categories of trainees and graduates who were of the view that the most challenging issue was the state of machines and training manuals as shown by the frequencies in Table 17 where 60% of trainees and 60.8% of graduates agreed, other views, though in small percentages, emerged. It was the case in views such as equipment bought without needs assessment noted among NVTC graduates' employers (33.3%), NVTC instructors (33.3%), NVTC graduates (11.5%), and less than 10% in the remaining categories. In this regard 45%

of MoE stakeholders and 13.3% of employers said they did not know. The total count of the "don't know" opinions amounted to 2.2% of all the respondents. Table 17 shows that 88 (22.6%) trainees said that NVTC books were printed with errors. Another widespread view was about the limited number of training facilities such as books and machines. In this regard, 20% of instructors, 19.2% of graduates and 16.7% of NVTC graduates' employers were of the view that training facilities are insufficient. Some 35% of MoE stakeholders agreed with other groups of respondents by stating that there is a need to improve NVTC training facilities. A total of 333 respondents were of the view that old machines and books contribute to the fall in educational standards in NVTCs. A further 69 of the respondents pointed at the problem of limited training facilities.

4.2.2.3 Improvements needed to raise educational standards in NVTCs

Question B3 (Appendix4) was: "What needs to be done about training facilities in order to improve educational standards in NVTCs?" Respondents were at liberty to provide their own views on what they thought should be done to improve training facilities in NVTCs as a way to raise educational standards.

The Chi-square test was run to confirm the association between the two variables. A Chi-square test of the association between the categories under which the respondents fell and the proposed improvements to be made to raise educational standards in NVTCs proved to be significant with the χ^2 (16) = 490.54. The p-value was estimated to be 0.000 < 0.05, thus the null hypothesis that refuted the association between the category under which the respondents fell and the proposed improvement to be done to raise educational standards in NVTCs was rejected.

Table 18 Improvements to be made to training facilities to raise educational standards in NVTCs

Categories under which respondents fall	Frequencies (%)					Total
	Upgrade laboratories and machinery to fit technological advancement	**Avoid mistakes in training documents (syllabus, textbooks)**	**Provide training materials required before implementation**	**Nothing because changes have been made, impact yet to be felt**	**Replace old manuals**	
NVTC instructors	21 (70.0)	1 (3.3)	2 (6.7)	6 (20.0)	0 (0.0)	30 (100.0)
NVTC trainees	336 (86.2)	3 (0.8)	47 (12.1)	3 (0.8)	1 (0.3)	390 (100.0)
NVTC graduates	62 (47.7)	4 (3.1)	32 (24.6)	29 (22.3)	3 (2.3)	130 (100.0)
MoE stakeholders	1 (5.0)	1 (5.0)	1 (5.0)	11 (55.0)	6 (30.0)	20 (100.0)
NVTC graduates' employers	3 (10.0)	15 (50.0)	2 (6.7)	0 (0.0)	10 (33.3)	30 (100.0)
Total	**423 (70.5)**	**24 (4.0)**	**84 (14.0)**	**49 (8.2)**	**20 (3.3)**	**600 (100.0)**

Table 18 shows views of respondents on improvements to be made to training facilities in order to raise educational standards in NVTCs. The results show that in total 423 respondents suggested that laboratories should be upgraded and that machinery should be adapted to fit the technological advancement (70.5% of the total).

The results in Table 18 also show that 21 NVTC instructors, 336 NVTC trainees and 62 NVTC graduates said that laboratories must be upgraded and that the machinery should fit the technological advancement. A contrary view emerged from the total figures. In this respect a total of 49 respondents argued that the situation is fine and nothing must be done because changes have been made and the impact is yet to be felt. With regard to the category of MoE stakeholders only 11 were of that view. The compilation of frequencies among all

categories shows that a total of 49 (8.2% of the total) agreed with this view. A further 24 respondents said curriculum developers should avoid mistakes in training documents or manuals. The comparison of this statement within the category of MoE stakeholders shows that only 5% were of the view that mistakes must be avoided.

A total of 24 (4.0% of the total) and 15 NVTC graduates' employers also indicated that NVTC curriculum developers should avoid mistakes in training documents. The other intention of Question B3 was to collect the views of respondents on the ideal strategy to correct the identified challenges related to physical facilities. Table 18 picked up suggestions from respondents on areas that need improvement. The suggestions made by respondents were summarised according to their frequencies as follows:

Suggestion 1: 70.5% of the respondents suggested that laboratories must be upgraded and new ones must gradually be constructed to stay abreast of technological development.
Suggestion 2: 4.0% of the respondents suggested that NVTC management should avoid mistakes and errors in official documents such as curricula, syllabuses, training manuals, etc.
Suggestion 3: 8.2% said nothing should be done because changes have been made and the impact was yet to be felt.
Suggestion 4: 3.3% indicated that old manuals must be replaced by new ones to reduce problems during the training process due to old physical facilities.

It should be pointed out that Suggestion 1 implies the raising of standards of education through upgrading laboratories. This finding supports that of the Royal Society of Chemistry (RSC) (2006) that suggests that in order to uphold the standards of education, the management of VET institutions should strive to improve the state of its laboratories. The

second opinion suggests that vocational training centres should adapt to the pace of technological changes. This view is in line with that of Flanagan and Jacobsen (2003, pp. 124-125) that ICT is not a choice but an imperative in our era. Flanagan and Jacobsen (2003) further advise the inclusion of ICTs in all instructional activities.

4.2.2.4 Conditions at graduates' workstations

Question B4 was divided into two parts. Part (i) solicited the views of respondents in the form of yes or no on prevailing conditions at graduates' workstations, while Part (ii) requested an explanation pertaining to the opinions expressed by respondents in (i).

i) Prevailing conditions at graduates' workstations

Question B4-i (Appendix 4) was: "In your opinion, do the prevailing conditions at the workstations where NVTC graduates are employed cause their poor performance?"

The results from the respondents are presented in Table 19. The test of association between the category under which the respondents fell and the conditions at NVTC graduates' workstation was run. The Chi-square obtained was χ^2 (4) = 84.48, with the p-value = 0.010 < 0.05, which confirmed the rejection of the null hypothesis which stipulated that there was a significant association between the category under which the respondents fell and conditions at NVTC graduates workstations.

Table 19: Conditions at graduates' workstations regarding the fall of educations standards in NVTCs

Categories under which respondents fall	**Frequencies (%)**		**Total**
	Yes	**No**	
NVTC instructors	22 (73.3)	8 (26.7)	30 (100.0)
NVTC trainees	366 (93.8)	24 (6.2)	390 (100.0)
NVTC graduates	104 (80.0)	26 (20.0)	130 (100.0)
MoE stakeholders	17 (85.0)	3 (15.0)	20 (100.0)
NVTC graduates' employers	12 (40.0)	18 (60.0)	30 (100.0)
Total	**521 (86.8)**	**79 (13.2)**	**600 (100.0)**

Further confirmations of the association between categorical variables were obtained from the total of the counts in Table 19. The counts show that the total of 521 (86.8%) respondents agreed that conditions at graduates' workstations are not good. The same results show that the highest percentage among those who responded by "no" was in the category of instructors, and the lowest was in the category of raduates' employers with 40%. Learning further from the results in each category, it is noteworthy that very high percentages for the "yes" opinion were recorded, with 22 (73.3%) NVTC instructors, 366 (93.8%) NVTC trainees, 104 (80%) NVTC graduates and 17 (85.0%) MoE stakeholders agreeing that conditions at graduates' workstations are not good. On the other hand, when analysing the adhesion to the "no" option, statistics show only low percentages contrary to what was observed in the case of the "yes" choices. In this regard, the totals show that only 79 (13.2% of the total) of respondents opted for "no", attesting that conditions are all right. Checking into the frequencies, the highest number of "no" answers recorded was in the category of NVTC graduates'employers with 18 (60.0%) who chose "no", confirming that conditions at NVTC graduates' workstations are good.

ii) Explanation on prevailing conditions at graduates' workstations

Participants were asked to explain their views on prevailing conditions at graduates' workstations.

With regard to the level of association between the two grouped variables, the Chi-square test was calculated and the conclusion was that there was a significant relationship between the categories under which NVTC trainees, instructors, graduates, MoE stakeholders and graduates' employers fell and explanations of conditions at NVTC graduates' workstations.

The conclusion above made reference to the χ^2 (12) = 353.97, with the p-value = 0.032 < 0.05.

Table 20: Explanation of conditions at graduates' workstations

Categories under which respondents fall	**Frequencies (%)**				**Total**
	No relationship between training content and tasks given to the graduate upon recruitment	**The programmes of VTCs are not aligned with the job market requirement**	**There is no proper support system for new recruits from VTCs in the industry**	**There is no fixed policy on integration of VTC graduates into the job market**	
NVTC instructors	18 (60.0)	5 (16.7)	3 (10.0)	4 (13.3)	30 (100.0)
NVTC trainees	268 (68.7)	27 (6.9)	25 (6.4)	70 (17.9)	390 (100.0)
NVTC graduates	14 (10.8)	17 (13.1)	98 (75.4)	1 (0.8)	130 (100.0)
MoE stakeholders	6 (30.0)	4 (20.0)	0 (0.0)	10 (50.0)	20 (100.0)
NVTC graduates' employers	8 (26.7)	5 (16.7)	3 (10.0)	14 (46.7)	30 (100.0)
Total	**314 (52.3)**	**58 (9.7)**	**129 (21.5)**	**99 (16.5)**	**600 (100.0)**

The analysis of counts and percentages in Table 20 show that in total 314 respondents were of the view that there is no relationship between training contents at NVTC and tasks given to graduates upon recruitment (52.3% of the total) in various trades. Specific analysis category-by-category show that 18 NVTC instructors and 268 NVTC trainees opined that there is no relationship between NVTC training content and tasks given to graduates upon recruitment. With regard to the support system, the group analysis of responses show that 129 of the

respondents argued that there is no proper support system in place for new recruits from VTCs in the industry (21.5% of the total).

The group-to-group analysis shows that 98 of NVTC graduates supported the idea by specifying that there is no proper support system for new recruits from VTCs in the industry. An alternative stand was that which emerged from the group analysis, namely the total of 99 (or 16.5% of the total of respondents) who opined that there is no fixed policy on the integration of VTC graduates into the job market. Another less popular opinion was given by 10 MoE stakeholders and supported by 14 NVTC graduates' employers who thought that there is no fixed policy or binding guidelines on the integration of VTC graduates into the job market and that each institution manages that situation in its own way.

4.2.2.5 Improvements needed at graduates' workstations

This section shows the views of respondents regarding improvements needed at graduates' workstations. Question B5 (Appendix 4) was: "What needs to be done at the workstations where NVTC graduates are employed in order to improve their performance?" The question sought to collect information on the challenges related to conditions at the workstations of NVTC graduates, discussed in 4.2.2.4. There was disparity in the arguments presented in Table 21. Given those disparities, the study sought to test the association between the categories under which respondents fell with regard to the improvements needed at the graduates' workstations. Thus, the test of significance was conducted. The results of the significance test showed that there is an association (Chi-square test value = χ^2 (16) = 117.15), p-value was = 0.011<0.05, between the categories under which respondents fell and improvements needed at workstations where NVTC graduates are employed.

Table 21: Views on what needs to be done at graduates' workstations or worksites

Categories under which respondents fall	Frequencies (%)					Total
	Put into place a support system	Get the industry involved in training	Give induction training upon recruitment of NVTC graduates	Treat VTC graduates humanely	Increase the salary of artisans	
NVTC instructors	2 (6.7)	23 (76.7)	1 (3.3)	3 (10.0)	1 (3.3)	30 (100.0)
NVTC trainees	16 (4.1)	112 (28.7)	221 (56.7)	24 (6.2)	17 (4.4)	390 (100.0)
NVTC graduates	0 (0.0)	63 (48.5)	33 (25.4)	22 (16.9)	12 (9.2)	130 (100.0)
MoE stakeholders	2 (10.0)	2 (10.0)	8 (40.0)	7 (35.0)	1 (5.0)	20 (100.0)
NVTC graduates' employers	4 (13.3)	4 (13.3)	13 (43.3)	4 (13.3)	5 (16.7)	30 (100.0)
Total	**24 (4.0)**	**204 (34.0)**	**276 (46.0)**	**60 (10.0)**	**36 (6.0)**	**600 (100.0)**

The analysis of responses to this question indicates that among respondents the highest percentage was 46.0% who thought that conditions at graduates' workstations must be improved through induction training upon recruitment of NVTC graduates. A negligible number of respondents (10.0%) thought that NVTC graduates are not treated well in various workplaces and that they should be treated humanely. More considerable frequencies (34.0%) expressed by respondents raised concern about the involvement of the industry in the training of graduates, while others (6.0%) indicated that salaries of graduates from NVTCs must be increased. Table 21 shows further that 4% of the respondents were of the view that a support system for graduates should be put into place.

Looking into the categories, 76.7% of NVTC instructors agreed with the trend observed in the totals by stating that the industry should be involved in the training of graduates while 56.7% of NVTC trainees stated that induction training should be conducted upon recruitment of NVTC graduates, and 48.5% of NVTC graduates themselves indicated that an arrangement should be made to get the industry involved in the training of graduates. A comparatively lower percentage (40.0%) from the category of MoE stakeholders and 43.3% from NVTC graduates' employers supported the idea of giving induction training to NVTC graduates upon recruitment.

4.2.2.6 Views on instructors' ability to conduct training

i) Views on NVTC instructors' knowledge of the subject

This section shows the views of respondents on NVTC instructors' knowledge of the subject.

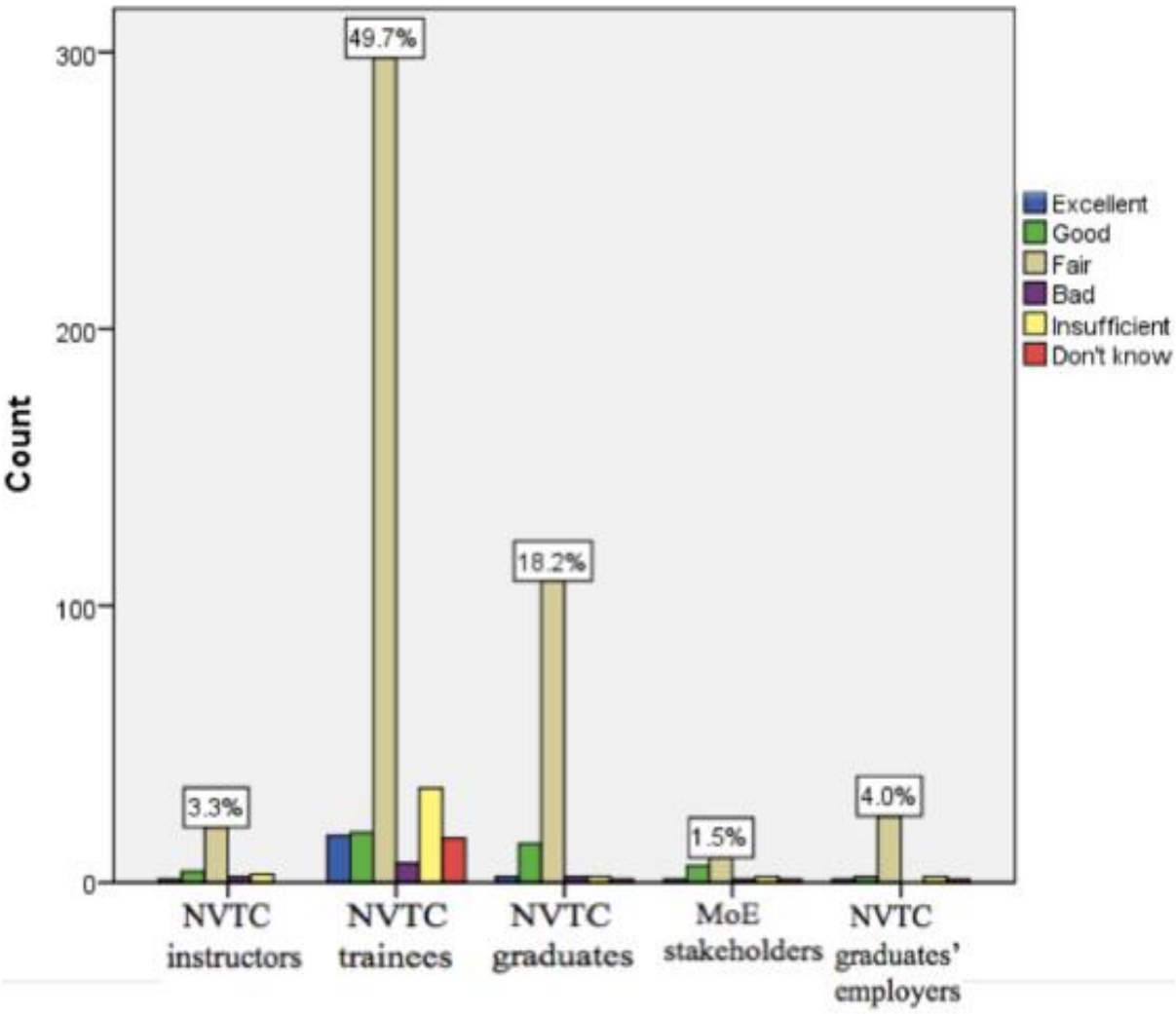


Figure 7: Instructors' knowledge of the subject

With regard to the knowledge of the subject, 3.3% of NVTC instructors, 49.7% of NVTC trainees, 18.2% of NVTC graduates, 1.5% of MoE stakeholders and 4.0% of NVTC graduates' employers indicated that NVTC instructors' knowledge of the subject is fair. A closer look at the trends in responses among the different categories gives an indication that *fair* was the most popular response in all the categories. The lowest rated choice was *bad,* an indication that there is dissatisfaction in all the categories of NVET stakeholders about the instructors' knowledge of the subject. Thus the *fair* knowledge grasp of the instructors might have played a role in the fall in educational standards in NVTCs.

ii) Views on instructors' teaching skills

This section shows the views of respondents on NVTC instructors' teaching skills.

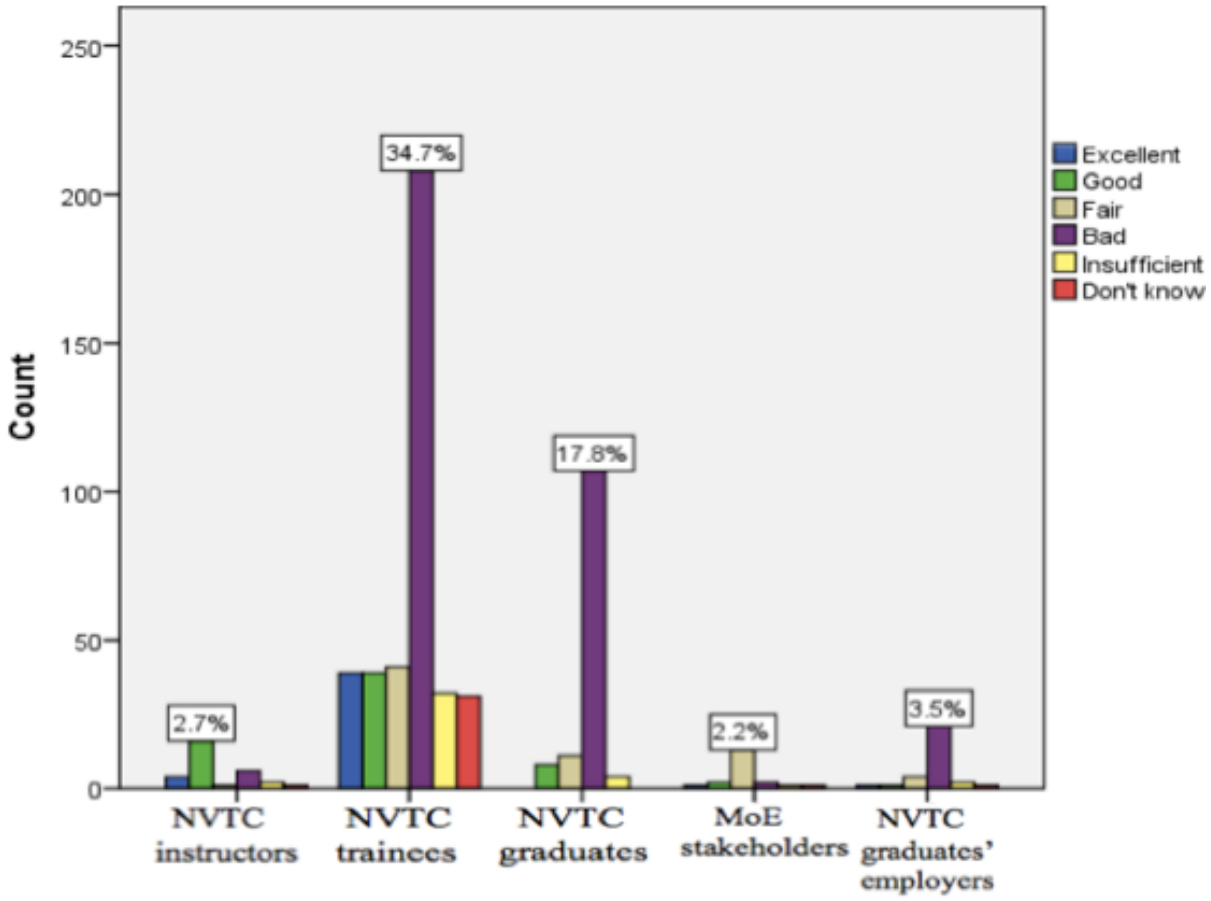


Figure 8: Instructors' teaching skills as perceived by respondents

Concerning the NVTC instructors' teaching skills, Figure 8 shows that 2.7% of the NVTC instructors mentioned that their teaching skills are good, 34.7% of NVTC trainees, 17.8% of NVTC graduates and 3.5% of NVTC graduates' employers pointed out that NVTCs instructors' teaching skills are bad, and 2.2% of MoE stakeholders indicated that NVTC instructors' teaching skills are fair.

Though the opinion *good* was rated highest among the category of instructors, it was graded low by the rest of the respondents. Even though teaching skills are instrumental in the provision of quality education in VTCs, Figure 8 reveals that there are serious weaknesses in the teaching skills of NVTC instructors. The indicated weak teaching skills levels of instructors could be one of the factors responsible for the falling educational standards in NVTCs.

iii) Views on instructors' VET experience

This section shows the views of respondents on NVTC instructors' VET experience.

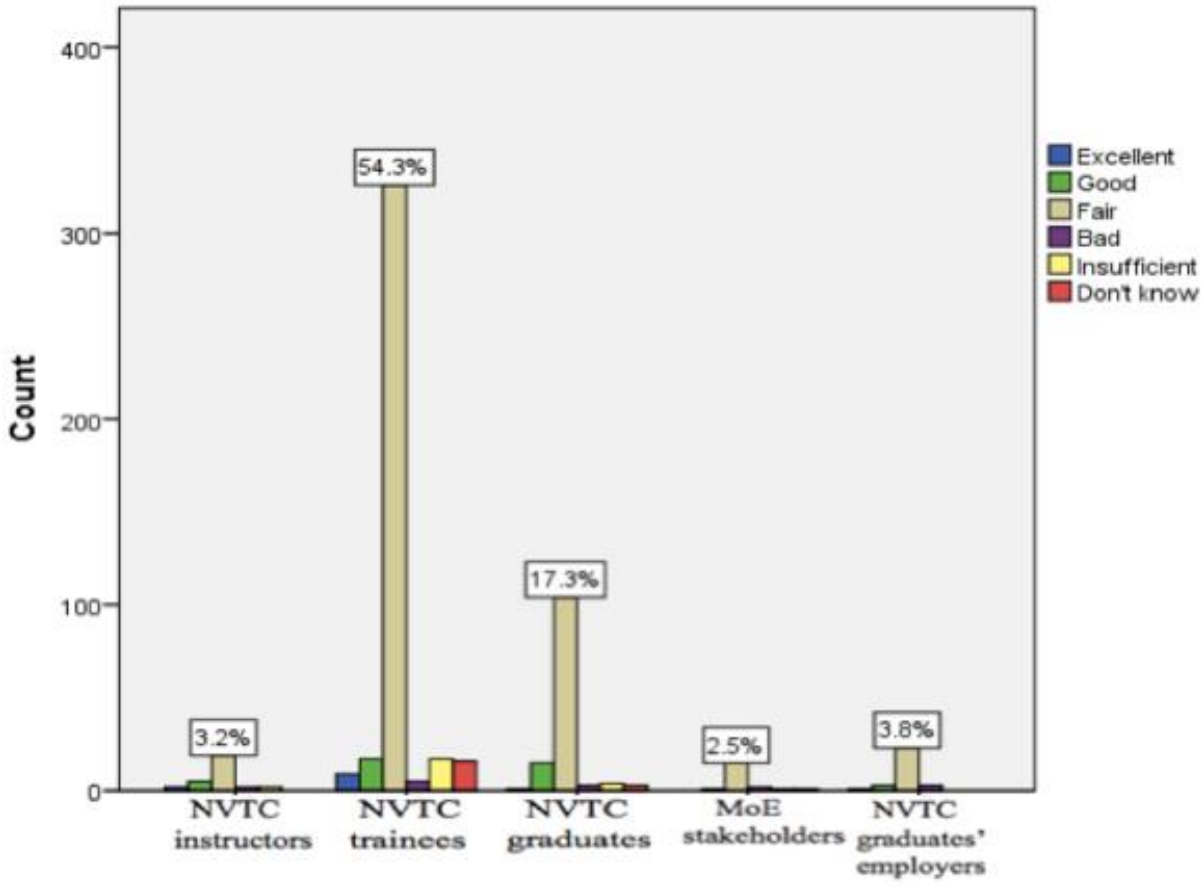


Figure 9: NVTC instructors' experience in VET

With regard to NVTC instructors' experience with VET, the analysis category by category shows that 3.2% of NVTC instructors, 54.3% of NVTC trainees, 17.3% of NVTC graduates,

2.5% of MoE stakeholders and 3.8% of NVTC graduates' employers were of the view that the VET experience of NVTC instructors is fair.

Figure 9 shows that the rating in all the categories of instructors' experience in VET was low. The low rating of instructors' VET experience raised questions on the ability of instructors to conduct training. The high percentage of respondents' choice of *fair* implies that there are weaknesses in the VET experience of NVTC instructors, an impediment to their ability to conduct training, because the lack of VET experience has negative implications for the provision of quality education in NVTCs. Experience in education is key to quality education provision (Advisory Council on Teacher Education and Training, 2008).

4.2.2.7 Instructors' skills levels that contribute to the fall in educational standards in NVTCs

Question B7 (Appendix 4) was: "In your opinion, does the skills level of instructors contribute to the fall in educational standards in NVTCs?" This question was divided into two parts. Part (i) asked the opinion of respondents about the skills level of instructors, while Part (ii) dealt with the explanation regarding their opinions.

i) Skills level of instructors that contributes to the fall in educational standards in NVTCs

The intention of this question was to seek the opinions of the respondents on the contribution of MoE stakeholders' and instructors' skills level to the fall in educational standards in NVTCs. According to Weber's (1947) COT theory, the knowledge of the views of stakeholders (on MoE stakeholders and instructors' knowledge) as a cause of the fall in educational standards might enable the study to identify the extent to which their knowledge contributes to the fall in educational standards in NVTCs.

Table 22 shows the divergence in views of respondents. Given that divergence in views, the Chi-square test was run to ascertain the link between variables into play, namely the category in which the respondents fell and their skills level. The Chi-square test value of χ^2 (8) = 50.55 obtained showed that there is a significant association between the categories under which the respondents fell and the skills levels of NVTC instructors as contributing to poor educational standards in NVTCs with the p-value=0.016 < 0.05.

Table 22: Contribution of skills levels of instructors to the fall in educational standards

Categories under which respondents fall	**Frequencies (%)**			**Total**
	Yes	**No**	**Don't know**	
NVTC instructors	5 (16.7)	22 (73.3)	3 (10.0)	30 (100.0)
NVTC trainees	256 (65.6)	119 (30.5)	15 (3.8)	390 (100.0)
NVTC graduates	94 (72.3)	32 (24.6)	4 (3.1)	130 (100.0)
MoE stakeholders	6 (30.0)	12 (60.0)	2 (10.0)	20 (100.0)
NVTC graduates' employers	25 (83.3)	3 (10.0)	2 (6.7)	30 (100.0)
Total	**386 (64.3)**	**188 (31.3)**	**26 (4.3)**	**600 (100.0)**

Table 22 shows that in total 386 (64.3%) respondents marked the "yes" option, confirming that indeed the skills levels of NVTC instructors contribute to the fall in educational standards in NVTCs. A further 188 (31.3%) of respondents selected the "no" option, indicating that the skills levels of instructors do not contribute to the fall in educational standards in NVTCs. Furthermore, 26 (4.3%) respondents selected the "I don't know" option.

Concerning categories under which respondents fell, 73.3% of NVTC instructors and 60% of MoE stakeholders chose the "no" response, while 65.6% of NVTC trainees, 72.3% of NVTC graduates and 83.3% of NVTC graduates' employers said "yes", thereby confirming that the skills levels of NVTC instructors contribute to the fall in educational standards in NVTCs.

The responses presented above revealed that the skills levels of instructors indeed contribute to the quality of educational standards observed in NVTCs.

ii. Explanation of the contribution of the skills levels of NVTC instructors to the fall in educational standards in NVTCs

This section shows the views of respondents on the contribution of the skills levels of NVTC instructors to the fall in educational standards in NVTCs. Table 23 shows that there were dichotomous views among respondents. The Chi-square test (χ^2 (12) = 196.47) proved that there is a significant association between the categories under which the respondents fell and explanations given on the skills level of NVTC instructors as a possible explanation of the fall in educational standards in NVTCs (p-value = 0.020 < 0.05).

Table 23: Contribution of skills levels of NVTC instructors

Categories under which respondents fall	**Frequencies (%)**				**Total**
	Most of the instructors are artisans and lack teaching skills	**No commitment from the side of instructors**	**Their skills are below average**	**The impact of improvement is yet to be felt**	
NVTC instructors	0 (0.0)	4 (13.3)	5 (16.7)	21 (70.0)	30 (100.0)
NVTC trainees	266 (68.2)	10 (2.6)	21 (5.4)	93 (23.8)	390 (100.0)
NVTC graduates	75 (57.7)	5 (3.8)	21 (16.2)	29 (22.3)	130 (100.0)
MoE stakeholders	1 (5.0)	1 (5.0)	2 (10.0)	16 (80.0)	20 (100.0)
NVTC graduates' employers	7 (23.3)	13 (43.3)	7 (23.3)	3 (10.0)	30 (100.0)
Total	**349 (58.2)**	**33 (5.5)**	**56 (9.3)**	**162 (27.0)**	**600 (100.0)**

The trends shown in Table 23 could be explained in four major moments. The first alludes to the total of 58.2% of all the respondents who asserted that most instructors are mere artisans

and lack teaching skills. The second moment alludes to the 27.0% of the respondents who were of the view that the impact of current improvements is yet to be felt, the third moment alludes to the 9.3% of the respondents who viewed skills levels of instructors as below average and finally the fourth was characterised by 5.5% of the respondents who viewed that there is a lack of commitment to education from the side of instructors. The highest response as to the opinion that NVTC instructors are mere artisans and lack teaching skills was given by 68.2% of NVTC trainees followed by 57.7% of NVTC graduates.

Looking into the category of NVTC graduates' employers, Table 23 reveals that 43.3% of NVTC instructors lack commitment to their job. The lowest percentage in this regard was 2.6% from NVTC trainees. On the other hand, concerning the skills levels of NVTC instructors termed as "below average", percentages were scattered between respondents with the highest in the category of NVTC graduates' employers (23.3%) and the lowest among NVTC trainees with 5.4%. The highest percentage was the 80% of MoE stakeholders who advanced the opinion that the impact of current improvements is yet to be felt, followed by 70% of NVTC instructors. The lowest percentage was observed in the category of NVTC graduates' employers with a mere 10%.

The statistics above give an indication that the sentiment shared by respondents was that instructors are mere artisans and the quality of their teaching skills is low. The implication of these statements is that the current VET practice in NVTCs operates with artisans and not professionally trained instructors, thus the standards of education cannot be expected to be at an optimal level.

4.2.2.8 Suggested improvements to be made to skills levels of NVTC instructors

Question B8 was: "What needs to be done to the skills levels of instructors in order to improve the educational standards in NVTCs?" The question sought to clarify the areas where changes were needed to improve the skills levels of instructors. Table 24 gives the views of respondents.

The differences in responses as to what needs to be done to the skills levels of instructors were tested for significance. Accordingly the Chi-square test was carried out to find out whether there is a significant association between the categories under which respondents fell and improvements to the skills levels of NVTC instructors (χ^2 (12) = 32.35), with the p-value = 0.022 < 0.05).

Table 24: Views on what needs to be done to instructors' skills levels

Categories under which respondents fall	**Frequencies (%)**				**Total**
	There is a need for induction/capacity building/skills upgrading courses	**Performance management must be part of instructors' skills management**	**Compulsory methodology courses on technical subjects**	**Improvements have been made but the impact is yet to be felt**	
NVTC instructors	17 (56.7)	2 (6.7)	5 (16.7)	6 (20.0)	30 (100.0)
NVTC trainees	192 (49.2)	125 (32.1)	44 (11.3)	29 (7.4)	390 (100.0)
NVTC graduates	66 (50.8)	34 (26.2)	18 (13.8)	12 (9.2)	130 (100.0)
MoE stakeholders	8 (40.0)	1 (5.0)	6 (30.0)	5 (25.0)	20 (100.0)
NVTC graduates' employers	9 (30.0)	12 (40.0)	6 (20.0)	3 (10.0)	30 (100.0)
Total	**292 (48.7)**	**174 (29.0)**	**79 (13.2)**	**55 (9.2)**	**600 (100.0)**

Table 24 shows that in total 48.7% of the respondents argued that there is a need for induction or capacity building and skills upgrading courses for instructors in NVTCs. In the same sense, overwhelming numbers of 56.7% of instructors, 49.2% of trainees and 50.8% of graduates supported the idea of conducting capacity building courses. A further 29.0% of respondents supported the idea that performance management strategy must be part of instructors' skills management with 40.0% of NVTC graduates' employers supporting the idea of using the performance management system as part of instructors' skills management. Small percentages were split between the opinion that compulsory methodology courses in technical subjects should be conducted and the opinions that improvements are yet to be felt. The lesson drawn in this case is that major improvements are still needed in areas of induction training and performance management and that methodology courses in technical subjects are imperative for the improvement of the performance of NVTC instructors.

4.2.2.9 Conditions at MoE stakeholders' workstations that cause the fall in educational standards

Question B9 (Appendix 4) was: "In your opinion, what are the conditions at MoE stakeholders' workstations that may cause the fall in educational standards in NVTCs?" This question was asked in order to determine the conditions prevailing in the Ministry of Education that may be regarded by respondents as an impediment to quality education delivery in NVTCs.

The opinions presented in Table 25 strengthen the view that the working environment at the MoE and more specifically the DVET is not conducive to optimal learning in NVTCs. There were dichotomous views on the possibility that the uncertain climate at the DVET has a negative influence on the standards of education in NVTCs. Given the influence of the climate at the DVET on the standards of education in NVTCs, the Chi-square test was run to

test the relationship between the categories of respondents and the variable "conditions of tension, confusion and conflicts between MoE Stakeholders". The results in this respect indicated that there is indeed a significant relationship between the categories under which respondents fell and conditions at MoE stakeholders' workstations. χ^2 (16) = 138.71, with the p-value inferior to 5%. (P-value = 0.000 < 0.05).

Table 25: Contribution of MoE stakeholders' conditions to the fall in educational standards in NVTCs

Categories under which respondents fall	**Frequencies (%)**					**Total**
	There are confusion, tension, conflict and mistrust in the DVET	**There is little or no involvement of the DVET in VET affairs**	**The transition from the DVET to NTA is incomplete**	**The transition from the DVET to NTA was poorly done**	**The allocation of funds and its management at the NSFAF is in a shambles**	
NVTC instructors	15 (50.0)	7 (23.3)	3 (10.0)	3 (10.0)	2 (6.7)	30 (100.0)
NVTC trainees	161 (41.3)	97 (24.9)	20 (5.1)	10 (2.6)	102 (26.2)	390 (100.0)
NVTC gGraduates	33 (25.4)	22 (16.9)	20 (15.4)	16 (12.3)	39 (30.0)	130 (100.0)
MoE stakeholders	4 (20.0)	2 (10.0)	6 (30.0)	6 (30.0)	2 (10.0)	20 (100.0)
NVTC graduates's employers	4 (13.3)	5 (16.7)	5 (16.7)	14 (46.7)	2 (6.7)	30 (100.0)
Total	**217 (36.2)**	**133 (22.2)**	**54 (9.0)**	**49 (8.2)**	**147 (24.5)**	**600 (100.0)**

Table 25 sought to provide the views of respondents on conditions of MoE stakeholders that might cause the fall in educational standards in NVTCs. The table above shows that overall the total of 36.2% of the respondents indicated that there are confusion, tension, conflict and mistrust at MoE stakeholders' workstations. The position presented above was confirmed across all categories. For instance, 50% of the NVTC instructors and 41.3% of the NVTC trainees thought that there are confusion, tension, conflict and mistrust at MoE stakeholders'

workstations. A further 54 (9.0%) and 49 (8.2%) of the respondents described the transition from the DVET as incomplete and poorly done. Much smaller numbers, though, presenting a new perspective worth consideration, namely 6 (30%) MoE stakeholders and 14 (46.7%) NVTC graduates' employers described the transition process from the DVET to the current arrangement at NTA as incomplete and poorly done. The leading thought derived from the above opinions was that there are conditions that impact negatively on the running of NVET operations at the MoE and more specifically at the DVET.

4.2.2.10 Contribution of MoE stakeholders' working conditions to the fall in educational standards in NVTCs

Question B10 (Appendix 4), was: "Do the Ministry of Education (MoE) stakeholders' (e.g. NTA, NTTC, NQA, NIED, DVET) working conditions contribute to the fall in educational standards in NVTCs?" This question had two parts. Part (i) sought the opinions of respondents, while Part (ii) sought explanations regarding the raised opinions.

i) Contribution of MoE stakeholders' working conditions to the fall in educational standards in NVTCs

Question B10-i intended to uncover the relationship between conditions at MoE stakeholders' workstations and the fall in educational standards in NVTCs.

Table 26 shows a split in opinion of respondents on the possible contribution of conditions at MoE stakeholders' workstations to the fall in educational standards in NVTCs. The Chi-square test was calculated to establish if there is a significant relationship between the categories under which respondents fell and conditions at the MoE stakeholders' workstation. The results of the Chi-square test established that there is indeed a significant relationship between the categories under which the respondents fell (Chi-square value of 133.66, with

the p-value = 0.000 < 0.05) and the variable "conditions at the MoE stakeholders' workstations". With such results, the null hypothesis was rejected, suggesting the existence of a significant relationship between the categories under which the respondents fell and the contribution of conditions at the MoE stakeholders' workstations to the fall in educational standards in NVTCs.

Table 26: Contribution of MoE stakeholders' working conditions to the fall in educational standards in NVTCs

Categories under which respondents fall	Frequencies (%)			Total
	Yes	No	Don't know	
NVTC instructors	22 (73.3)	6 (20.0)	2 (6.7)	30 (100.0)
NVTC trainees	268 (68.7)	113 (29.0)	9 (2.3)	390 (100.0)
NVTC graduates	73 (56.2)	14 (10.8)	43 (33.1)	130 (100.0)
MoE stakeholders	5 (25.0)	12 (60.0)	3 (15.0)	20 (100.0)
NVTC graduates' employers	15 (50.0)	4 (13.3)	11 (36.7)	30 (100.0)
Total	383 (63.8)	149 (24.8)	68 (11.3)	600 (100.0)

The information in Table 26 sends out the same message, showing that in total 383 (63.8% of the total) respondents argued that conditions at MoE stakeholders workstations contribute to the fall in educational standards in NVTCs. Looking into the categories, 22 (73.3%) NVTC instructors, 268 (68.7%) NVTC trainees, 73 (56.2%) NVTC graduates and 15 (50%) NVTC graduates' employers confirmed that conditions at MoE stakeholders' workstations contribute to the fall in educational standards in NVTCs. A total of 149 (24.8%) respondents selected the "no" option, confirming that conditions at MoE stakeholders' workstations do not contribute to the fall in educational standards in NVTCs. A further categorical analysis indicated that 12 (60.0%) MoE stakeholders said "no", meaning that they thought that there is no relationship between the conditions at MoE stakeholders' workstations and the fall in the quality of educational standards in NVTCs. On account of the descriptions above, it was conclusively established that there are indeed conditions at MoE stakeholders' workstations that have a negative influence on the quality of educational standards in NVTCs.

ii) Respondents' explanation of the contribution of MoE stakeholders' working conditions to the fall in educational standards in NVTCs

Question B10-ii intended to provide an explanation of respondents' views regarding the contribution of conditions at MoE stakeholders' workstations to the fall in educational standards in NVTCs.

The results in Table 27 show that there was disparity in the views of respondents. Given that disparity in positions, the test of association between the explanation on respondents' views regarding the contribution of conditions at MoE stakeholders' workstations to the fall in educational standards in NVTCs and the categories under which respondents fell was conducted. The test revealed that there is a significant relationship (Chi-square test) between the categories under which respondents fell and the contribution of conditions at MoE stakeholders' workstations to the fall in educational standards in NVTCs. χ^2 (8) = 94.12, p-value = 0.010 < 0.05.

Table 27: Explanation of the contribution of MoE stakeholders' working conditions to the fall in educational standards in NVTCs

Categories under which respondents fall	**Frequencies (%)**			**Total**
	The DVET is not playing its role of policy oversight	**New and old recruits at the NTA have little or no knowledge of the CBET under implementation**	**Results yet to be felt**	
NVTC instructors	10 (33.3)	17 (56.7)	3 (10.0)	30 (100.0)
NVTC trainees	159 (40.8)	209 (53.6)	22 (5.6)	390 (100.0)
NVTC graduates	67 (51.5)	54 (41.5)	9 (6.9)	130 (100.0)
MoE stakeholders	4 (20.0)	3 (15.0)	13 (65.0)	20 (100.0)
NVTC graduates' employers	12 (40.0)	14 (46.7)	4 (13.3)	30 (100.0)
Total	**252 (42.0)**	**297 (49.5)**	**51 (8.5)**	**600 (100.0)**

The statistics in Table 27 show that a considerable number of respondents, namely a total of 252 (42.0%) mentioned that the DVET is not playing its role of policy oversight, echoing the stand presented in Table 27. In the same vein, the analysis category by category shows a high percentage in the category of NVTC graduates (51.5% in that category). The highest percentages were spotted in the categories of NVTC instructors (56.7%), NVTC trainees (53.6%), and NVTC graduates' employers (46.7%) who stated that new and old recruits at the NTA have little or no knowledge of the CBET system under implementation, amounting to 49.5% of the total number of respondents.

A high percentage was also observed among MoE stakeholders with 65.0% who iterated that current results regarding MoE stakeholders working conditions are yet to be felt, with a total of 8.5%. In summary, the study revealed that conditions at MoE stakeholders are not conducive to adequate implementation of the CBET curriculum as should be expected. Thus, prevailing conditions at MoE stakeholders' workstations contribute to the fall in educational standards in NVTCs.

4.2.2.11. Improvements to be made to the MoE stakeholders' working conditions

Question B11 (Appendix 4) was: "What improvements need to be made to the MoE stakeholders' working conditions in order to improve the educational standards in NVTCs?" The aim of this question was to collect the respondents' suggestions on possible improvements to the working conditions at the MoE in order to raise educational standards in NVTCs.

Table 28 shows conflicting views between responses given by the respondents. In order to ascertain the relationship between the views of the respondents, the Chi-square test was conducted. The results showed that there was a strong connection (χ^2 (8) = 55.88, the p-value = 0.001 < 0.05) between the categories under which respondents fell and improvements to be made to conditions at MoE stakeholders' workstations to enhance the quality of educational standards in NVTCs.

Table 28: Improvements to be made to MoE stakeholders' working conditions

Categories under which respondents fall	**Frequencies (%)**			**Total**
	There is a need for external support from CBET experts to facilitate the implementation procedure	**There is a need for compulsory in-service training of CBET professionals at NTA**	**Restore and adhere to the government policy on communication channels between NTA and the line ministry**	
NVTC instructors	10 (33.3)	12 (40.0)	8 (26.7)	30 (100.0)
NVTC trainees	198 (50.8)	99 (25.4)	93 (23.8)	390 (100.0)
NVTC graduates	37 (28.5)	24 (18.5)	69 (53.1)	130 (100.0)
MoE stakeholders	5 (25.0)	2 (10.0)	13 (65.0)	20 (100.0)
NVTC graduates' employers	9 (30.0)	10 (33.3)	11 (36.7)	30 (100.0)
Total	**259 (43.2)**	**147 (24.5)**	**194 (32.3)**	**600 (100.0)**

Considering the results presented above it is remarkable that 50.0% of NVTC trainees were of the opinion that there is a need for external support from experts to facilitate the CBET implementation procedure, with a total of 43.2% holding such an overall view. Among NVTC instructors 40% emphasised that compulsory in-service training of CBET professionals at NTA is needed, with a total of 24.5% agreeing with that view.

A further 53.1% NVTC graduates, 65.0% MoE stakeholders and 36.7% NVTC graduates' employers were of the opinion that the government policy on communication channels between NTA and the line ministry should be restored and adhered to. That view was given by 32.3% of the total representation. The occurrence of shortcomings in MoE stakeholders' working conditions is a clear sign that the system is not functioning optimally. Therefore, any proposed improvements will be perceived as a step to finding solutions for the fall in educational standards in NVTCs.

4.2.2.12 Trainees' learning ability

Question B12 (Appendix 4) was: "How do you describe the learning ability of trainees in NVTCs?" The areas related to the learning ability of trainees were divided into four major sections, namely study skills, knowledge of procedures, interpersonal skills and trainees' VET experience. This question was an attempt to find out whether the learning ability of trainees in NVTCs could be the cause of the perceived fall in educational standards in VTCs.

i) NVTCs trainees' study skills

Figure 10 gives the views of respondents on NVTC trainees' study skills.

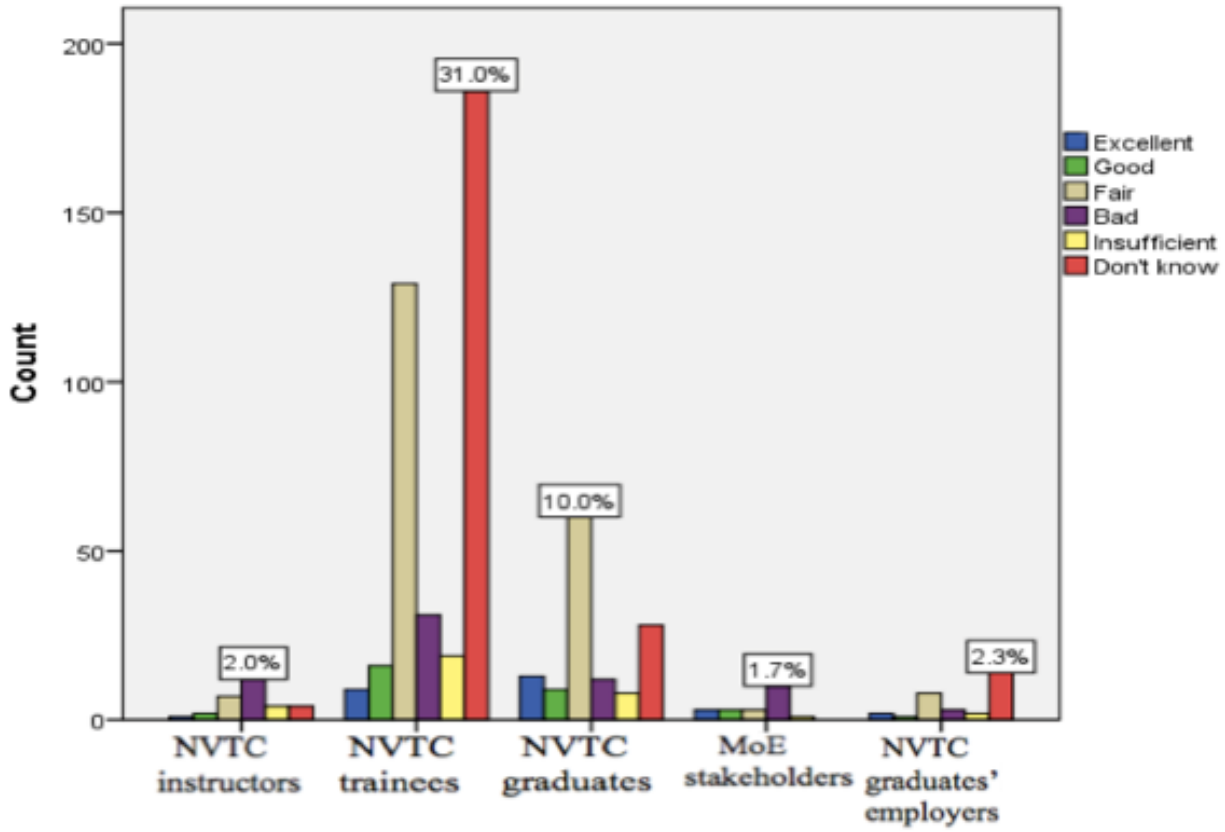


Figure 10: NVTC trainees' study skills

In Figure 10 the category by category analysis of the results shows that 2.0% of NVTC instructors and 1.7% of MoE stakeholders were of the view that the study skills of the trainees are bad, 10% of the NVTC graduates were of the view that trainees' study skills are fair, and more than 2% (2.3%) of the NVTC graduates' employers responded with "I don't know". The state of trainees' study skills presented in Figure 10 indicates that the observed poor performance of trainees can be attributed to their poor study skills. Therefore, any improvement made in this regard would influence the study skills of trainees positively and consequently have a positive impact on the standards of education in NVTCs.

ii) NVTC trainees' knowledge of VET procedures

Figure 11 gives the views of respondents on NVTC trainees' knowledge of procedures.

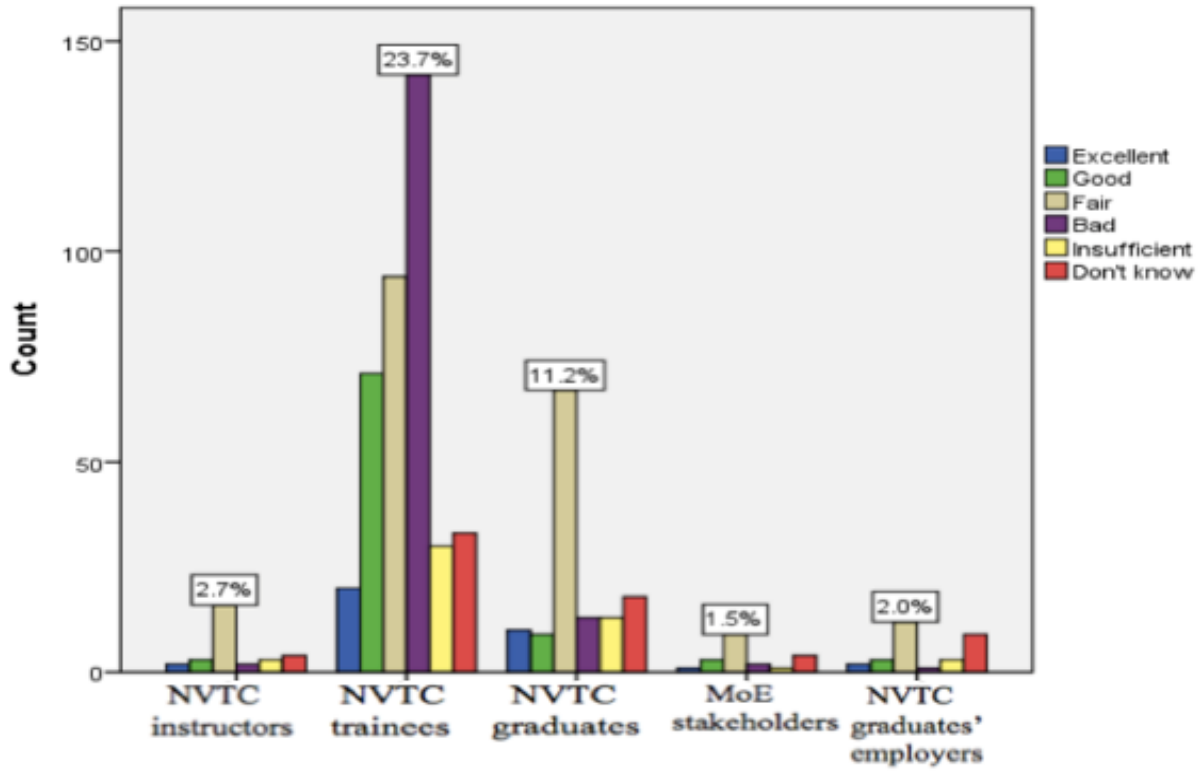


Figure 11: Trainees' knowledge of VET procedures

The knowledge of procedures includes the mastery of institutional rules and regulations that regulate the inter- and intra-institutional relations as key to a healthy institutional climate (Davis, 2005). With that in mind, Figure 11 shows the opinions of the respondents with regard to the knowledge of NVET procedures among trainees. The results show that 2.7% of NVTC instructors, 11.2% of NVTC graduates, 1.5% of MoE stakeholders and 2.0% of NVTC graduates' employers regarded it as fair. It is interesting, though, to note that 23.7% of the NVTC trainees rated their knowledge of procedures as poor.

Given the findings presented in this section it is clear that NVTC trainees' mastery of the rules and regulations have not reached the desired and expected level for smooth institutional interactions. There is therefore, a need for greater improvements in this aspect across all NVTCs. The upgrading of trainees' knowledge in institutional rules and regulations is key to their academic performance, and key to the improvement of educational standards.

iii) NVTC trainees' interpersonal skills

Figure 12 gives the views of respondents on NVTC trainees' interpersonal skills.

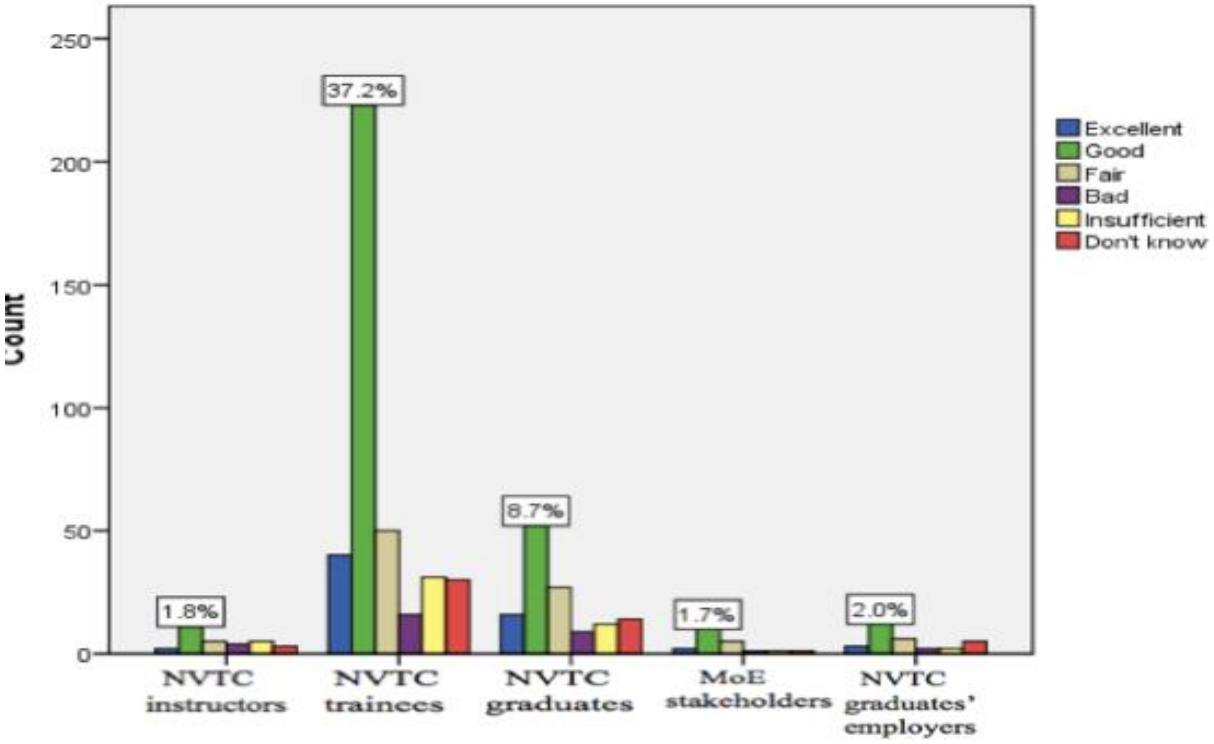


Figure 12: NVTC trainees' interpersonal skills

The results in Figure 12 show the respondents' views on NVTC trainees' skills to relate with themselves, their instructors and management. It is clear from the result in Figure 12 that the NVTC trainees' interpersonal skills are good, as indicated by the different respondents. Close to 2.0% of NVTC instructors, 37.2% of NVTC trainees, 8.7% of NVTC graduates, 1.7% of

MoE stakeholders and 2.0% of NVTC graduates' employers confirmed that the interpersonal skills of the trainees are good.

The fact that 37.2% of the NVTC trainees indicated that they have good interpersonal skills seems to point to the self-confidence that was found among trainees during strikes and other talks they had with the NVTCs management.

iv) NVTC trainees' VET experience

Figure 13 gives the views of respondents on NVTC trainees' VET experience.

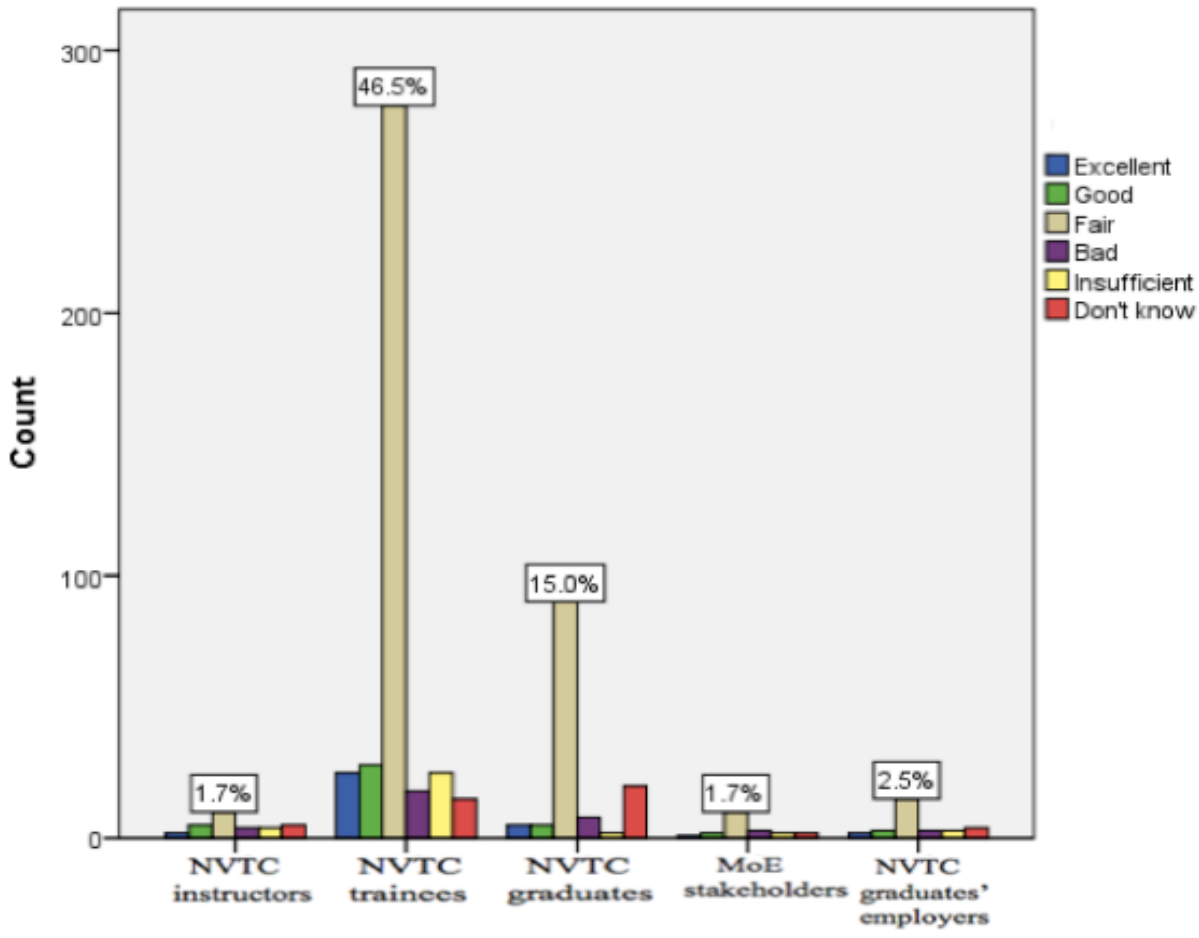


Figure 13: NVTC trainees' VET experience

Figure 13 shows that 1.7% of NVTC instructors, 46.5% of NVTC trainees, 15.0% of NVTC graduates, 1.7% of MoE stakeholders and 2.5% of NVTC graduates' employers indicated that the VET experience of trainees is fair. The trainees (46.5%) seemed to be less confident of their own experiences in VET. The implication of the trainees' poor experience in VET is that the knowledge of the VET curriculum, the training system and model, the learning materials and articulations thereof with the job market are not clear. The results analysed above seem to suggest the necessity for gradual familiarisation of trainees with the NVET programmes and activities.

4.2.2.13 Contributions of trainees' learning ability to the fall in educational standards in NVTCs

Question B13 (Appendix 4) was: "Does the learning ability of NVTC trainees contribute to the fall in educational standards in NVTCs?" This question had two parts, namely Part (i) the opinions of respondents on the contribution of trainees' learning ability to the fall in educational standards in NVTCs and Part (ii) the explanations regarding the opinions given. The results are given in Tables 29 and 30.

i) *Contribution of trainees' learning ability to the fall in educational standards*

The results of the question related to the contribution of the trainees' learning ability to the fall in educational standards in NVTCs. That is the role that the trainees' study skills, knowledge of procedures, interpersonal skills and their VET experience plays in the fall in educational standards in NVTCs. Table 29 presents the results with the highest frequencies under the "no" option. The "no" answer means that the respondents disagreed with the idea

that the fall in educational standards can be attributed to NVTC trainees' poor learning ability.

The test of association between variables was conducted to find out if there was an association between the learning ability of trainees and the fall in educational standards in NVTCs. The Chi-square test results (χ^2 (8) = 64.66) suggested a strong relationship between the categories under which respondents fell and views on the contribution of the learning ability of NVTC trainees' to the drop in educational standards in NVTCs with the p-value = 0.038 < 0.05.

Table 29: Contribution of trainees' learning ability to the fall in educational standards in NVTCs

Categories under which respondents fall	**Frequencies (%)**			**Total**
	Yes	**No**	**Don't know**	
NVTC instructors	13 (43.3)	9 (30.0)	8 (26.7)	30 (100.0)
NVTC trainees	105 (26.9)	225 (57.7)	60 (15.4)	390 (100.0)
NVTC graduates	14 (10.8)	103 (79.2)	13 (10.0)	130 (100.0)
MoE stakeholders	16 (80.0)	3 (15.0)	1 (5.0)	20 (100.0)
NVTC graduates' employers	6 (20.0)	19 (63.3)	5 (16.7)	30 (100.0)
Total	**154 (25.7)**	**359 (59.8)**	**87 (14.5)**	**600 (100.0)**

Table 29 shows that 57.7% of NVTC trainees, 79.2% of NVTC graduates and 63.3% of NVTC graduates' employers said "no", implying that the learning ability of trainees does not contribute to the fall in educational standards in NVTCs. On the other hand 26.9% of NVTC trainees, 10.8% of NVTC graduates and 20.0% of NVTC graduates' employers said "yes", signifying that the learning ability of trainees does contribute to the fall in educational standards in NVTCs. The message in this case is that all the categories were in agreement that the learning ability of trainees has no effect on the fall in educational standards in

NVTCs. Worth noting, however, is the opinion of NVTC instructors and MoE stakeholders who held the view that the learning ability of trainees has an effect on the fall in educational standards in NVTCs. Therefore, the split in opinions seems to suggest that the currently observed fall in educational standards in NVTCs cannot be attributed to the learning ability of trainees alone.

ii. Explanation of the contribution of trainees' learning ability to the fall in educational standards in NVTCs

Table 30 gives the explanations of respondents regarding the contribution of NVTC trainees' learning ability to the fall in educational standards in NVTCs. Four unrelated arguments were identified, but seemed not to provide a conclusive stand on the issue at hand. Therefore, the Chi-square test was run to establish the association between the aforementioned arguments. The test showed that there was a meaningful association (Chi-square test) between the categories under which the respondent fell and the explanation of the learning ability of NVTC trainees' contributions to the drop in educational standards, χ^2 (12) = 463.63, p-value = 0.000 < 0.05.

Table 30: Explanation of NVTC trainees' learning ability

Categories under which respondents fall	**Frequencies (%)**				**Total**
	They lack study skills	**They do not have the required analytical level to understand the contents**	**They lack motivation because many do not think it worthwhile to undergo vocational education in Namibia**	**Don't know really**	
NVTCs Instructors	13 (43.3)	12 (40.0)	5 (16.7)	0 (0.0)	30 (100.0)
NVTCs Trainees	14 (3.6)	14 (3.6)	14 (3.6)	348 (89.2)	390 (100.0)
NVTCs Graduates	16 (12.3)	18 (13.8)	74 (56.9)	22 (16.9)	130 (100.0)

MoE stakeholders	8 (40.0)	9 (45.0)	3 (15.0)	0 (0.0)	20 (100.0)
NVTCs graduates' employers	10 (33.3)	11 (36.7)	5 (16.7)	4 (13.3)	30 (100.0)
Total	**61 (10.2)**	**64 (10.7)**	**101 (16.8)**	**374 (62.3)**	**600 (100.0)**

As shown in Table 30, respondents gave four different views. The first was expressed by 61 (10.2%) of the respondents who believed that trainees lack study skills. The most popular categorical opinion on the lack of study skills had the highest percentage among NVTC instructors with 13 (43.3%). The second view was given by 10.7% of respondents who stated that trainees had no required analytical skills level to understand the NVET curriculum contents. The highest frequency in this case was 45.0% observed among MoE stakeholders and 36.7% among NVTC graduates' employers. The third view was that of 16.8% of the total who indicated that NVTC trainees lack motivation because many do not think it worthwhile to undergo vocational education in Namibia. The highest categorical percentage in this situation was NVTC graduates with 74 (56.9%). The fourth case was that 62.3% of the total of respondents indicated that they know nothing about their learning ability. The highest categorical ranking was among NVTC trainees with 89.2%. The statistics displayed and analysed above show that there is consensus about the existence of problems related to the learning ability of trainees in NVTCs. The consensus between categories as described above implies that there could be no improvement in the educational standards in NVTCs without the improvement of the learning ability of trainees.

4.2.2.14 Improving the trainees' learning ability

Question B14 (Appendix 4) was: "In your opinion, what needs to be done to improve the learning ability of NVTC trainees?" The question sought to clarify the areas where improvements are needed among NVTCs trainees. The goal of the question was to highlight

the type of advice and comments of respondents as far as the NVTC trainees' learning ability was concerned.

Table 31 captures respondents' open views on improving the learning ability of NVTC trainees. The test of association was run to find out whether a linkage between the category under which respondents fell and views on what needs to be done to improve learning ability of NVTC trainees existed. The related Chi-square value was recorded as χ^2 (16) = 69.10, while the p-value was equal to 0.000. Since the p-value 0.005< 0.05, the alternative hypothesis was accepted.

Table 31: What needs to be done to improve the learning ability of NVTC trainees

Categories under which respondents fall	**Frequencies (%)**					**Total**
	Create a favourable environment for training	**Give computer courses**	**More time is needed**	**Change to make English proficiency a requirement for admission**	**Safety clothing for trainees**	
NVTC instructors	13 (43.3)	7 (23.3)	2 (6.7)	6 (20.0)	2 (6.7)	30 (100.0)
NVTC trainees	216 (55.4)	52 (13.3)	33 (8.5)	66 (16.9)	23 (5.9)	390 (100.0)
NVTC graduates	74 (56.9)	7 (5.4)	16 (12.3)	16 (12.3)	17 (13.1)	130 (100.0)
MoE stakeholders	3 (15.0)	2 (10.0)	11 (55.0)	2 (10.0)	2 (10.0)	20 (100.0)
NVTC graduates' employers	11 (36.7)	3 (10.0)	3 (10.0)	8 (26.7)	5 (16.7)	30 (100.0)
Total	**317 (52.8)**	**71 (11.8)**	**65 (10.8)**	**98 (16.3)**	**49 (8.2)**	**600 (100.0)**

As shown above, in total 317 (52.8%) of the respondents argued that a favourable training environment should be created. Categorical descriptions indicated that 13 (43.3%) NVTC

instructors, 216 (55.4%) NVTC trainees, 74 (56.9%) NVTC graduates and 11 (36.7%) graduates' employers opined that a favourable environment for training should be created. A further 65 (10.8%) of the respondents argued that more time is needed for efforts to be made to improve the learning ability of trainees to take effect. In the category of MoE stakeholders, the highest percentage of those who stated that more time is needed for current efforts to take effect was 55%. The views sketched in Table 31 were conclusive that some remedial measures are indeed undertaken by NVTC management with regard to the improvement of trainees' learning ability. They show further that although there are efforts in a positive direction, NVTC trainees' ability is not optimally deployed and that more efforts are needed to enhance the abilities of trainees to study. The implication of the poor learning ability of trainees for the standards of education in NVTCs cannot be doubted, given the description presented above. Consequently, the improvement of educational standards in NVTCs should de facto proceed by the enhancement of trainees' learning capacity.

4.2.2.15 Description of MoE stakeholders' ability to manage VET activities

Question B15 (Appendix 4) was: "How do you describe MoE stakeholders' ability to manage VET activities?" This question was divided into three parts, (i), (ii) and (iii) in accordance with the properties that characterise institutional executive management staff members. These characteristics were identified as the knowledge of procedures, interpersonal skills and experience with VET activities. The importance of this question was that it sought to clarify the possibility that MoE stakeholders' ability to manage VET activities could be the cause of the perceived fall in educational standards in VTCs.

i) Description of MoE stakeholders' knowledge of procedures

Figure 14 gives the respondents' description of MoE stakeholders' knowledge of procedures during the management of NVET activities.

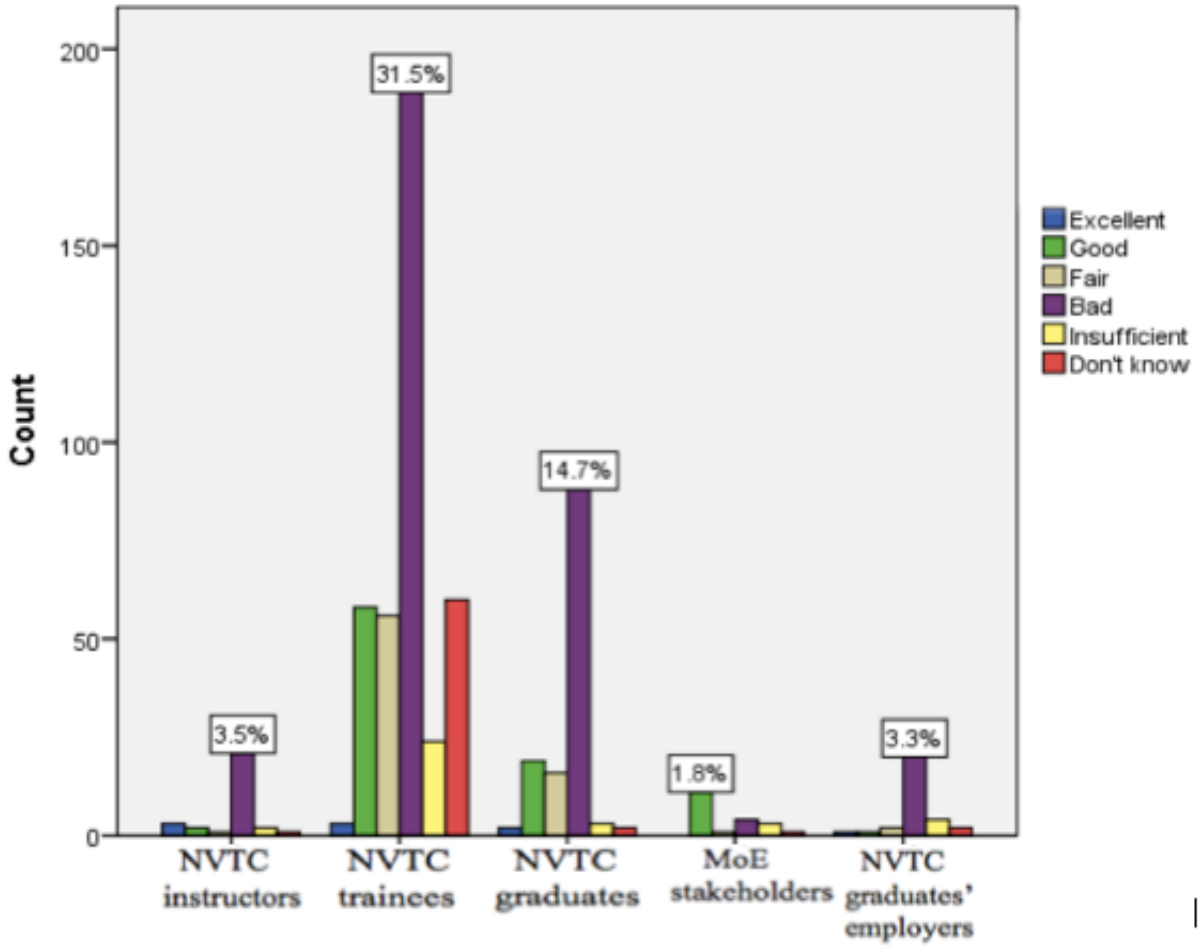


Figure 14: MoE stakeholders' knowledge of procedures in the management of VET activities

Figure 14 reveals that 3.5% of NVTC instructors, 31.5% of NVTC trainees, 14.7% of NVTC graduates and 3.3% of NVTC graduates' employers indicated that MoE stakeholders' knowledge of procedures to manage VET activities is bad. In contrast, 1.8% of MoE stakeholders maintained that their knowledge of procedures is good. The overwhelming choice of "bad" confirms the widespread views among the Namibian public that MoE stakeholders' knowledge of procedures is not as expected of the trustees of the NVET system

(Pupkewitz, 2006). Therefore, any improvement to educational standards in the NVTCs should consider improving the knowledge of procedures of the MoE stakeholders. The knowledge of procedures is a catalytic ingredient in coordinating training activities. Deficiencies in this regard may lead to distortions, confusions and any other negative results that seem to characterise poor VET practices in Namibia.

ii) MoE stakeholders' interpersonal skills

Figure 15 gives respondents' views on MoE stakeholders' interpersonal skills during the management of NVET activities.

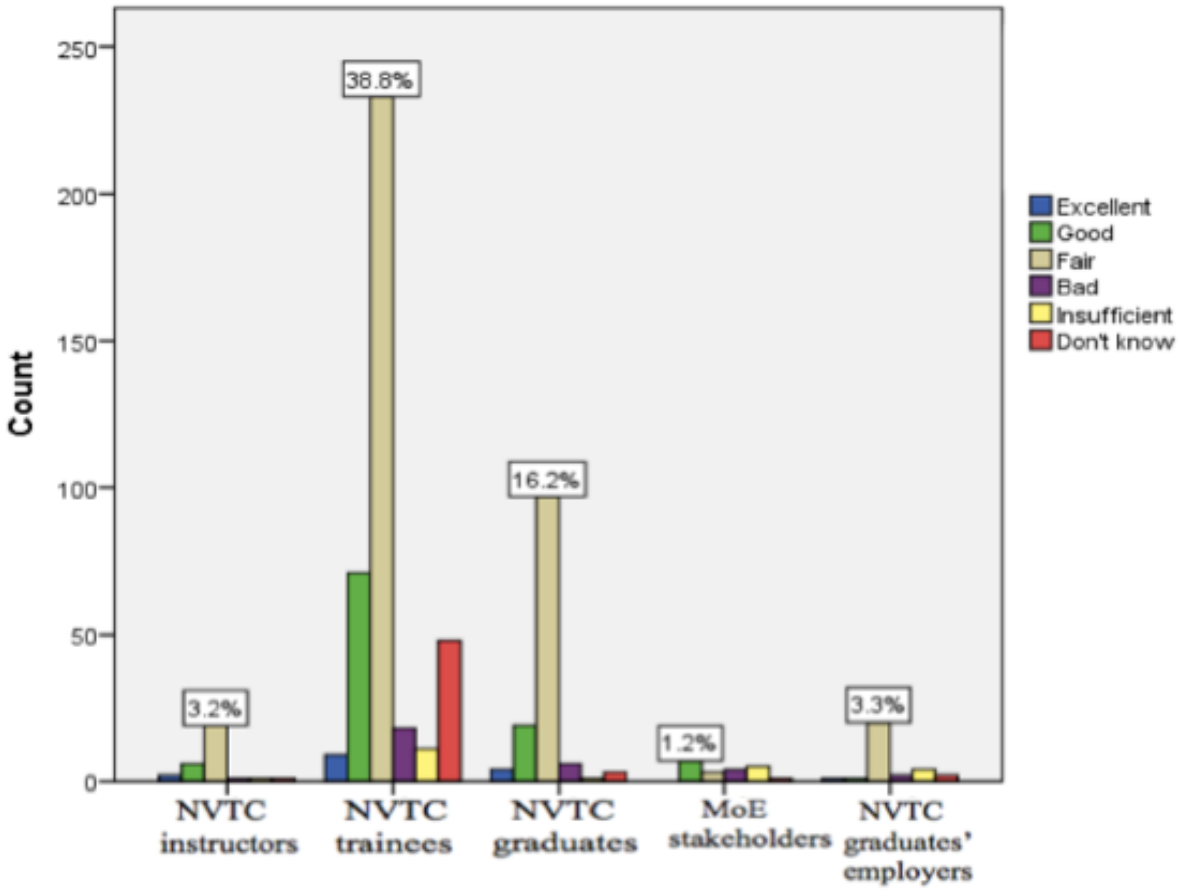


Figure 15: MoE stakeholders' interpersonal skills in the management of VET activities

The context of this study defines interpersonal skills as the ability to communicate, interact and foster relationships with stakeholders in VET and about the NVET system. To probe this feature, the study sought the respondents' views. These are given in Figure 15, and state that 3.2% of NVTC instructors, 38.8% of NVTC trainees, 16.2% of NVTC graduates and 3.3% of NVTC graduates' employers were of the view that MoE stakeholders' interpersonal skills in the management of VET activities are fair. On the other hand, 1.2% ofMoE stakeholders stated that their skills in the management of VET activities are good.

The MoE stakeholders thought positively about their own management skills (see Fig. 15). The conclusion can be drawn from frequencies obtained (Fig. 15) that the interpersonal skills of the MoE stakeholders in the management of VET activities are fair. The "fair" rating seems to suggest that the MoE does not deliver the expected performance in interpersonal skills. Thus, the fair delivery of interpersonal skills could be regarded as a possible source of the observed fall in educational standards in NVTCs. The enhancement of MoE stakeholders' interpersonal skills might improve educational standards in NVTCs.

iii) MoE stakeholders' VET experience

Figure 16 provides the respondents' views on MoE stakeholders' VET experience.

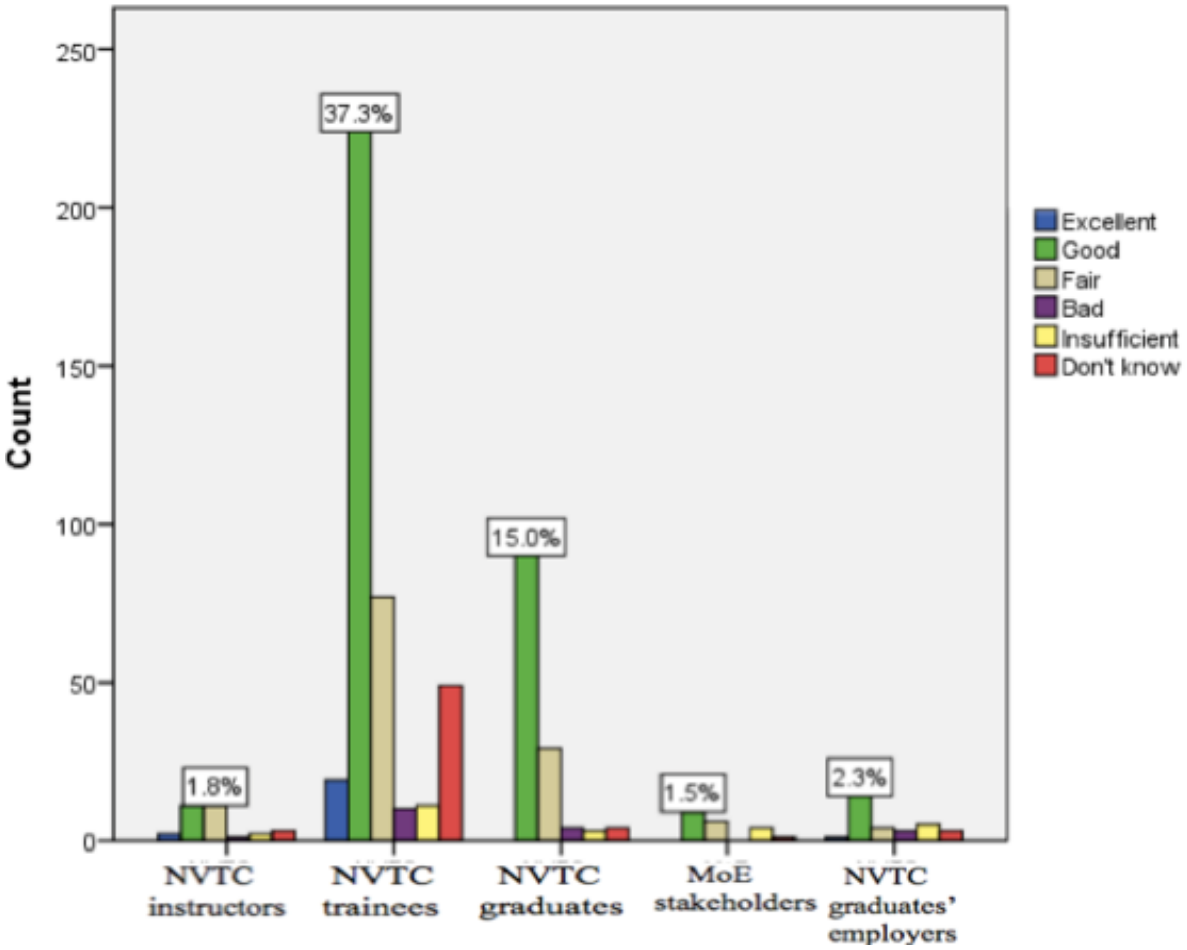


Figure 16: MoE stakeholders' VET experience in the management of VET activities

As shown in Figure 16, 1.8% of NVTC instructors, 37.3% of NVTC trainees, 15.0% of NVTC graduates, 1.5% of MoE stakeholders and 2.3% of NVTC graduates' employers indicated that MoE stakeholders' VET experience in managing VET activities is good. The rest of the ratings namely *excellent, fair, bad, insufficient* and *don't know* had low ratings in all the respondents' categories. The fact that MoE stakeholders' VET experiences in managing VET activities were ranked good in all the categories is a testimony that all MoE stakeholders are familiar with the VET curriculum, articulations and other VET issues. The

ratings presented above show that the experience with VET activities of the MoE stakeholders is not questionable. Therefore, the observed fall in educational standards cannot be attributed to a lack of experience among MoE stakeholders in managing VET activities. The fact that there were contradictory views means that there could be instances where some MoE stakeholders' VET experience is wanting.

4.2.2.16 Contribution of skills levels of MoE stakeholders to the fall in educational standards in NVTCs

Question B16 (Appendix 4) was: "In your opinion, do the skills levels of MoE stakeholders contribute to the fall in educational standards in NVTCs?" This question had two parts, namely Part (i), the opinions of respondents on the contribution of skills levels of MoE stakeholders to the fall in educational standards in NVTCs and Part (ii), the explanations regarding the opinions raised in Part (i).

i) Contribution of MoE stakeholders' skills levels to the fall in educational standards in NVTCs

Table 32 provides respondents' views on the contribution of the skills levels of MoE stakeholders to the fall in educational standards in NVTCs. The Chi-square test sought to find the association between variables. The test showed the existence of a significant relationship. The Chi-square test (χ^2 (8) = 60.57) between the categories under which respondents fell and views on skills levels of MoE stakeholders' contribution to the drop in educational standards with the p-value = 0.002 < 0.05.

Table 32: Skills levels of MoE stakeholders' contribution to the fall in educational standards in NVTCs

Categories under which respondents fall	Frequencies (%)			Total
	Yes	No	Don't know	
NVTC instructors	9 (30.0)	18 (60.0)	3 (10.0)	30 (100.0)
NVTC trainees	305 (78.2)	70 (17.9)	15 (3.8)	390 (100.0)
NVTC graduates	74 (56.9)	43 (33.1)	13 (10.0)	130 (100.0)
MoE stakeholders	7 (35.0)	12 (60.0)	1 (5.0)	20 (100.0)
NVTC graduates' employers	20 (66.7)	8 (26.7)	2 (6.7)	30 (100.0)
Total	**415 (69.2)**	**151 (25.2)**	**34 (5.7)**	**600 (100.0)**

As shown in Table 32, in total 415 (69.2%) of respondents marked "yes", meaning that the skills levels of MoE stakeholders contribute to the drop in educational standards. Categorical analysis revealed that 305 (78.2%) NVTC trainees, 74 (56.9%) NVTC graduates and 20 (66.7) NVTC graduates' employers argued that the skills levels of MoE stakeholders contribute to the fall in educational standards. A further 151 (25.2%) respondents marked "no" and 18 (60.0%) NVTC instructors and 12 (60%) MoE stakeholders maintained the "no" choice. Furthermore 34 (5.7%) respondents marked that they did not know. The general trend portrayed in the analysis shows irrefutably that the skills levels of MoE stakeholders contribute to the fall in educational standards in NVTCs. The implication is that the improvement of educational standards in NVTCs is compromised by the apparent weaknesses in the skills levels of MoE stakeholders.

ii) Explanation of respondents' views on the contribution of skills levels of MoE stakeholders to the fall in educational standards in NVTCs

Table 33 gives respondents' explanations of the contribution of skills levels of MoE stakeholders to the fall in educational standards in NVTCs. An investigation of the association between responses in the categories of respondents was conducted and the test

showed that there is a significant relationship (Chi-square test) between the categories under which respondentes fell and explanations of the views of skills levels of the MoE stakeholders' contribution to the drop in educational standards in NVTCs with χ^2 (36) = 1536.058 and p-value = 0.000 < 0.05.

Table 33: Explanation of expressed opinions on the skills levels of MoE stakeholders

Categories under which respondents fall	**Frequencies (%)**					**Total**
	They wait until there are strikes to give answers to trainees' problems	**Trainees have too much freedom**	**Lack of supervision of instructors**	**NVET is under transformation**	**Too stiff requirements to access training levy**	
NVTC instructors	2 (7.4)	18 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	27 (100.0)
NVTC trainees	260 (69.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	375 (100.0)
NVTC graduates	15 (12.8)	43 (36.8)	48 (41.0)	0 (0.0)	0 (0.0)	117 (100.0)
MoE stakeholders	0 (0.0)	0 (0.0)	0 (0.0)	12 (63.2)	0 (0.0)	19 (100.0)
NVTC graduates' employers	4 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	11 (39.3)	28 (100.0)
Total	**281 (49.6)**	**61 (10.8)**	**48 (8.5)**	**12 (2.1)**	**11 (1.9)**	**566 (100.0)**

In Table 33, the study of total frequencies shows that 281 (49.6%) respondents argued that NVTC management waits until there are strikes before they give answers to trainees' problems, 61 (10.8%) held the stand that trainees have too much freedom, 48 (8.5%) said that there is a lack of supervision of instructors by management, 12 (2.1%) indicated that NVET is under transformation while 1.9% argued that requirements to access the training levy are too stiff.

The cross-examination of opinion in categories revealed that 260 (69.3%) NVTC trainees concurred with the dominant opinion that VTC management waits until there are strikes before they give answers to trainees' problems, 18 (66.7%) NVTC instructors said trainees

have too much freedom, 48 (41.0%) NVTC graduates said that there is a lack of supervision of instructors from management, 63.2% of MoE stakeholders held the view that NVET is under transformation, while 39.3% of NVTC graduates' employers said that requirements are too stiff to access the training levy.

The occurrence of these comments shows that there are countless issues pertaining to the management of VET activities in NVTCs. The high frequency on the issue of giving prompt response to trainees' problems originated from talks and negotiations undertaken during trainees' riots and allegation of management not being on a par with the queries of trainees and not being able to give adequate responses to their plights. Given the desire of the NVET to deliver the best skills training environment to stakeholders, the occurrence of allegations like those presented above amounts to the degradation of the NVTCs' educational quality. Hence, the educational standards in NVTCs can only be raised by decreasing delays in generating solutions to trainees' demands.

4.2.2.17 Improvements to raise MoE stakeholders' skills levels to manage VET activities

Question B17 (Appendix 4) was: "What improvements need to be made to the skills levels of MoE stakeholders in order to improve educational standards in NVTCs?" The question sought to clarify the areas where improvements are needed in MoE stakeholders' skills levels. Table 34 provides respondents' views on recommended improvements to raise MoE stakeholders' skills levels. The test of significance was conducted and it revealed that a significant connection (Chi-square test) between the categories under which respondents fell and improvements to be made to skills levels of MoE stakeholders exists with χ^2 (32) = 1496.34 and p-value = 0.010 < 0.05.

Table 34: Improvements to raise MoE stakeholders' skills levels

Categories under which respondents fall	Frequencies (%)					Total
	A forum of students and management should be created in VTCs to listen to trainees	**VET should have rules and regulations regarding VET instigators**	**The CBET system should be explained to all stakeholders**	**The MoE should ensure that no tribal criteria are involved in awarding training levy**	**Instead of criticising, people should wait to see the results of current efforts by MoE**	
NVTC instructors	0 (0.0)	0 (0.0)	18 (66.7)	0 (0.0)	0 (0.0)	27 (100.0)
NVTC trainees	163 (43.5)	70 (18.7)	0 (0.0)	0 (0.0)	0 (0.0)	375 (100.0)
NVTC graduates	0 (0.0)	43 (36.8)	0 (0.0)	34 (29.1)	0 (0.0)	117 (100.0)
MoE stakeholders	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12 (63.2)	19 (100.0)
NVTC graduates' employers	0 (0.0)	0 (0.0)	0 (0.0)	12 (42.9)	0 (0.0)	28 (100.0)
Total	**163 (28.8)**	**113 (20.0)**	**18 (3.2)**	**46 (8.1)**	**12 (2.1)**	**566 (100.0)**

Table 34 shows that in total 163 (28.8% of the total) respondents argued that a forum of students and management should be created in VTCs to listen to trainees, 113 (20.0% of total) said VET should have rules and regulations regarding VET instigators, 18 (3.2% of total) said the CBET system should be explained to all stakeholders, 46 (8.1% of total) said MoE should ensure that no tribal criteria are involved in awarding training levy, while 12 (2.1% of total) said instead of criticising people should wait to see the results of current efforts by MoE. Categorical statistics and inferences show that 43.5% of NVTC trainees said a forum of students and management should be created in VTC to listen to trainees, 36.8% of NVTC graduates said that VET should have rules and regulations regarding VET instigators, 66.7% of NVTC instructors said the CBET system should be explained to all stakeholders,

42.9% of NVTC graduates' employers said MoE should ensure that no tribal criteria are involved in awarding the training levy, while 63.2% of MoE stakeholders indicated that instead of criticising, people should wait to see the results of current efforts by MoE.

The views captured in Table 34 are clear enough to show the observed weaknesses among MoE stakeholders. Though there was predominance of unfavourable arguments towards MoE stakeholders, there were a substantial number of respondents who supported efforts made by the VET management team. Hence, the perceived fall in educational standards cannot be attributed solely to the lack of management skills among MoE stakeholders, but to the conjunction of all the factors mentioned. Consequently, raising NVTCs educational standards require not only the improvement of management skills of MoE stakeholders, but also a close collaborative and cross-cutting response that deals holistically with all the intervening factors.

4.2.2.18 Improvements to NVTC training facilities to accommodate people with disabilities

Question B18 (Appendix 4) was: "In your opinion, what needs to be done to NVTC training facilities to accommodate people with disabilities?" Table 35 gives the respondents' views on the issue of how to improve NVTC training facilities to accommodate people with disabilities. A Chi-square test was carried out. The test disclosed that an association between the categories under which the respondents fell and what needs to be done to the NVTC training facilities to accommodate people with disabilities exists with χ^2 (8) = 68.46 and p-value = 0.000 < 0.05.

Table 35: What needs to be done to NVTC training facilities to accommodate people with disabilities

Categories under which respondents fall	Frequencies (%)			Total
	Improve the internal support system of disabled trainees	Create more specialised VET to accommodate and allocate disabled people according to their weaknesses	Nothing, it is fine as it is now	
NVTC instructors	17 (56.7)	10 (33.3)	3 (10.0)	30 (100.0)
NVTC trainees	230 (59.0)	118 (30.3)	42 (10.8)	390 (100.0)
NVTC graduates	59 (45.4)	56 (43.1)	15 (11.5)	130 (100.0)
MoE stakeholders	4 (20.0)	2 (10.0)	14 (70.0)	20 (100.0)
NVTC graduates' employers	13 (43.3)	11 (36.7)	6 (20.0)	30 (100.0)
Total	**323 (53.8)**	**197 (32.8)**	**80 (13.3)**	**600 (100.0)**

The analysis of what needs to be done to training facilities to accommodate people with disabilities in NVTCs entails the adjustment of physical facilities comprising buildings, furniture, curricula and the likes. Suggestions made in this regard were that in total 323 (53.8% of the total) respondents mentioned that improvements should be made to the internal support system of disabled trainees, 197 (32.8% of the total) held the view that more specialised VET institutions should be created to accommodate people with disabilities, while 80 (13.3% of total) that nothing should be done, everything is fine as it is now.

Categorical inferences showed that 56.7% of NVTC instructors, 59.0% of NVTC trainees, 45.4% of NVTC graduates and 43.3% of NVTC graduates' employers recommended the improvement of the internal support system of disabled trainees in various institutions as a

strategy to accommodate people with disabilities in NVTCs. The opinion held by 70.0% of MoE stakeholders was that nothing should be done, everything is fine as it is now.

The statistics mentioned above, provide a pointer that exposes one indicator for the decision on the improvement of training facilities in NVTCs. The overwhelming majority of respondents (53.8%) shared the view that improvements should be made to the internal support system of people with disabilities. The statistics point at one emerging issue, namely that the situation of people with disabilities in NVTCs has not been given the attention it deserves so far. Consequently, bearing in mind the fact that lifting the educational standards in NVTCs implies, among others, the involvement of passionate people for VET irrespective of their status and conditions, including people living with disabilities, the improvement of educational standards means adjusting physical facilities to accommodate people living with disabilities.

4.2.3 Presentation and analysis of NVET curriculum design features

The key question 1.3.2 on "features that form the NVET programmes" (see section 1.3, p. 7) implies the analysis of various components that form the NVTC curriculum. The mere presentation of these features would not have responded to the quest for a benchmark model sought at the beginning of this study. The researcher posed sub-questions with the intention to –

1. present the features that formed the NVET programmes, and
2. determine the weaknesses in the features that need to be improved as required by the study and addressed by the research questionnaire and related findings as discussed below. The ultimate goal of exploring the weaknesses of the current NVET programmes was to identify areas where improvements are needed.

According to Almashaqba et al. (2010), Tyler (2012) and Armacost et al., (2003), the process of benchmarking the field of VET in general requires a profound understanding of internal and external dynamics of VET in order to uncover these dynamics in the NVET curriculum. The present study was inspired by that line of thought by identifying weaknesses in the CBET curriculum design features as outlined in 6.4.1. According to ETF, ILO and UNESCO (2012) benchmarking also requires the suggestion of remedial strategies intended to improve features of the current CBET model.

4.2.3.1 Identified weaknesses in the NVTC curriculum design features

Question C1 (Appendix 4) was: "In your opinion, what are the weaknesses in NVTC curriculum design features?" The intention of this question was to highlight shortcomings in features of the current curriculum and describe the internal dynamics between its components in order to propose an improved benchmark model for NVET (see Fig. 17).

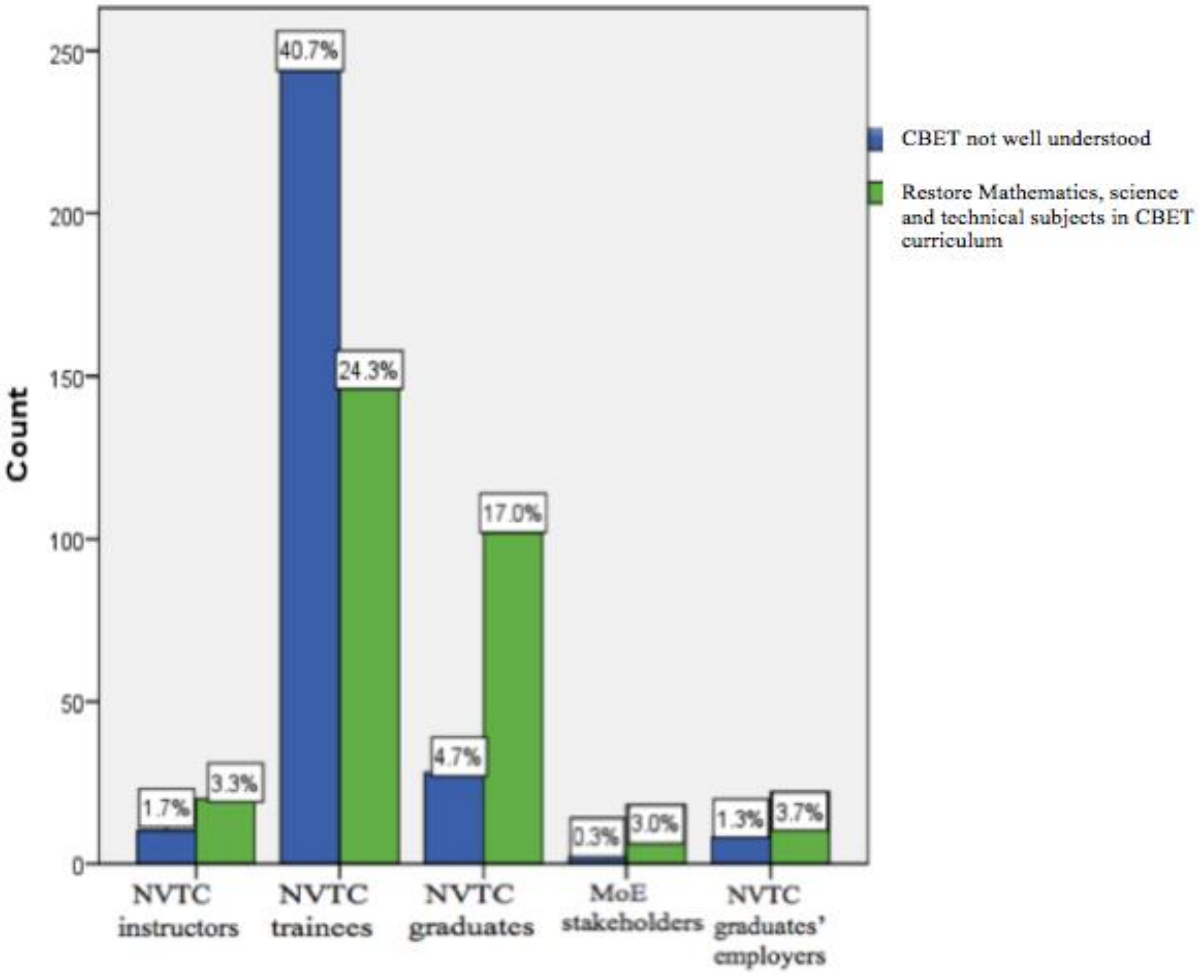


Figure 17: Observed weaknesses in the NVTC curriculum design features

The results in Figure 17 show that 3.3% of NVTC instructors, 17.0% of NVTC graduates, 3.0% of MoE stakeholders and 3.7% of NVTC graduates' employers stated that the weaknesses in the NVTC curriculum design features are that mathematics and science subjects are lacking and should be restored to the curriculum. But, 40.7% of NVTC trainees indicated that the major weakness is that the CBET system is not well understood.

The Chi-square analysis was run to establish whether there was a relationship between the variables. The Chi-square test results showed that there was a relationship between

weaknesses in NVTC curriculum design features and the category of respondents. The Chi-square value was χ^2 (4)= 89.05, p-value = 0.000 < 0.05.

There were overwhelming arguments testifying to the fact that science and technical subjects should be restored to the CBET curriculum. Following the thread in the arguments mentioned above, the study considered the idea that the CBET system not being well understood is a serious impediment to quality education delivery in NVTCs. Equally, looking at the percentages under this feature, the conclusion was drawn that the lack of understanding of the CBET system is a weakness worth an urgent remedial solution. The study proved that the remedy to the aforementioned weaknesses has the potential to raise educational standards in NVTCs.

Worth mentioning is the fact that the overwhelming majority of NVTC trainees argued that the fact that science and technical subjects are not included in the curriculum proves that they do not understand the CBET system. The meaning of this dichotomous understanding is that clarification of the CBET system is needed in order to raise educational standards in NVTCs.

4.2.3.2 Improving the CBET curriculum design features

Question C2 (Appendix 4) was: "What needs to be done to the CBET curriculum design features in order to improve educational standards in NVTCs?" In total 14 areas were identified as characteristic features of the CBET curriculum design. The importance of analysing CBET curriculum design features was to identify weak design features and gain an insight into the role they play in the fall in and improvement of educational standards in NVTCs. The identified features are presented below and numbered (i) to (xiv).

i) Improvements to the CBET curriculum aims, goals and objectives

The improvements to the CBET curriculum aims, goals and objectives entail the adjustment to what should be the purpose of the CBET system and the establishment of its medium- and short-term objectives. Figure 18 shows respondents' recommendations for the CBET curriculum aims, goals and objectives.

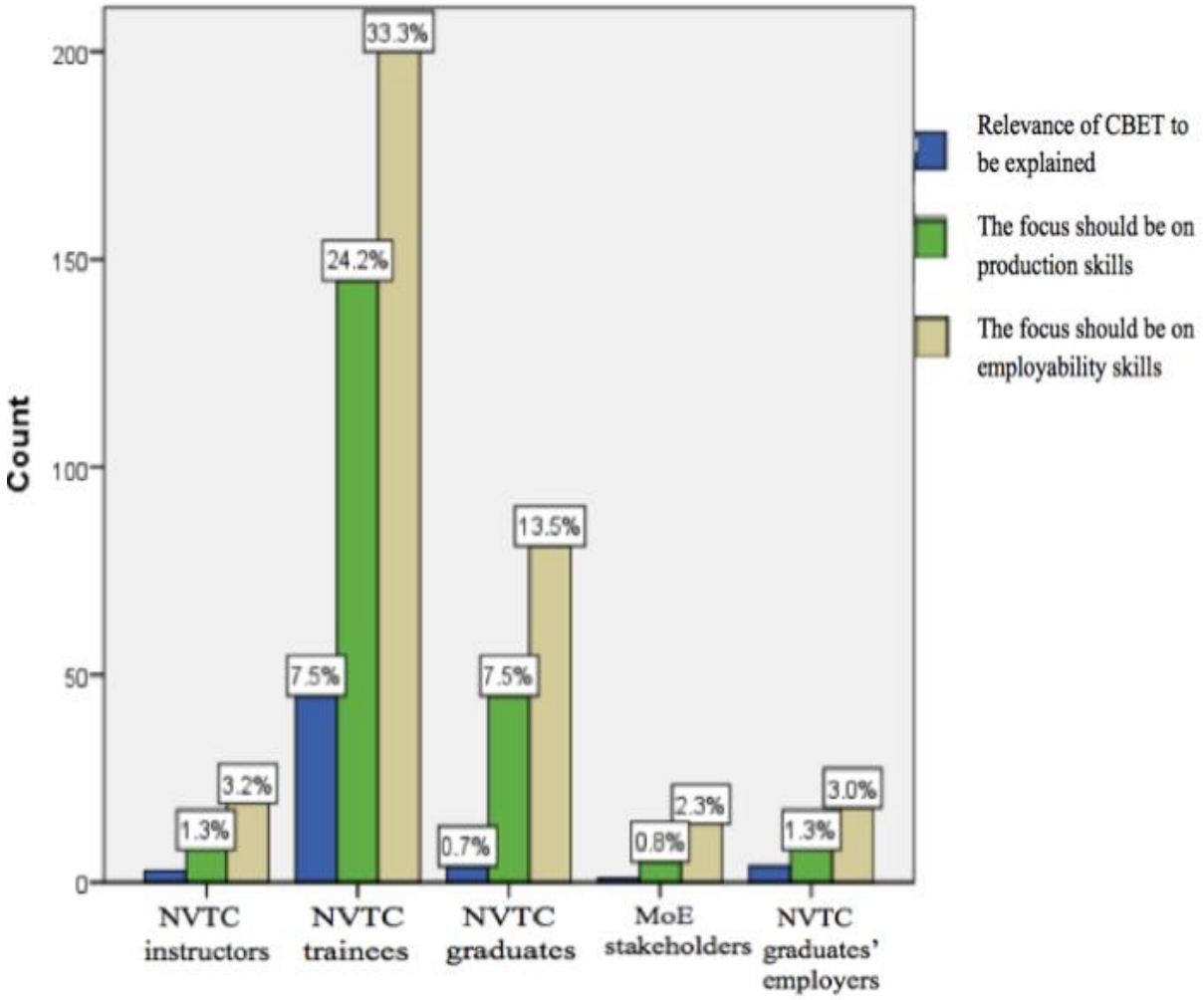


Figure 18: Recommended improvements to the NVTC curriculum aims, goals and objectives

Figure 18 presents the most significant outcomes of the recommended improvements to the CBET curriculum aims, goals and objectives. Figure 18 shows that 3.2% of NVTC instructors, 33.3% of NVTC trainees, 13.5% of NVTC graduates, 2.3% of MoE stakeholders

and 3.0% of NVTC graduates' employers defended the notion that the focus should be on employability skills as an improvement to the CBET aims, goals and objectives. Though defended by small numbers of respondents, the relevance of the CBET system was questioned. As an improvement in this respect, respondents proposed that the relevance of the CBET system should be explained. This position was supported by all the categories of respondents.

Given that clash in the interpretation of the CBET system, the Chi-square test was run to ascertain the connection between the various categories and the CBET aims, goals and objectives. The test of relationships between categories showed that there is no significant association between the categories under which the respondents fell and improvements recommended to the NVTC curriculum, aims, goals and objectives, χ^2 (8) = 14.07 with the p-value = 0.08 > 0.05. It seems that the clarification of the CBET system would be the solution to the observed fall in educational standards in NVTCs.

ii) Improvements needed to the CBET curriculum implementation procedures

The implementation procedure of the CBET curriculum involves the realisation or the enactment of various programmes developed by the NVET line ministry.

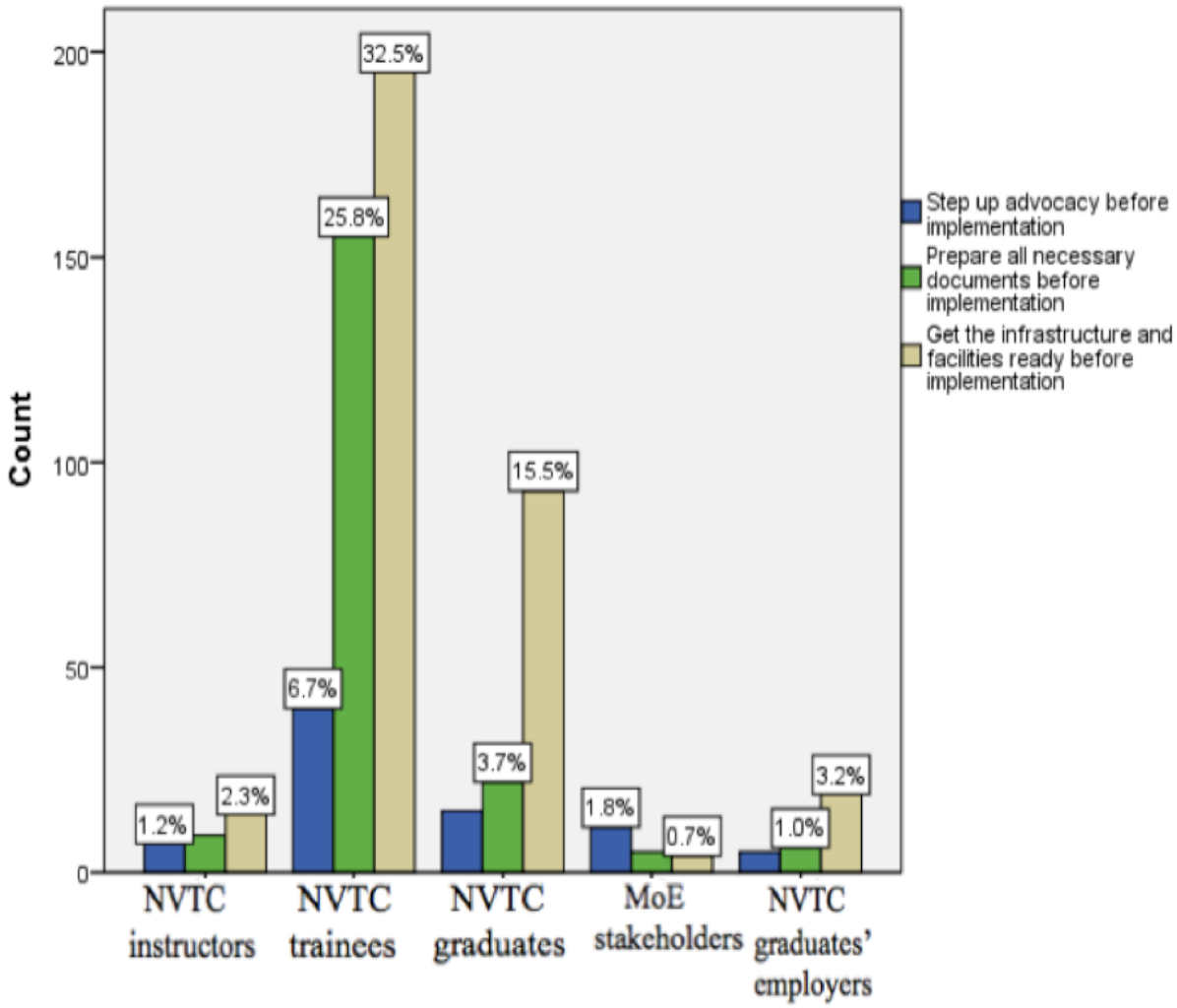


Figure 19: Recommended improvements to the CBET curriculum implementation procedures

The results presented in Figure 19 show that 2.3% of NVTC instructors, 32.5% of NVTC trainees, 15.5% of NVTC graduates and 3.2% of NVTCs graduates' employers held the view that NVTCs should get the infrastructure and facilities ready before the implementation procedures start. On the other hand, 1.8% of MoE stakeholders were of the view that NVTCs

should step up advocacy programmes before the execution of the programmes in the various training centres. Though the frequencies of the respondents were low, all the categories of respondents held the view that advocacy programmes should be stepped up before the CBET curriculum implementation (see Fig. 19).

The difference in views was observed between individual respondents, and they differed category by category. The study established that there was a significant association, (Chi-square test χ^2 (8) = 63.611) between the categories under which respondents fell and improvements recommended to the implementation procedures of CBET curriculum with the p-value = 0.000 < 0.05.

The inferences above show that NVTCs had difficulties in getting all the necessary preparation in place before embarking on the implementation of their programmes. Consequently, there have been hiccups due to the absence of the necessary logistics that were supposed to be in place. Given that shortcoming in the implementation of CBET, the standards of education cannot be realised optimally. Thus, the observed fall in educational standards can be partly attributed to the CBET implementation process.

iii) Recommended improvements to entry requirements in NVTCs

The following presentation and subsequent discussions provide the major results on recommended VET entry requirements. Vocational education and training programmes are of a diverse nature and each has its own specific entry requirements. The study did not specifically deal with special or detailed entry requirements for each specific trade, but addressed the general entry criteria for any NVET programme.

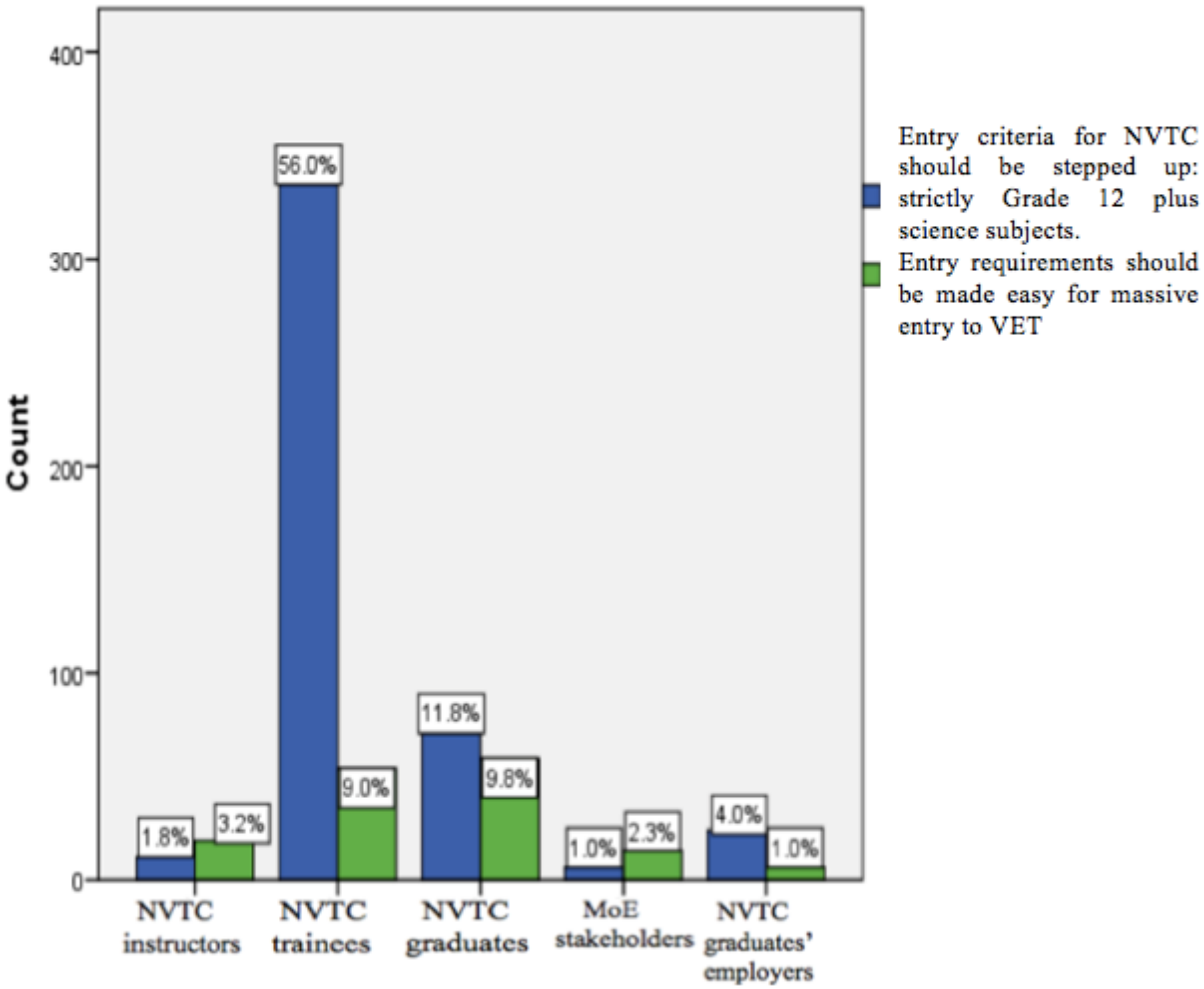


Figure 20: Recommended improvements to the CBET curriculum entry requirements

Figure 20 gives the respondents' views on the common entry criteria for NVTCs. Figure 20 shows that 3.2% of NVTC instructors and 2.3% of MoE stakeholders suggested that NVTC entry requirements should be made easy for a larger number of persons to enter for VET. On the other hand, 56.0% of NVTC trainees, 11.8% of NVTC graduates and 4.0% of NVTC graduates' employers said that entry criteria for NVTCs should be stepped up: "Strictly Grade 12 plus science subjects" should be the common entry requirement for entry into NVTCs programmes. The most dominant view among the respondents was that entry requirements for NVTC should be stepped up and Grade 12 with science subjects must be part of the requirements. Given the contradictory views the Chi-square test was carried out. The result

showed that there was a significant association between the categories under which respondents fell and the recommended improvements to the entry requirements of the CBET curriculum, χ^2 (4) = 99.29 with the p-value = 0.000 < 0.05.

The implication of the evoked positions was that the two stands were beneficial for the improvement of educational standards in NVTCs. Though the need for massive enrolment of trainees in NVTCs carries an important weight in practice, it is important that the quality of education in NVTCs should not be compromised. The presented opinion by which the decisions were made shows that the vast majority of respondents implied that the quality of graduates is more important than the numbers. The implication of stepping up the entry criteria has many advantages for raising educational standards in NVTCs.

iv) Recommended improvements to recognition of prior learning (RPL)

This section presents the recommendations of respondents for the improvements needed in the process of recognition of prior learning in NVET.

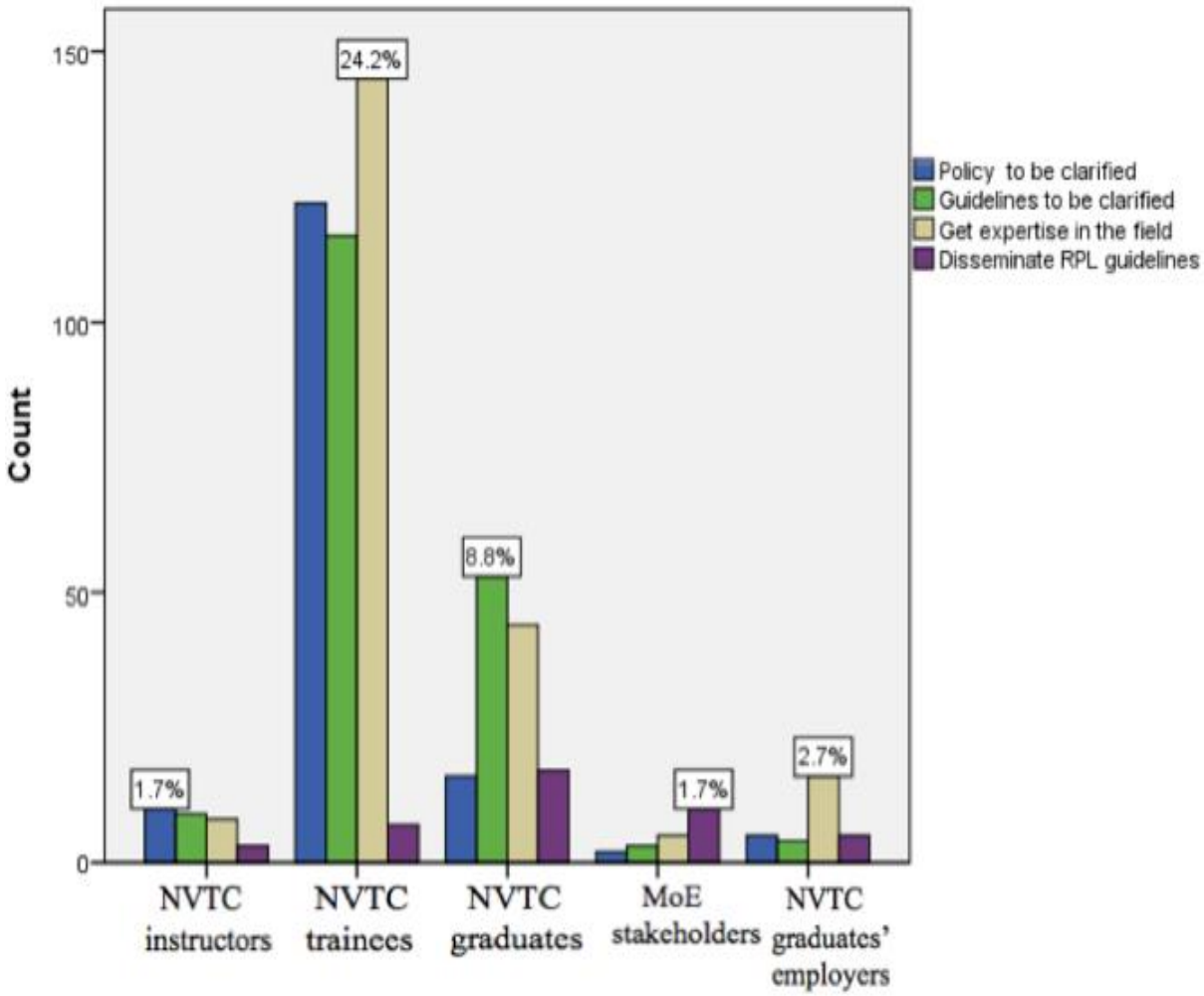


Figure 21: Recommended improvements to the recognition of prior learning (RPL)

Figure 21 provides the suggested improvements to the process of recognition of prior learning. The recognition of prior learning (RPL) entails acknowledgement of knowledge, skills or abilities acquired before the intervention under consideration took place. Variations exist in the definition of RPL. In this context, RPL means the credit given to non-certified learning or knowledge, skills or abilities that took place through informal learning and for which documentation or certification is sought (GRN, 2005; GRN, 2007).

Figure 21 shows that 1.7% of NVTC instructors believe that the RPL policy needs to be clarified as an improvement to the RPL. About 24.2% of NVTC trainees and 2.7% of NVTC graduates' employers thought that the NTA should not shy away from hiring foreign expertise in the field to assist and teach them. Some 8.8% of NVTC graduates said that guidelines must be clarified, while 1.7% of MoE stakeholders mentioned that RPL guidelines should be disseminated to all stakeholders and made available to the larger public.

Intra-categorical disparities were observed in the views of the respondents. Thus, the test of association was conducted to ascertain if there were commonalities in responses. The conclusion was that there was indeed a significant relationship between the categories under which respondents fell and improvements recommended to the recognition of prior learning in NVET, χ^2 (4) = 109.52 with the p-value = 0.000 < 0.05.

A close look at percentages from the categories of instructors and graduates hints that the RPL policy and guidelines are in existence. The expressed concern about clarification of both features is indicative of a shortfall either in RPL exposure or publicity to the larger public. The statistics show that the most significant view among all the respondents is that experts in the field of RPL are needed in NVET. This situation demonstrates conclusively that the RPL as a CBET feature has weaknesses that need to be dealt with in order to raise educational standards in NVTCs.

v) Recommended improvements to competencies and skills covered in NVTC curriculum content

This section presents the recommendations of respondents for the improvements needed to competencies and skills covered in the NVTC curriculum contents.

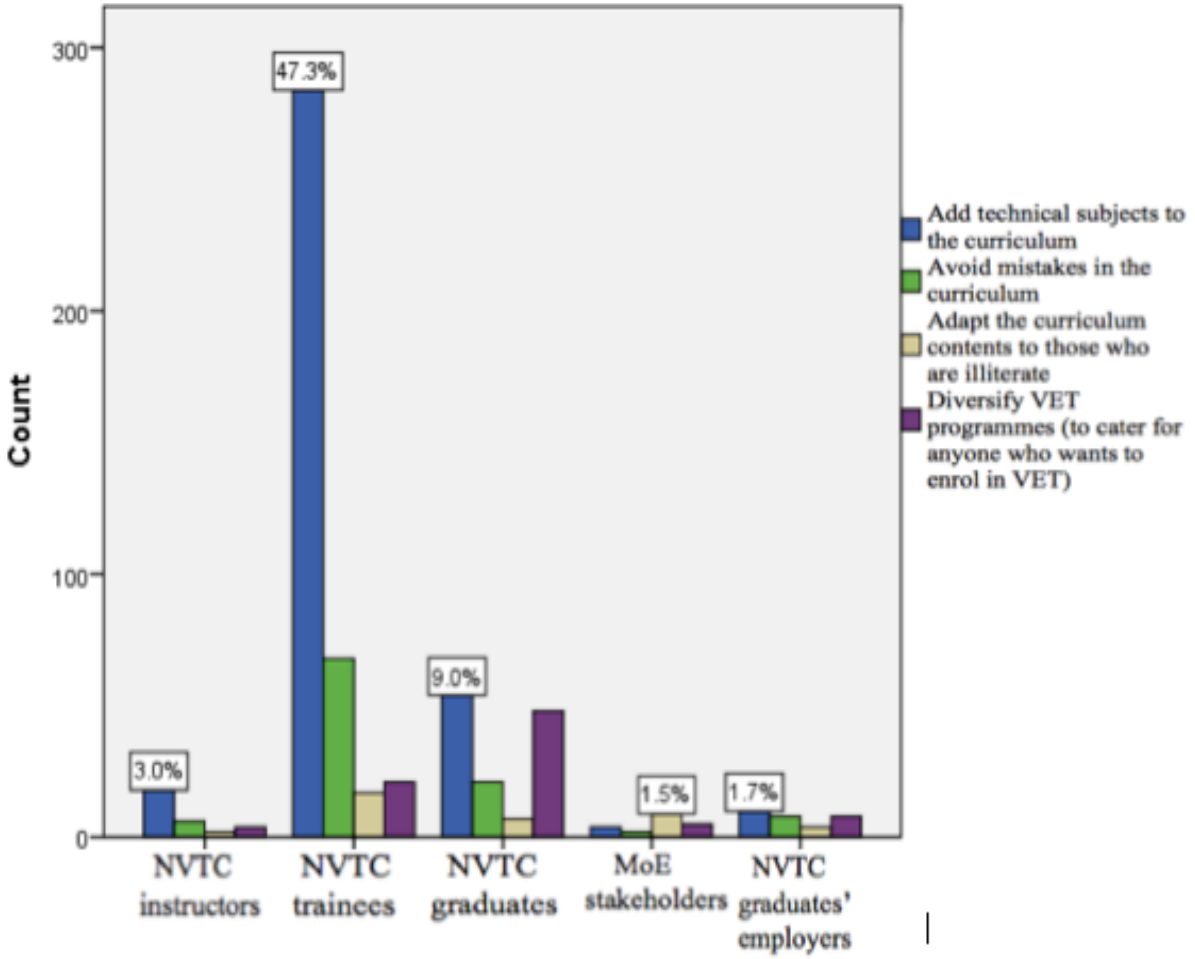


Figure 22: Recommended improvements to competencies and skills covered in NVTC curriculum contents

Figure 22 shows that 3.0% of NVTC instructors, 47.3% of trainees, 9.0% of graduates and 1.7% of graduates' employers were of the view that technical subjects should be added to the CBET curriculum. Figure 22 further shows that there were much lower percentages in favour of reducing mistakes in the curriculum and diversification of VET programmes to suit any other people who would like to pursue VET careers. The test of significance was conducted

by running a Chi-square test to find out if a relationship existed between variables. The results of the Chi-square test indicated that there is a significant association (χ^2 (12) = 151.91) between the categories under which respondents fell and improvements recommended to the competencies and skills covered in NVTC curriculum content with the p-value = 0.000 < 0.05.

The general consensus among respondents was that technical subjects should be added to the curriculum in NVET. This finding is important for the process of improving the educational standards in NVTCs since it gives a tested set of data to recommend the inclusion of technical subjects in the NVET curriculum. The effect of the inclusion of technical subjects or clarifications thereof is instrumental to the process of raising educational standards of NVTCs.

vi) Recommended improvements to skills transfer procesess or teaching methods

This section presents the recommendations of respondents for improvements needed in the skills transfer processes and teaching methods.

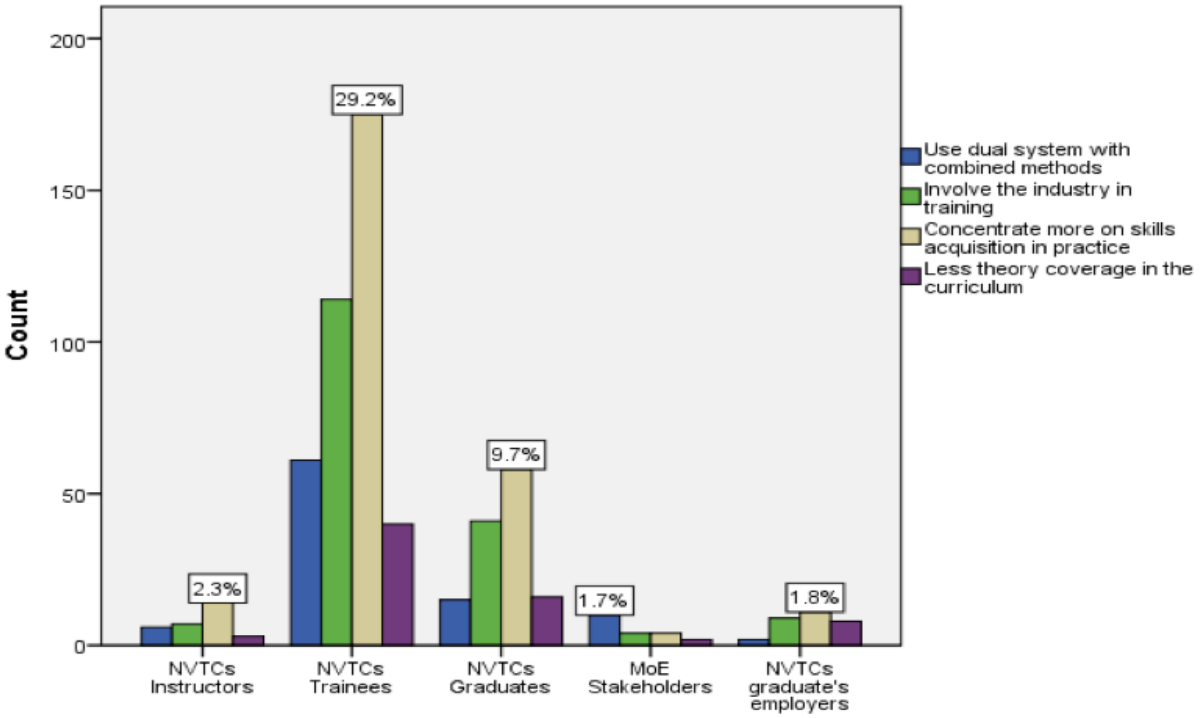


Figure 23: Recommended improvements to skills transfer processes or teaching methods

The results in Figure 23 show that 2.3% of NVTC instructors, 29.2% of NVTC trainees, 9.7% of NVTC graduates and 1.8% of NVTC graduates' employers supported the view that VTCs should concentrate more on skills acquisition in practice as an improvement to the skills transfer process.

The results further show that there were two less popular suggestions, namely that the industry should be involved in the training, and that there should be less coverage of theoretical content in the VTC curriculum. A close look at these proposals suggests fundamental differences between respondents. Therefore, a test of relationship was carried out. The Chi-square test results revealed that a relationship between the categories under which respondents fell and improvements recommended for the skills transfer methods exists (χ^2 (12) = 29.38, p-value = 0.003 < 0.05).

The results given in Figure 23 show that skills acquisition should concentrate more on practical training than on theoretical knowledge. This view compared to the observation that VET programmes should concentrate less on theoretical knowledge, shows that there is a convergence in thought between the two views. The semantic difference indicated that respondents shared the thought about the process of skills transmission in NVTCs and the desired graduates, but the view containing the idea of practice puts the emphasis on the issue of *rehearsal*, while the thought with the idea of less theory puts the emphasis on *conceptual approach* as the solution to skills transfer methods in NVTCs.

Though these semantic differences are important, the overall outcome of the analysis seems to indicate that the two types of interpretations can be regrouped to form the basis for a decision on the best approach to skills transfer in NVTCs. Thus, to improve on skills transfer processes in NVTCs, more emphasis should be put on the practical acquisition of skills and the curriculum should contain fewer theoretical components. The implication of this decision is that the improvement of educational standards in NVTCs requires the reduction of theoretical knowledge and an emphasis on practical activities.

vii) Recommended improvements to delivery mode of the CBET curriculum

In this section the respondents' recommendations on the improvement needed in the delivery mode of the CBET curriculum in NVTCs are provided.

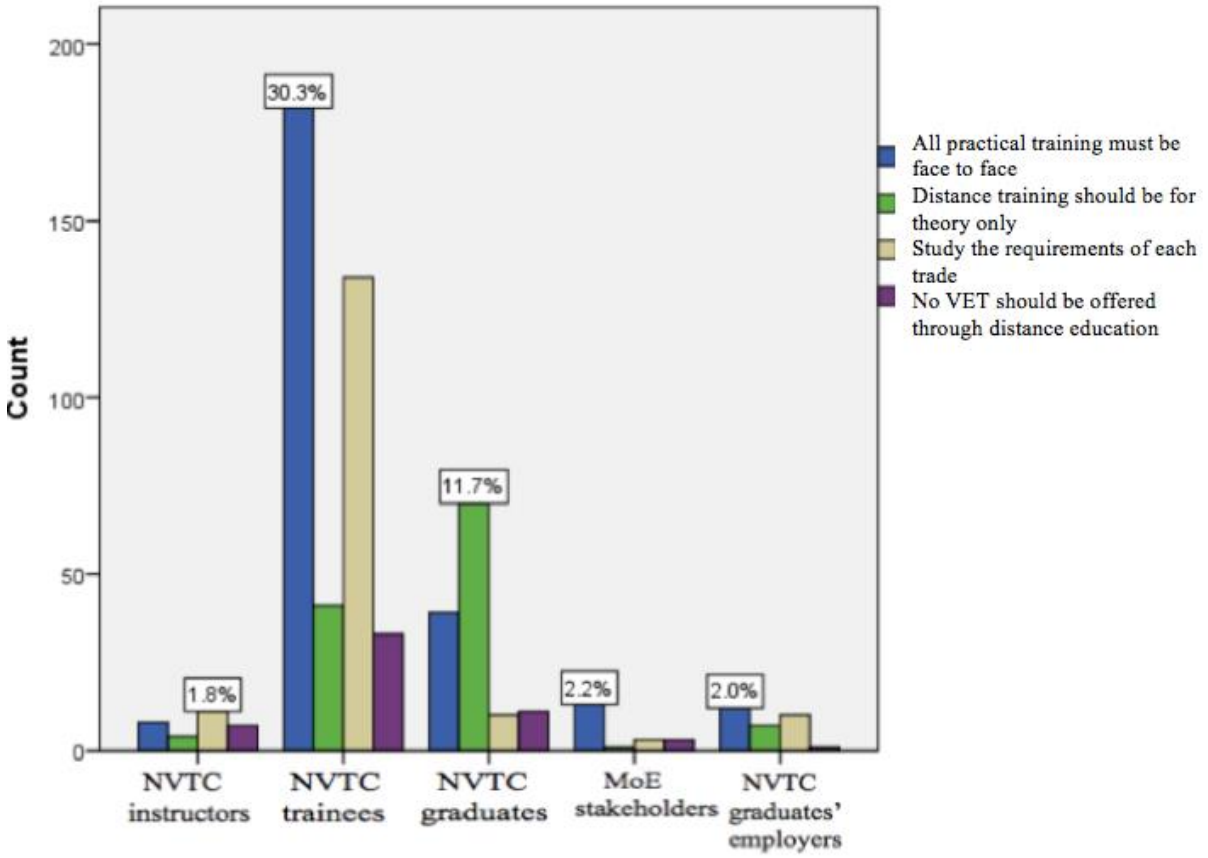


Figure 24: Recommended improvements to the CBET curriculum delivery mode

Delivery mode in this context describes the process of delivering VET skills through either face-to-face or distance mode. In this regard, Figure 24 presents the most significant results on the improvements suggested by respondents for the provision of VET skills in NVTCs. Figure 24 shows that 1.8% of NVTC instructors argued that NVET should study the requirements of each trade, 30.3% of NVTC trainees, 2.2% of MoE stakeholders and 2.0% of NVTC graduates' employers reported that all practical training must be conducted through a face-to-face mode. The study showed further that 11.7% of NVTC graduates indicated that delivery of VET through distance mode should apply to theory only. The view with the lowest frequency but widespread in all the categories was that no VET should be offered through distance mode. The Chi-square test results (χ^2 (12) = 139.11) indicated that there was

a significant association between the categories under which respondents fell and improvements recommended for the delivery mode with p-value = 0.000 < 0.05.The results presented above show that the vast majority of respondents were in favour of delivering VET practical activities through the face-to-face mode. This clearly demonstrates that the use of the face-to-face mode in practical activities is supported as an effective way to improve educational standards in NVTCs.

viii) Recommended improvements to CBET unit standards

Figure 25 provides respondents' opinions of recommended improvements needed for CBET unit standards to raise educational standards in NVTCs.

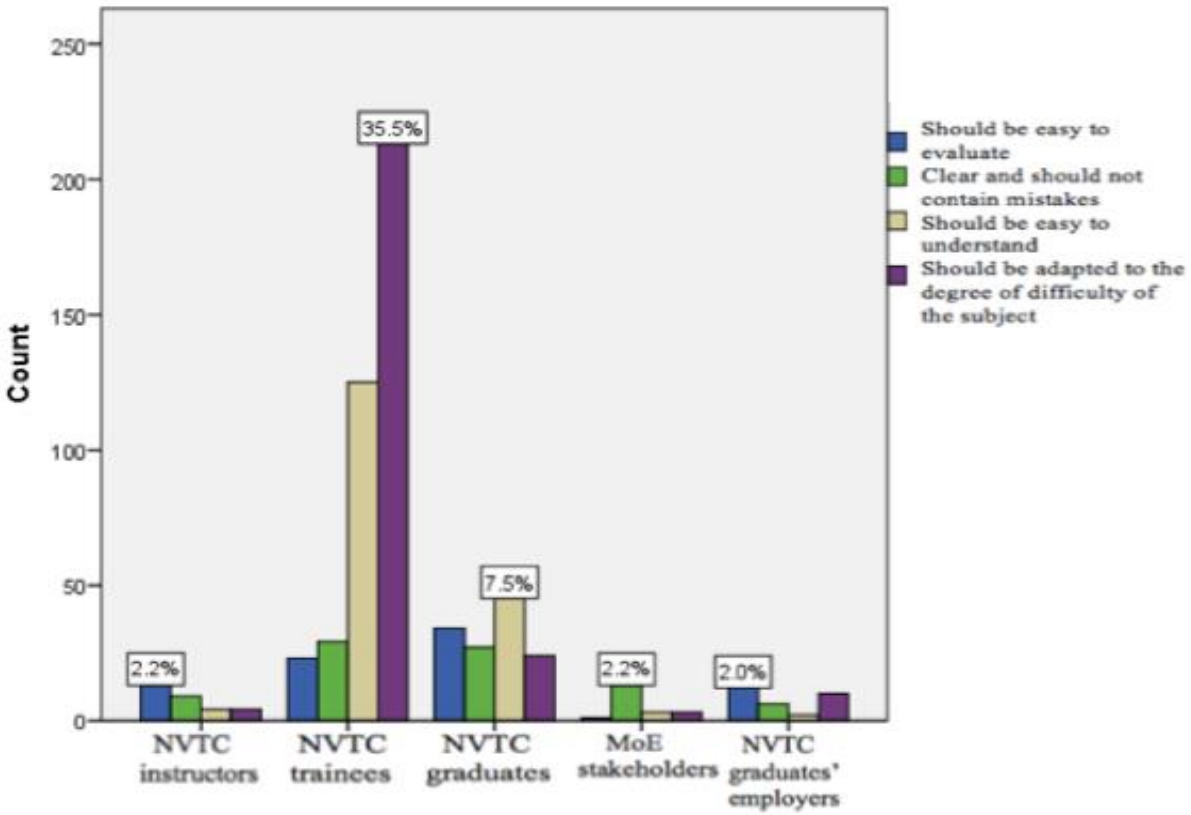


Figure 25: Recommended improvements to the CBET unit standards

Unit standards refer to conditions and various criteria used to evaluate the attainability of educational objectives defined by specifying what should be done or must be in place before

the training interventions start (Shaketange et al., 2008). In this context, the results presented in Figure 25 show that 2.2% of NVTC instructors and 2.0% of NVTC graduates' employers were of the view that unit standards should be easy to evaluate as a proposed improvement. Some 35.5% of NVTC trainees indicated that the unit standards should be adapted to the degree of difficulty of the subject, 7.5% of NVTC graduates suggested that the unit standards should be easy to understand while 2.2% of MoE stakeholders were concerned about clearing mistakes from the unit standards.

A significant association between the categories under which respondents fell and improvements recommended to the unit standards of the CBET curriculum was established, χ^2 (12) = 179.25, p-value = 0.003 < 0.05. Though all the views were meaningful and useful for the improvement of the CBET curriculum, the majority of respondents stood by the argument that the unit standards should be adapted to the degree of difficulty of each subject.

ix) Recommended improvements to the CBET evaluation system

Figure 26 provides the respondents' views on the recommended improvements to the CBET evaluation system to raise educational standards in NVTCs.

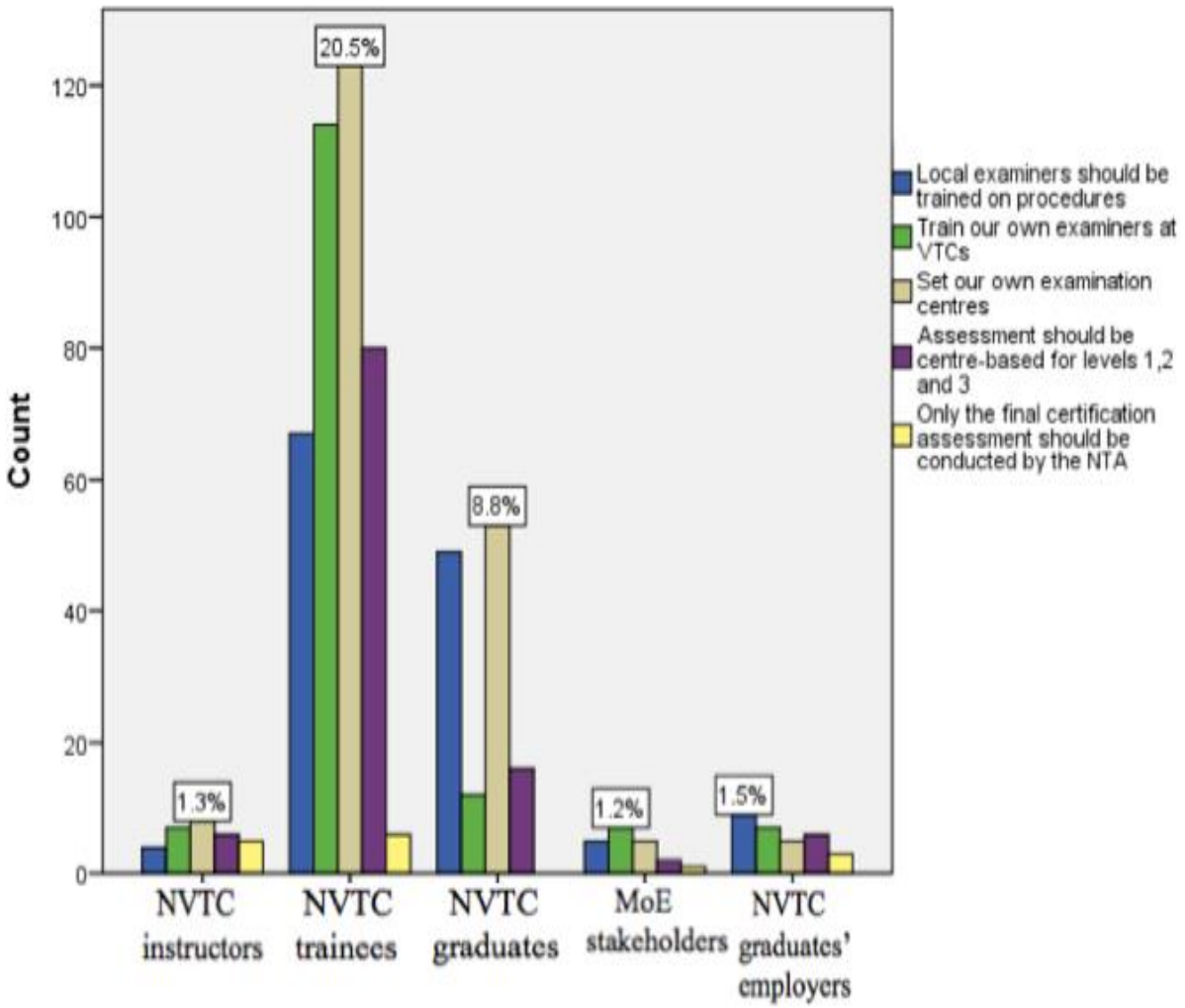


Figure 26: Recommended improvements to the CBET curriculum evaluation system

The evaluation system for NVTCs is crucial for the quality and validity of the qualifications. The results in Figure 26 show that 1.3% of NVTC instructors, 20.5% of NVTC trainees and 8.8% of NVTC graduates opined that NVTCs should set up their our own examination centres as an improvement to the evaluation system of the CBET curriculum, 1.2% of MoE stakeholders advocated for the training of examiners at VTCs and 1.5% of NVTC graduates' employers indicated that local examiners should be trained in examinations procedures.

The Chi-square test was conducted, (χ^2 (16) = 83.48). The test proved that there was indeed a connection between the categories under which respondents fell and improvements recommended to the evaluation system with the p-value = 0.002 < 0.05.

A variety of opinions were observed in the various categories. The first opinion was that local examiners should be trained in procedures. The second opinion was that VTCs should train their own examiners. The trend portrayed above suggested that NVTCs should have their of examination centres as a way to improve the VET evaluation system.

x) Recommended improvements to the NVET funding system

Figure 27 gives respondents' recommended improvements to the NVET funding system in order to raise educational standards in NVTCs.

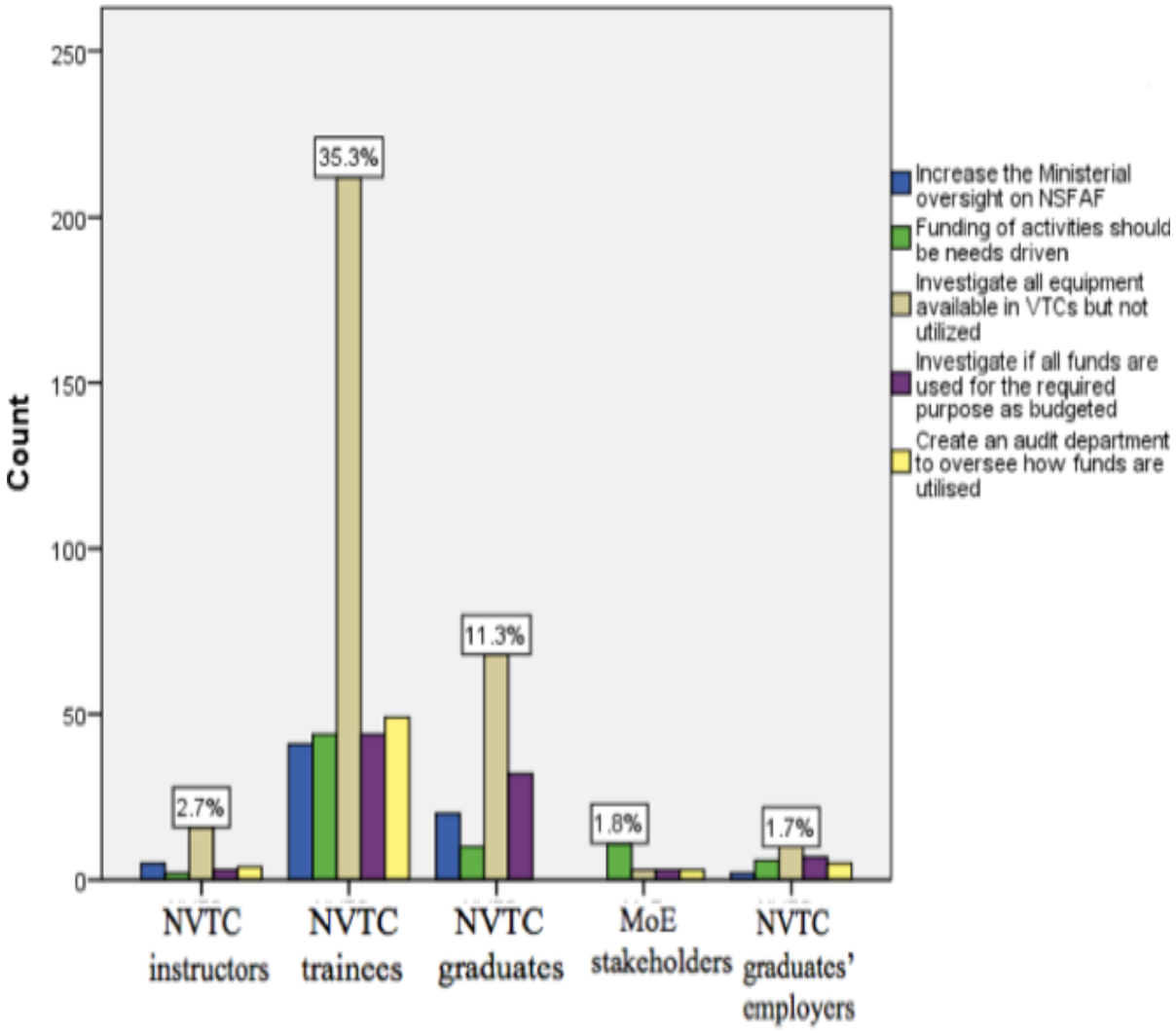


Figure 27: Recommended improvements to the CBET funding system

The NVET funding system falls under the Namibia Students' Financial Assistance Fund (NSFAF) and operates as a government support system implemented by a ministerial team of officers. The fund entails the support of prospective and existing trainees in VTCs for the payment of their study fees. The findings on the funding system reveal in Figure 27 that 2.7% of NVTC instructors, 35.3% of NVTC trainees, 11.3% of NVTC graduates and 1.7% of NVTC graduates' employers suggested that NVET should cut on the cost of equipment by investigating all equipment available in VTCs but not utilised as a way to improve the

funding system, and 1.8% of MoE Stakeholders indicated that the funding of NVTC activities should be needs-driven. The Chi-square test revealed a significant association (Chi-square test, χ^2 (16) = 79.33) between the categories under which respondents fell and improvements recommended to the funding system. The p-value of 0.000 < 0.05 was established.

The findings demonstrate unequivocally that the latter suggestion scored the highest ranking among respondents in all categories. Thus the conclusion can be drawn that the study reinforced the view that in order to improve the funding system in NVTCs there should be –

1) an increase of ministerial oversight in the funding activities of VET

2) a reconsideration of NVTC activities funding practice from being funded-based on the availability of funds to a system of being a needs-driven exercise

3) an investigation of the utilisation of VET funds to ensure that only budgeted activities are funded and that no tools, equipment and facilities are bought but not utilised, and

4) a permanent audit forum or department be created.

xi) Recommended improvements to the system of job attachment in the industry

Figure 28 provides respondents' views on the recommended improvements to job attachment in the industry in order to raise educational standards in NVTCs.

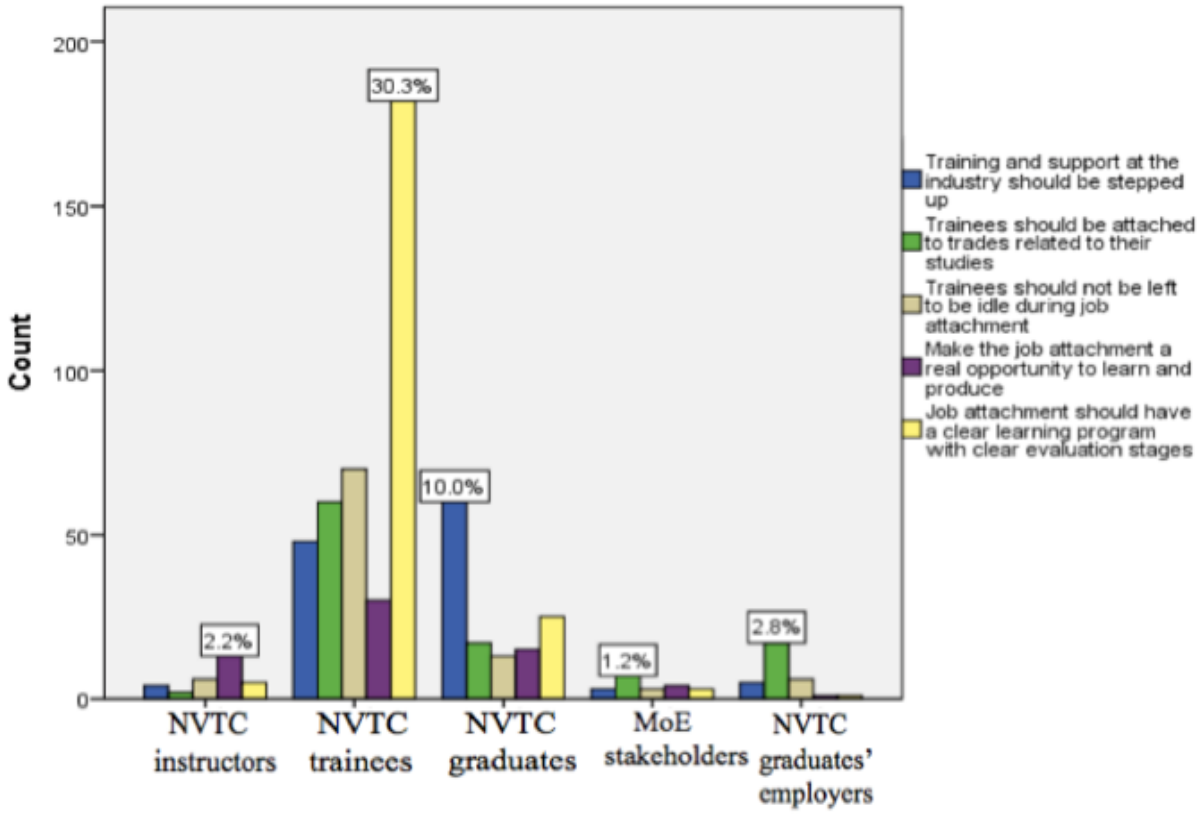


Figure 28: Improvements to the system of job attachment or training in the industry

Job attachment is one of the essential features in skills development. The exercise entails training at industry level and acts as a reinforcement of skills acquired theoretically during training at VTC level. This study shows that when asked to give opinions on how to improve the training at industry level, 2.2% of NVTC instructors responded that NVTCs should make the job attachment a real opportunity to learn and produce goods and services, 30.3% of NVTC trainees argued that job attachment should have a clear learning programme with clear evaluation stages, 10.0% of NVTC graduates opined that training and support by the industry should be stepped up, and 1.2% of MoE stakeholders and 2.8% of NVTC graduates' employers indicated that trainees should be attached to trades related to their studies (Fig. 28). There seemed to be substantial differences between the arguments given by the various respondents. Accordingly the Chi-square test was carried out to find out whether there is a

significant relationship between variables. The analysis established that there is a significant association (Chi-square test, χ^2 (16) = 170.29) between the categories under which respondents fell and improvements recommended to the system of job attachment or training at industry level, at the p-value = 0.000 < 0.05.

The results show that the vast majority of respondents adhered to the view that job attachments should have clear learning programmes with clear evaluation stages. The findings in Figure 28 show the weaknesses in the job attachment system and generate possible ways to strengthen the system pertaining to skills acquisition at industry level. The system of job attachment is not only essential to skills acquisition, but also a key feature in the process of raising educational standards in NVET. Therefore, the application of the solutions generated by this study will go a long way in raising educational standards in NVTCs.

xii) Recommended improvements to the CBET curriculum articulation

Figure 29 gives the respondents' views on recommended improvements to the CBET curriculum articulation in order to raise educational standards in NVTCs.

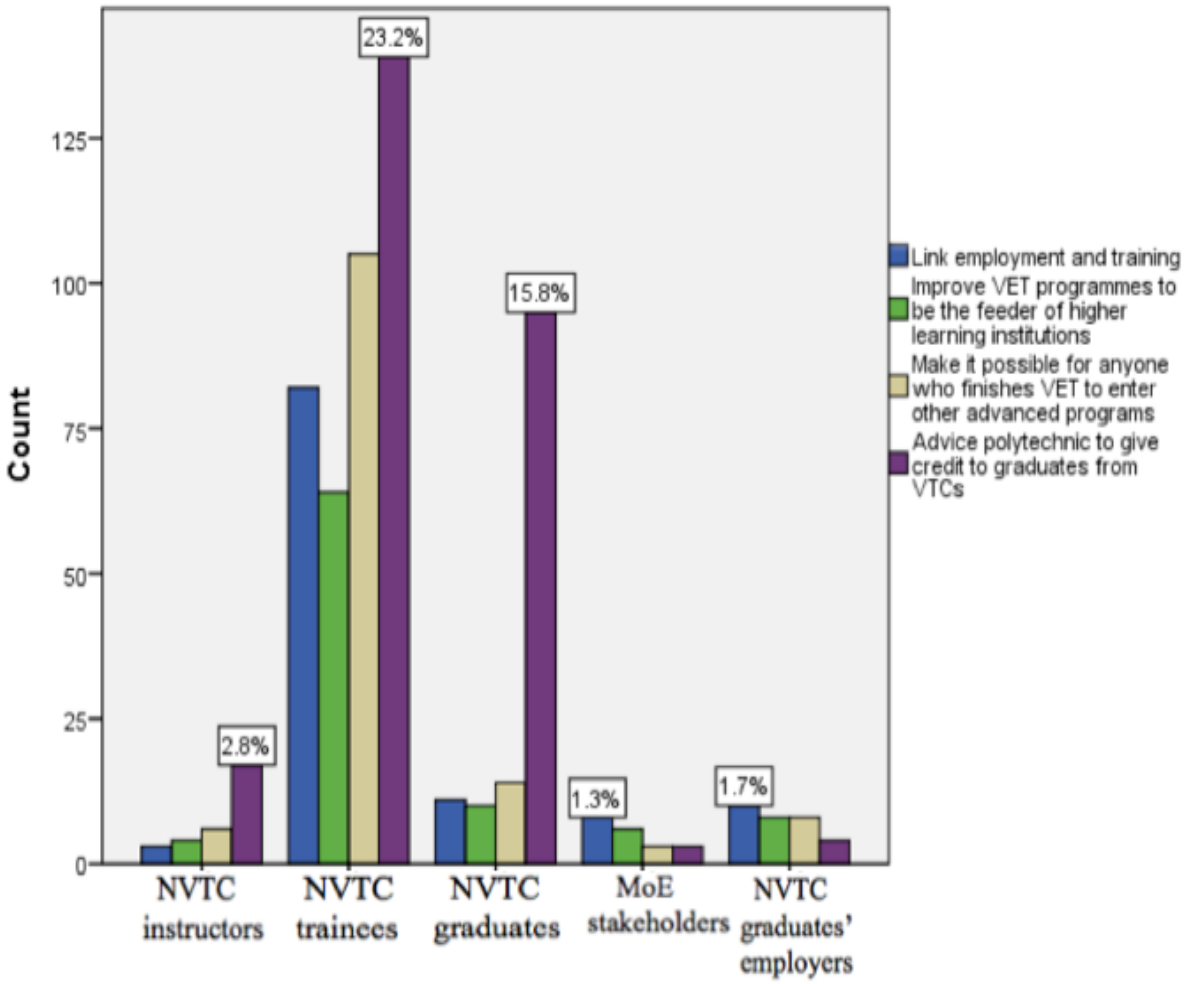


Figure 29: Improvements to the CBET curriculum articulation with the job market

One of the most essential structures of the NVET curriculum is articulation. Both internal and external articulations of VET programmes are essential to skills development and utilisation. The study sought to establish the respondents' views on how to improve the CBET system and make it more market compliant. Figure 29 shows that 2.8% of NVTC instructors, 23.2% of NVTC trainees and 15.8% of NVTC graduates suggested that the Polytechnic of Namibia should be advised to give credit to graduates from VTCs.

The test of significance was conducted and showed that the Chi-square test was χ^2 (12) = 81.61, the p-value was 0.001 < 0.05. Therefore a strong association was established between the categories under which respondents' fell and improvements recommended to the curriculum articulation with the job market.

Overall, the study shows that the respondents were in agreement that the Polytechnic of Namibia should give credit to prospective students in engineering courses from VTCs. By articulating VET programmes as proposed in this study, NVTC graduates in the job market who wish to pursue their studies at the PoN and current trainees intending to further their studies in VET will be able to do so.

xiii) Recommended improvements to programme duration for certification

Figure 30 provides the respondents' views on the recommended improvements to the CBET programme duration in order to raise educational standards in NVTCs.

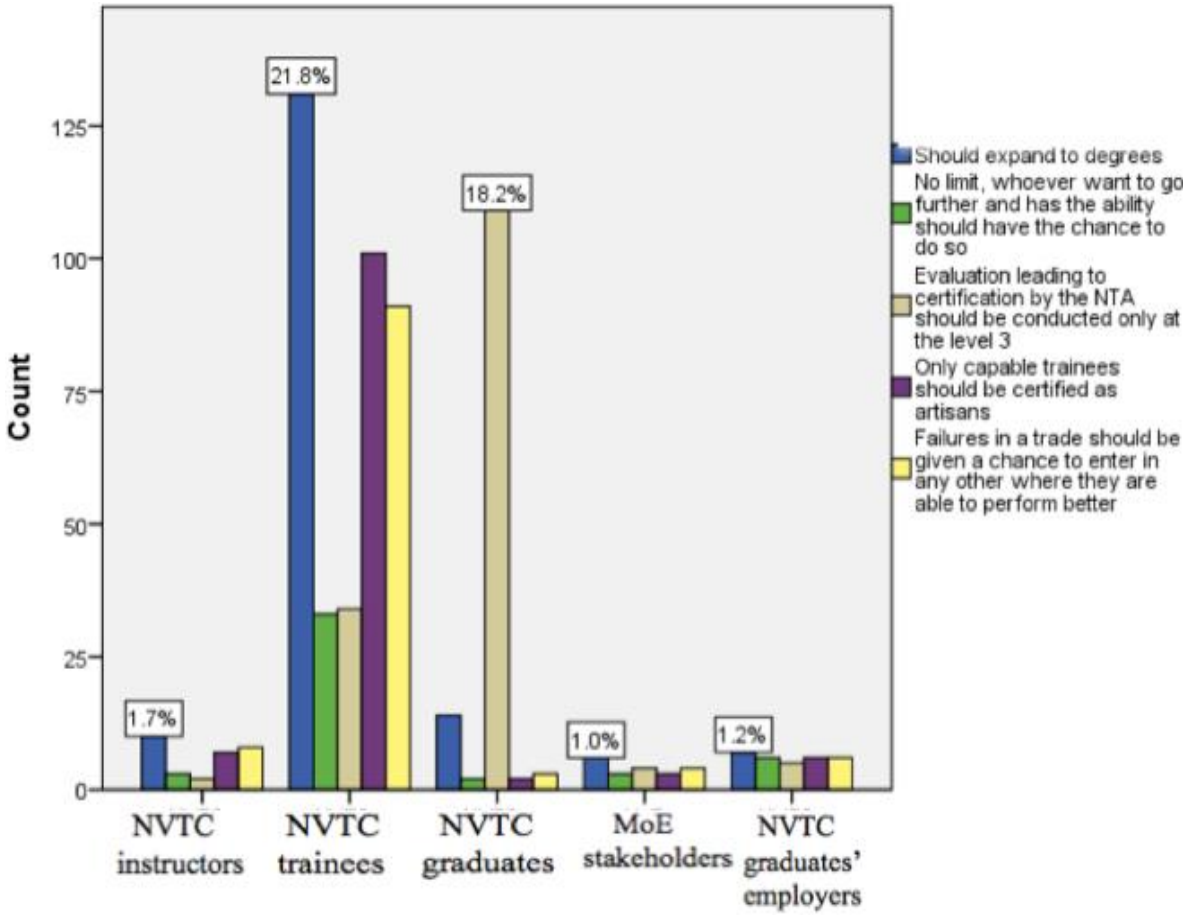


Figure 30: Recommended improvements to the CBET programme duration for certification

The duration of studies before certification depends on many factors and is determined by the successful completion of the requirements set forth in the curriculum. In this respect, Figure 30 shows the views of the respondents on the possible improvements to the CBET programme duration for certification. The findings show that 1.7% of NVTC instructors, 21.8% of NVTC trainees, 1.0% of MoE stakeholders and 1.2% of NVTC graduates' employers were of the view that VET programmes should be expanded to include degrees, and 18.2% of NVTC graduates indicated that the evaluation leading to certification conducted by the NTA should be carried out only at Level 3. The Chi-square test χ^2 (16) = 307.00 was significant between the categories under which respondents fell and

improvements recommended to the programme duration for certification, with a p-value = 0.010 < 0.05.Two ideas emerged from the results. The first view was that degree programmes offered should be in the NVET curriculum, and the second was that evaluation leading to certification by the NTA should be conducted only at Level 3.

xiv) Recommended improvements to the CBET programmes for future prospects of NVTC graduates

Figure 31 provides the respondents' views on recommended improvements to CBET programmes to increase the future prospects of NVTC graduates

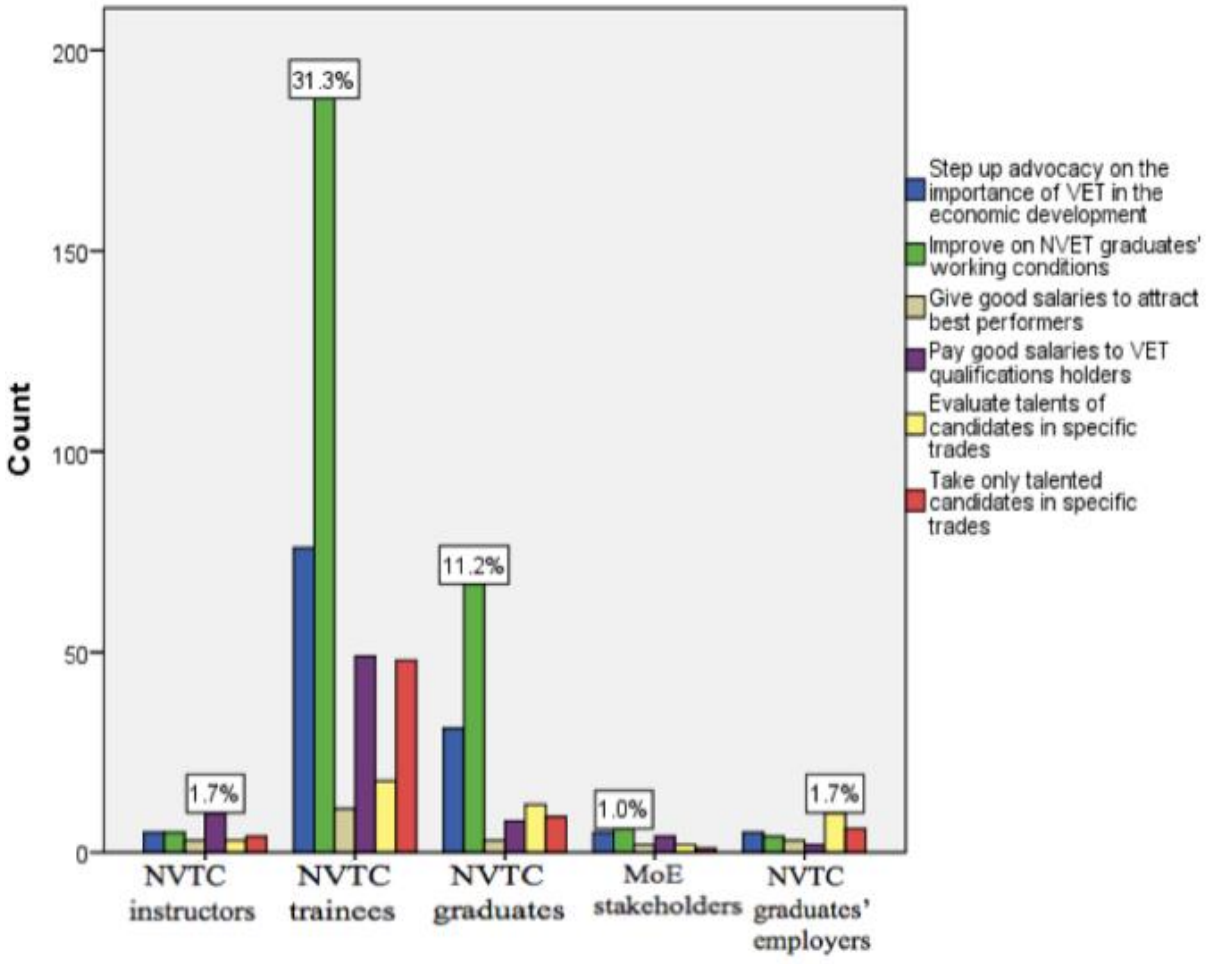


Figure 31: Recommended improvements to the CBET curriculum for graduates' prospects for the future

The prospect for the future of graduates implies possibilities to pursue their studies, and to get or create employment. Though this feature focuses on graduates, the implications go way beyond the training rooms. This feature is an important part of VET since it arouses hope and feeds aspirations of trainees, graduates and the society in general. The results in Figure 31 show that 1.7% of NVTC instructors proposed that NVTC graduates should be paid good salaries, while 31.3% of NVTC trainees, 11.2% of NVTC graduates and 1.0% of MoE stakeholders proposed that an improvement to NVET graduates' working conditions be made. The results of the χ^2 analysis revealed that there is a linkage (Chi-square test, χ^2 (17) = 182.13) between the categories under which the respondents fell and improvements recommended to graduates' prospects for the future, with a p-value = 0.012 < 0.05.

The results seem to suggest the awareness among respondents that working conditions of NVTC graduates are not ideal. Therefore an improvement in the working conditions will have a positive impact on the educational standards in NVTCs.

4.2.3.3 Addressing gender issues in NVTCs

Question C3 (Appendix 4) was: "In your opinion, what needs to be done to address gender issues in NVTCs?" This question is important in the sense that it was an attempt to find out ways of encouraging female students to take part in VET programmes. VET programmes are male-dominated in Namibia (GRN, 2007).

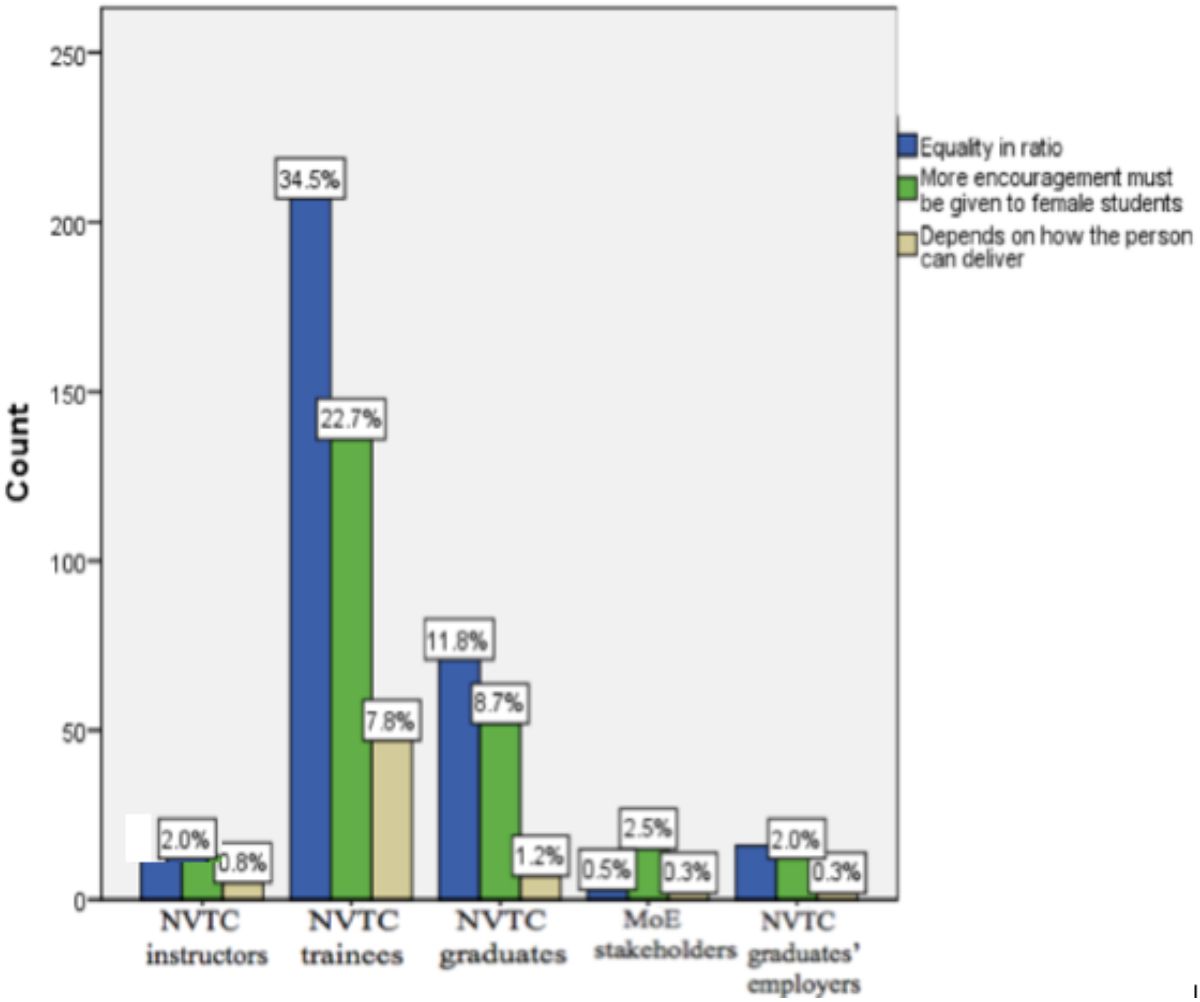


Figure 32: Adjustments to the VET programme to address gender issues in NVTCs

Figure 32 shows the respondents' suggested improvements to address gender issues in NVTCs. The most significant results show that 2.0% of NVTC instructors and 2.5% of MoE stakeholders agreed that more encouragement must be given to female students to enrol in VET institutions. A further 34.5% of NVTC trainees, 11.8% of NVTC graduates and 2.0% of NVTC graduates' employers mentioned that equality in ratio between males and females accessing NVTCs should be considered. The χ^2 test was carried out and showed an association (Chi-square test, χ^2 (8) = 20.64) between the categories under which respondents fell and adjustments to be made to address gender issues in NVTCs with p-value = 0.008 < 0.05.

The overall results show that there is an overwhelming support towards a fifty-fifty representation of males and females in NVTCs. Judging from the results, the study shows that academic criteria seem to be neglected and privilege for access to VET appears to be on political principles of affirmative action in favour of women. The results show that not only political evidence was suggested as a solution to the problem of access to VET by women, but a noteworthy number of respondents also favoured academic criteria. Therefore, the process of raising educational standards in NVTCs requires a combined approach that takes into consideration both academic and political principles.

4.2.3.4 Addressing the image of NVET

Question C4 (Appendix 4) was: "In your view, what needs to be done in order to improve the image of NVET?" Currently, NVTCs are regarded as the dumping ground for less academically endowed students. Therefore this study sought to address the issues pertaining to the image of VET in Namibia.

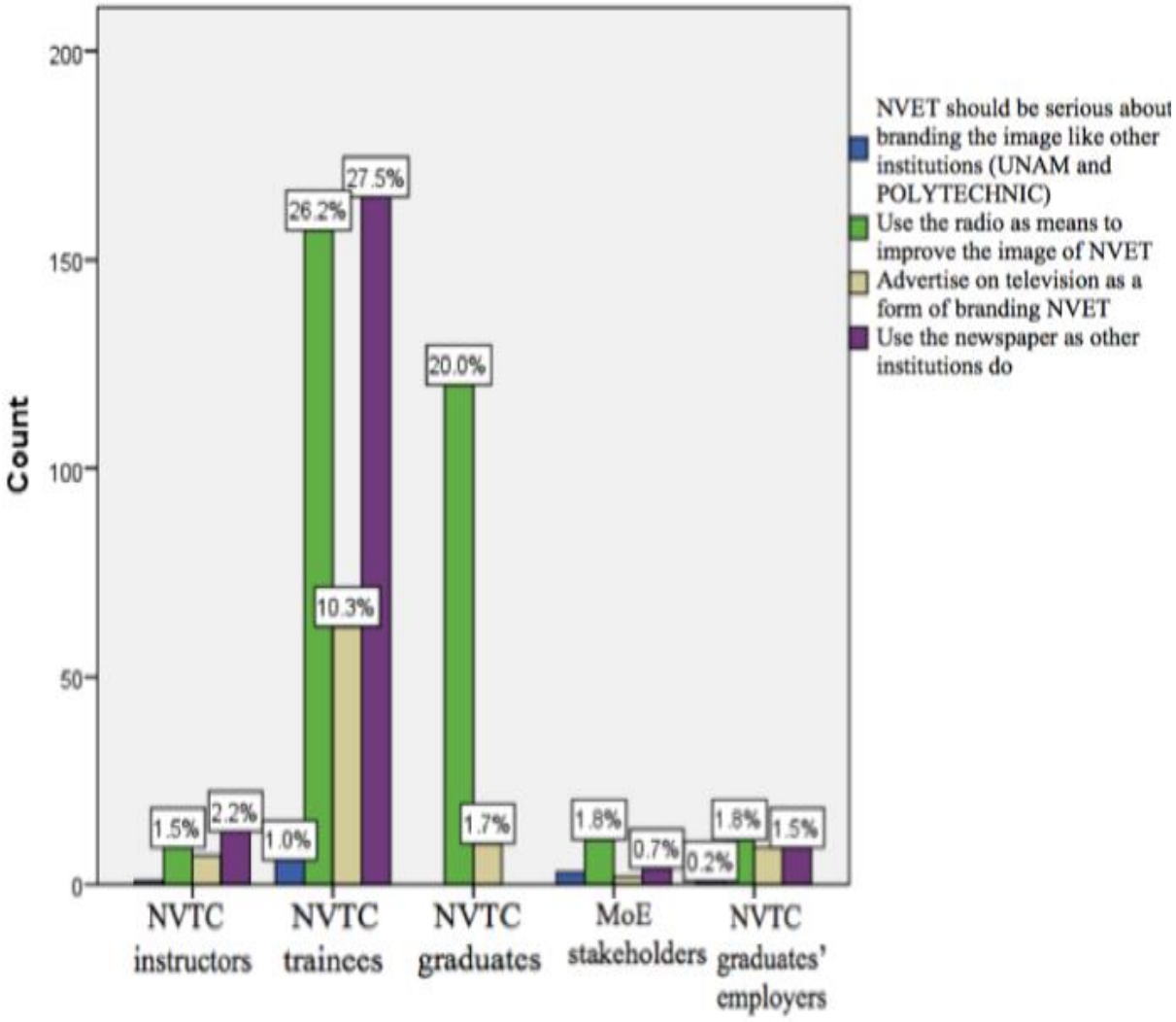


Figure 33: Improvements needed to address the image of NVET

Figure 33 shows that 2.2% of NVTC instructors and 27.5% of NVTC trainees suggested the use of newspapers, as other institutions in the country do, in order to improve the image of NVET, while 20.0% of NVTC graduates, 1.8% of MoE stakeholders and 1.8% of NVTC graduates' employers supported the use of radio as a means of improving the image of NVET.

The Chi-square test was conducted to affirm or reject the existence of a relationship between the different views. The test results (χ^2 (12) =146.07) showed a significant association

between the categories under which respondents fell and improvement to the NVET image with p-value = 0.001 < 0.05. The overall outcome showed that the use of the radio as a way to improve the image of VET gained overwhelming support.

4.2.3.5 Recommended professional qualifications

The respondents' recommendations on NVET qualifications were grouped into five different professional qualifications in line with the literature review on curriculum articulation (see 2.4.4.4, p. 65). Question C5 (Appendix 4) was: "Which of the following professional qualifications do you think should be introduced in the NVET curriculum? (Tick as many as you can)." Options included *doctoral, master's, honours and bachelor's degrees* and *diplomas*. This question was intended to reveal the opinions of respondents on the desired qualifications for the improvement of the standards of education in NVTCs by training highly qualified NVTC professionals. The responses are given in Figure 34.

i) Recommended professional qualifications

1. Doctoral degrees in the NVET curriculum

Figure 34 provides the respondents' views on recommended professional doctoral qualifications to be introduced in order to raise educational standards in NVTCs.

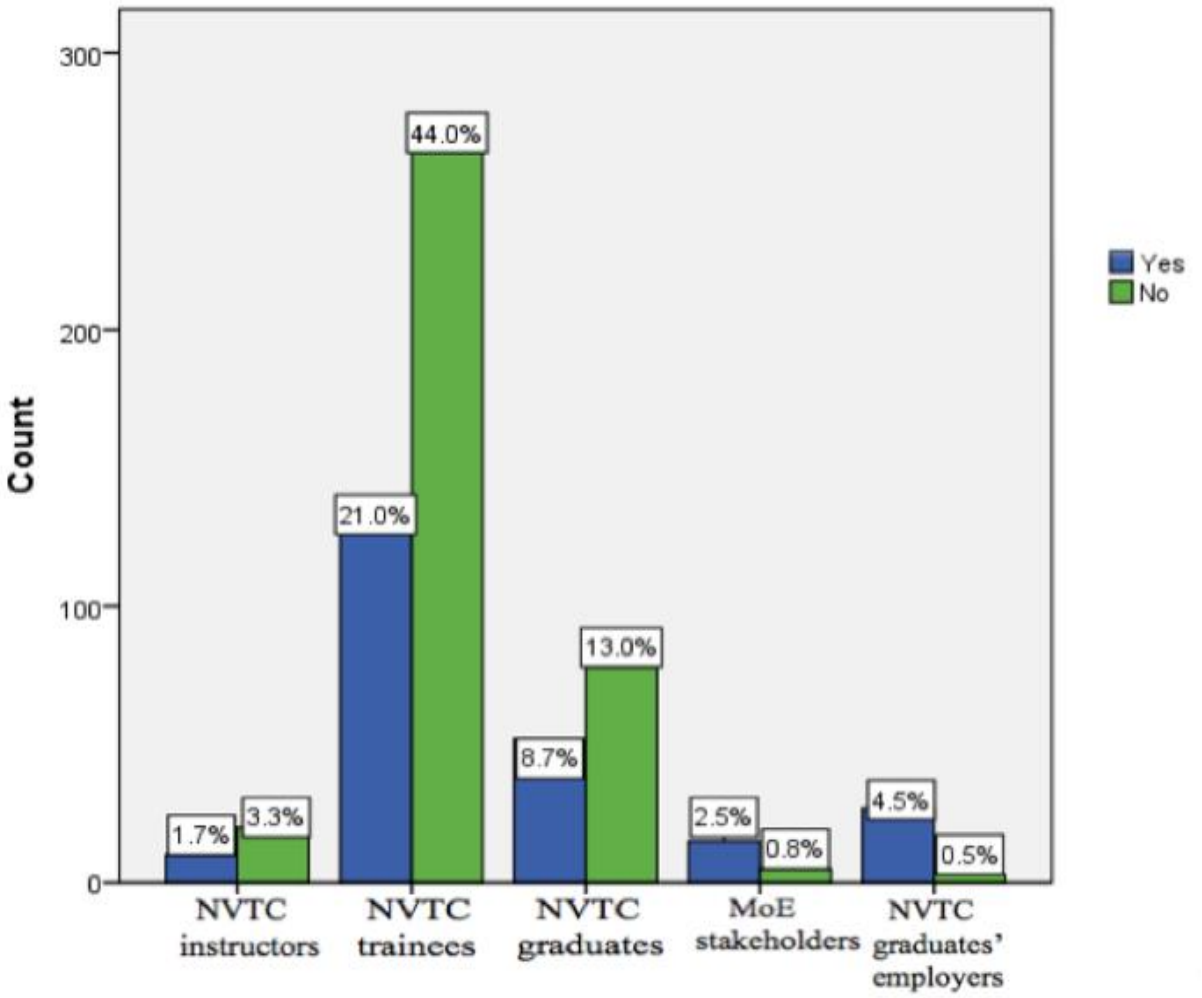


Figure 34: Introduction of professional doctoral degrees in the NVET curriculum

Figure 34 shows that 3.3% of NVTC instructors, 44.0% of NVTC trainees and 13.0% of NVTC graduates ticked the "no" option, meaning that a doctoral professional qualification should not be introduced in NVTCs, whereas 2.5% of MoE stakeholders and 4.5% of NVTC graduates' employers ticked the "yes" option. An analysis of the relationship between opinions was conducted. The $\chi 2$ results showed a strong association (Chi-square test $\chi 2$ (4) = 51.71 with the p-value = 0.000 < 0.05) between the categories under which respondents fell and the introduction of a doctoral professional qualification.

The results show an overwhelming opposition to the introduction of a doctoral qualification in NVET programmes.

2) Professional master's degrees

Figure 35 shows respondents' views on recommended professional master's degree qualifications to be introduced in order to raise educational standards in NVTCs.

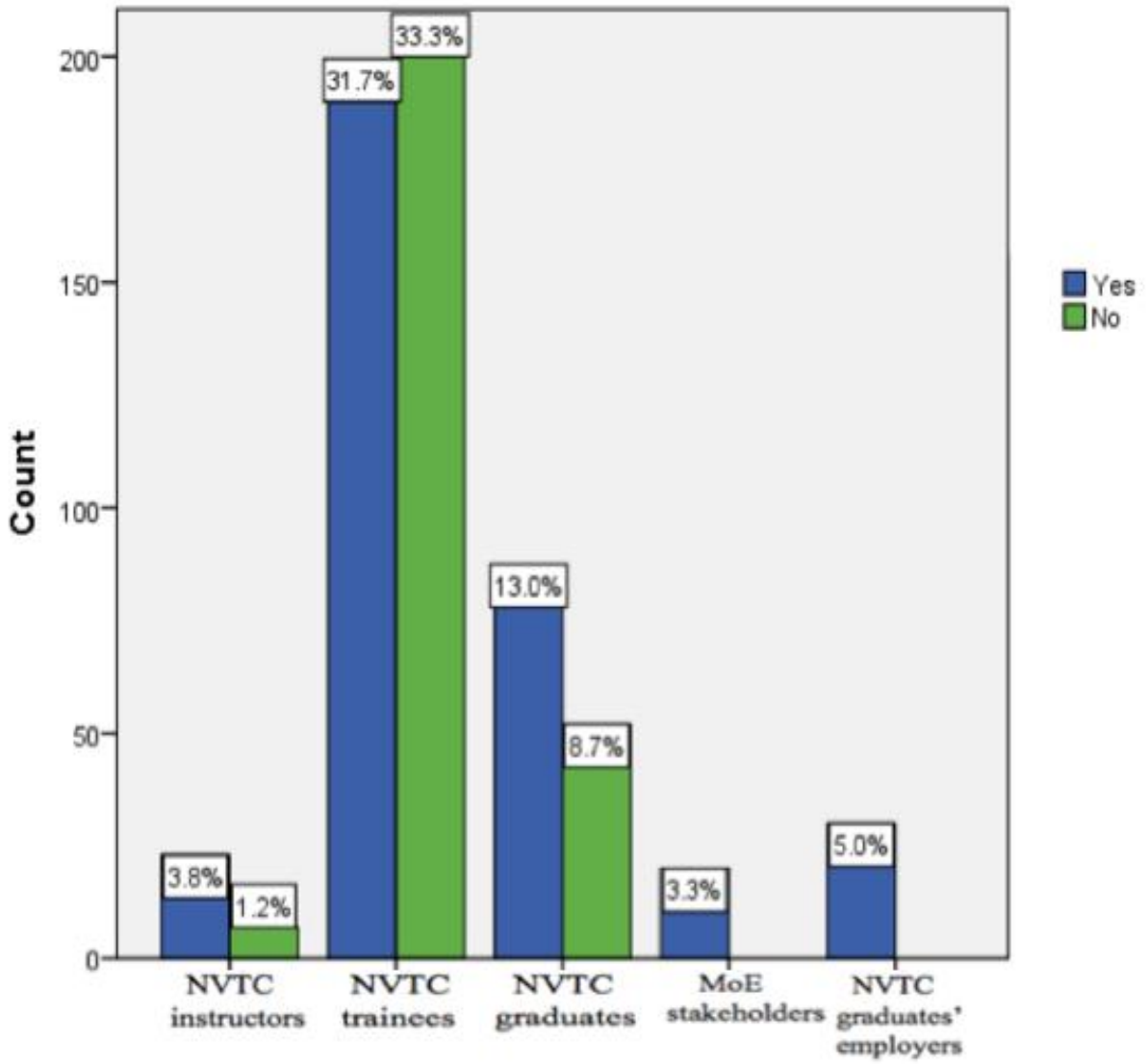


Figure 35: The introduction of professional master's degrees in the NVET curriculum

Figure 35 indicates that 3.8% of NVTC instructors, 13.0% of NVTC graduates, 3.3% of MoE stakeholders and 5.0% of NVTCs graduates' employers chose the "yes" option, supporting the introduction of a master's professional qualification in the NVET curriculum, while 33.3% of NVTC trainees chose the "no" option. The test of association between variables was conducted to determine the existence of a relationship. The test showed that there is a significant association between the categories under which respondents fell and the introduction of a master's professional qualification, $\chi 2\ (4) = 53.79$, p-value $=0.001 < 0.05$. The results showed unequivocally that there is support among respondents for the introduction of a master's qualification in the NVET curriculum.

3) Professional honour's degrees

Figure 36 shows respondents' views on recommended professional honour's degree qualifications to be introduced in order to raise educational standards in NVTCs.

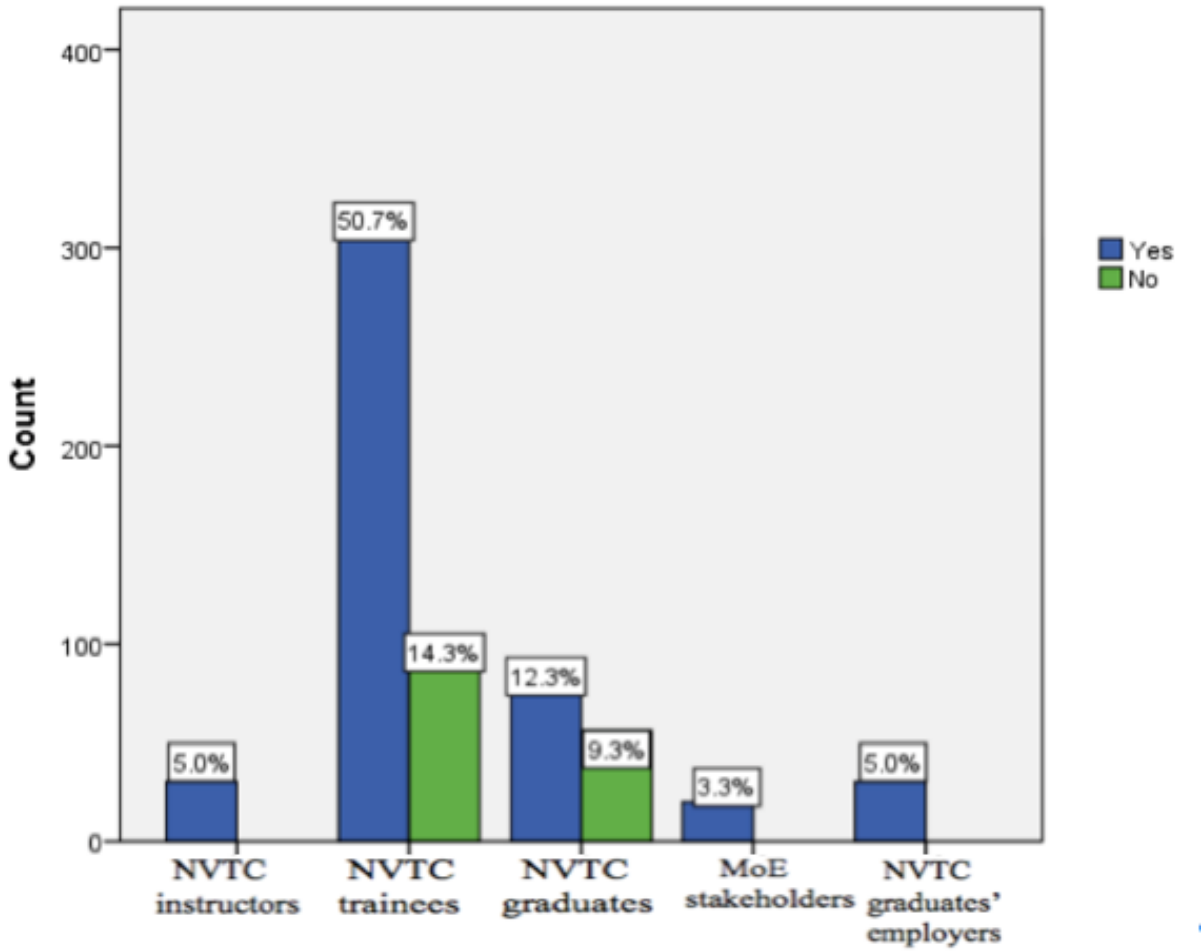


Figure 36: The introduction of professional honour's degrees in the NVET curriculum

The findings in Figure 36 reveal that 5.0% of NVTC instructors, 50.7% of NVTC trainees, 12.3% of NVTC graduates, 3.3% of MoE stakeholders and 5.0% of NVTC graduates' employers were in favour of the introduction of an honour's professional qualification in NVTCs. The Chi-square test ($\chi 2$ (4) = 52.48, p-value =0.000 < 0.05) indicated that there is an association between the categories under which the respondents fell and the introduction of an honour's professional qualification in the NVTC curriculum. The overall sentiment among respondents was that honour's qualifications should be introduced in NVTCs.

4) Professional bachelor's degrees

Figure 37 shows respondents' views on recommended professional bachelor's degree qualifications to be introduced in order to raise educational standards in NVTCs.

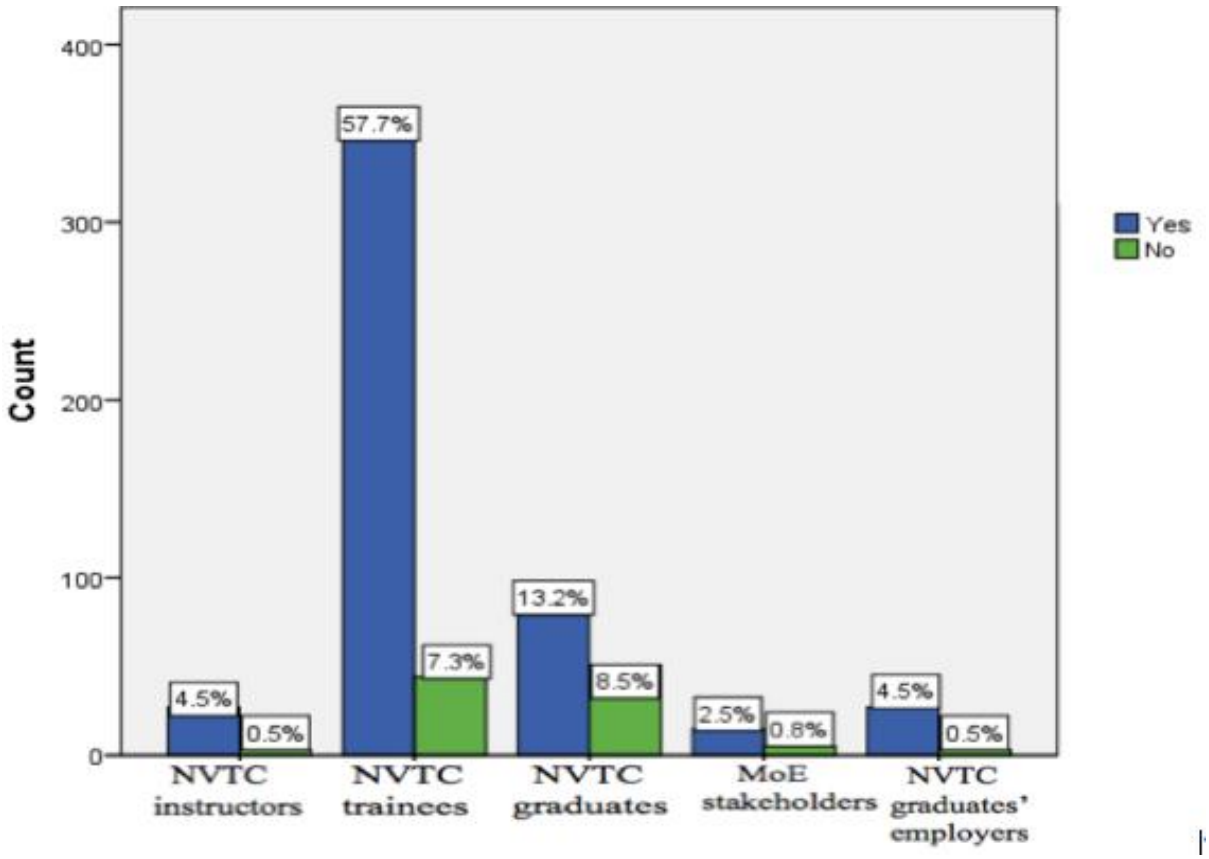


Figure 37: The introduction of professional bachelor's degrees in the NVET curriculum

The results in Figure 37 show that 4.5% of NVTC instructors, 57.7% of trainees, 13.2% of graduates, 2.5% of MoE stakeholders and 4.5% of graduates' employers agreed with the introduction of a bachelor's professional qualification in NVTCs. In order to ascertain the significance of the relationship between variables, an $\chi 2$ test was computed and a significant association between the categories under which respondents fell and the introduction of a bachelor's professional qualification was found, $\chi 2\ (4) = 59.65$, with the p-value = $0.005 < 0.05$. High percentages of respondents were in favour of the introduction of a bachelor's qualification in NVET.

5) Professional diplomas

Figure 38 shows respondents' views on recommended professional diplomas to be introduced in order to raise educational standards in NVTCs.

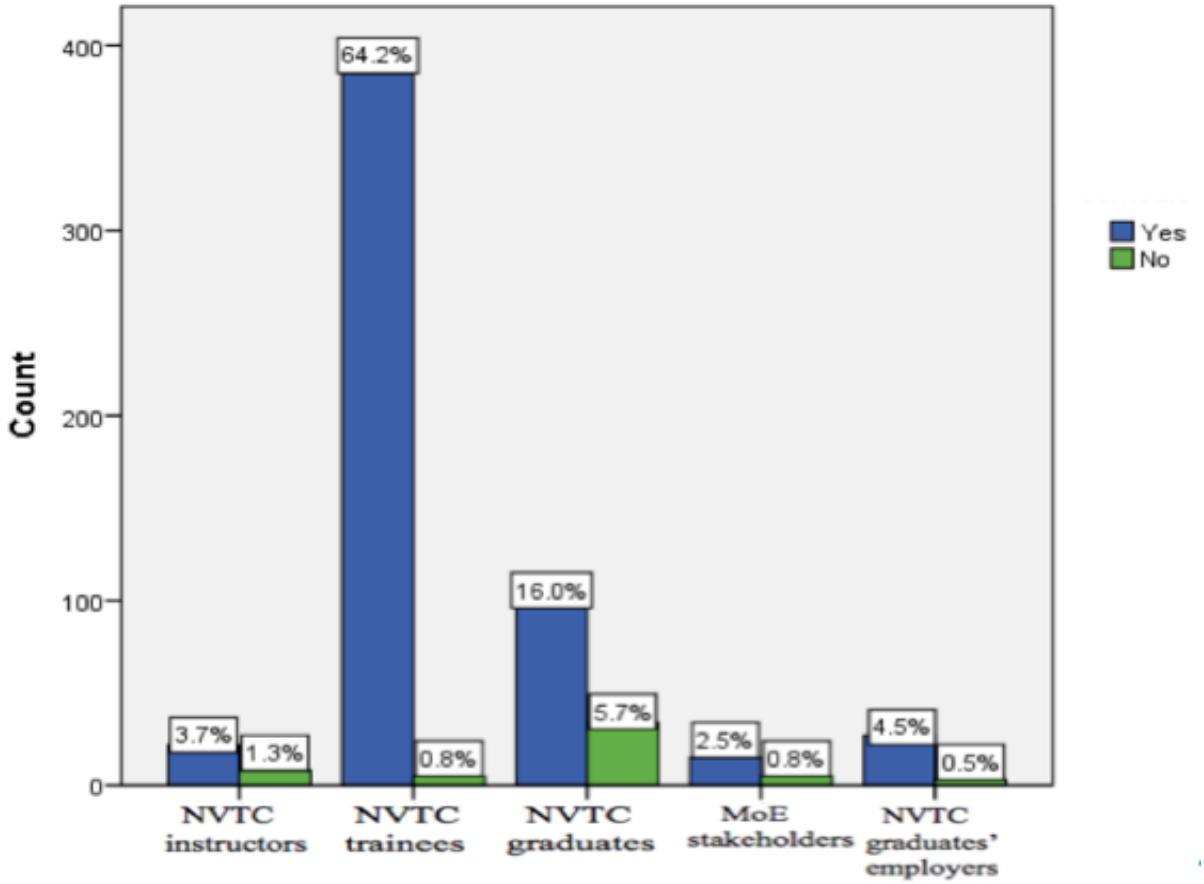


Figure 38: The introduction of professional diplomas in the NVET curriculum

Figure 38 reveals that 3.7% of NVTC instructors, 64.2% of NVTC trainees, 16.0% of NVTC graduates, 2.5% of MoE stakeholders and 4.5% of NVTC graduates' employers supported the idea of introducing professional diplomas in the NVET curriculum.

The test of difference in opinions between categories showed that there was a significant association ($\chi 2$ (4) = 95.25, p-value = 0.010 < 0.05) between the categories under which respondents fell and the introduction of a professional diploma qualification. The vast

majority of respondents were in favour of the introduction of professional diploma qualifications in the NVET curriculum.

ii) Explanations of the National Qualifications Framework (NQF) level chosen

Question C5 (Appendix 4) was: "Please explain." This was a follow-up question asked in order to solicit respondents' views on the choices of the qualifications they made in the first part of the question.

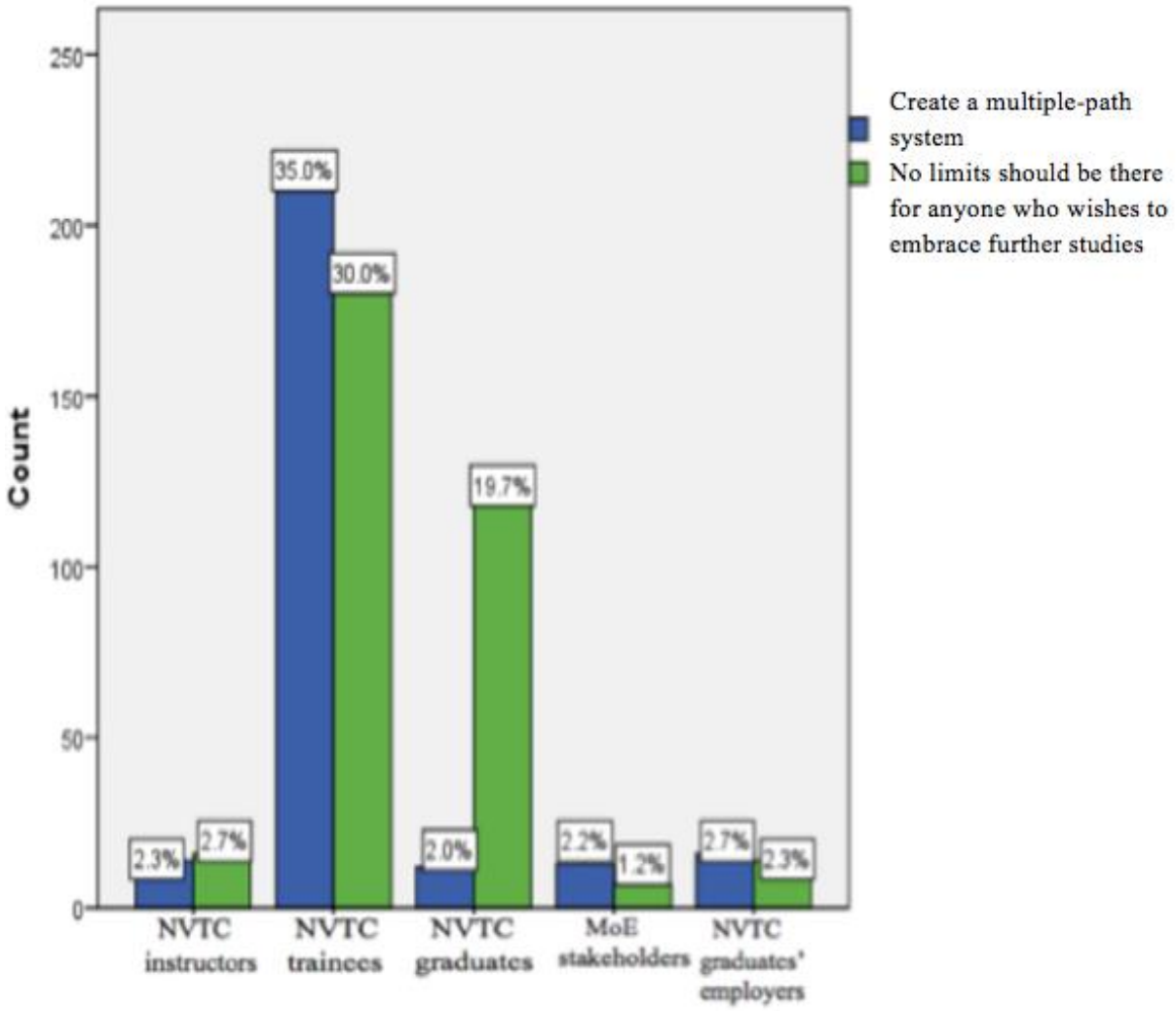


Figure 39: Respondents' reasons for the NQF level chosen

Figure 39 shows the explanations given by respondents for choosing a particular qualification. It shows that 2.7% of NVTC instructors and 19.7% of NVTC graduates opined that no limits should be imposed on anyone who wishes to embrace further studies on the NQF levels. In this regard, 35.0% of NVTC trainees, 2.2% of MoE stakeholders and 2.7% of NVTC graduates' employers said that NVET should create a multiple-path system to give graduates various options in their choices of pursuing higher qualifications.

The relationship proved to be significant between the categories under which respondents fell and the explanation given of NQF levels ($\chi 2$ (4) = 83.78, p-value =0.002 < 0.05). There seemed to be considerable support for the view that there should be no limit regarding NVET professional qualifications. Anyone contemplating higher qualifications should have options available in the system.

4.2.3.6 The language of instruction in NVTCs

Question C6 (Appendix 4) was: "In your opinion, should something be done with regard to the language of instruction in order to improve the educational standards in NVTCs?" This question was divided into two parts, namely Part (i), which dealt with the views of respondents on the necessity to improve the language of instruction in NVTCs as a way to raise educational standards. Part (ii) was meant to solicit explanations on the opinion given in the previous part. The purpose of this question was to clarify the position of stakeholders in NVET with regard to language challenges.

i) Language of instruction in NVTCs

Figure 40 shows respondents' views on recommended improvements to the language of instruction in NVTCs.

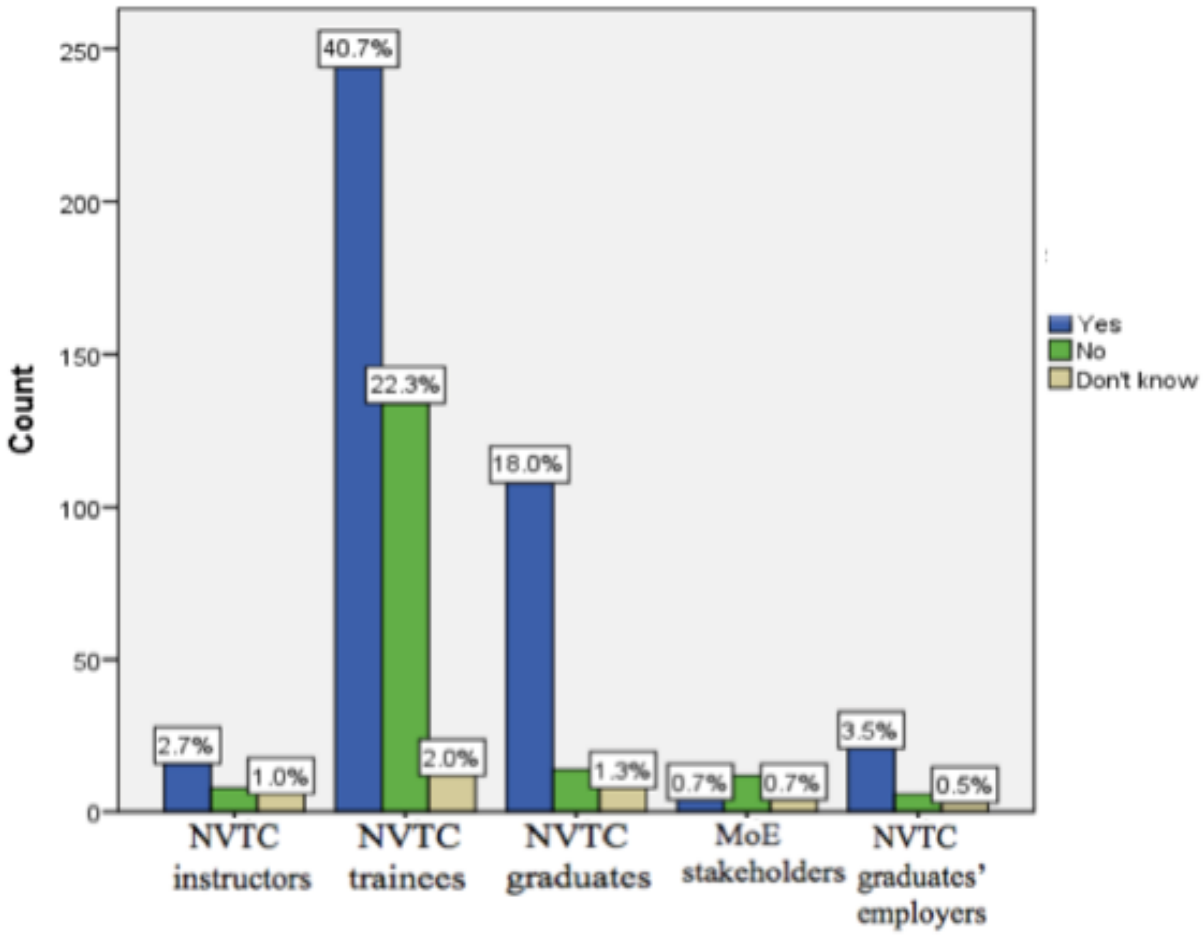


Figure 40: Language of instruction to improve the educational standards in NVTCs

The results in Figure 40 show that 2.7% of NVTC instructors, 40.7% to NVTC trainees, 18.0% of NVTC graduates and 3.5% of graduates' employers ticked the "yes" option, indicating that changes need to be made in the language of instruction in order to improve educational standards in NVTCs. A test of association between categorical variables was conducted. The $\chi 2$ test indicated that a statistically significant association between the categories under which respondents fell and language of instruction exists ($\chi 2$ (8) = 64.50, with p-value = 0.001 < 0.05).

Worth noting is the massive support for the need to look into the language of instruction in NVTCs in all categories of respondents. This widespread view testified that the process of raising educational standards must include de facto a clear language strategy.

ii) Explanations of what needs to be done about the language of instruction to improve the educational standards in NVTCs

This section provides respondents' explanations of what needs to be done about the language of instruction in order to improve the educational standards in NVTCs.

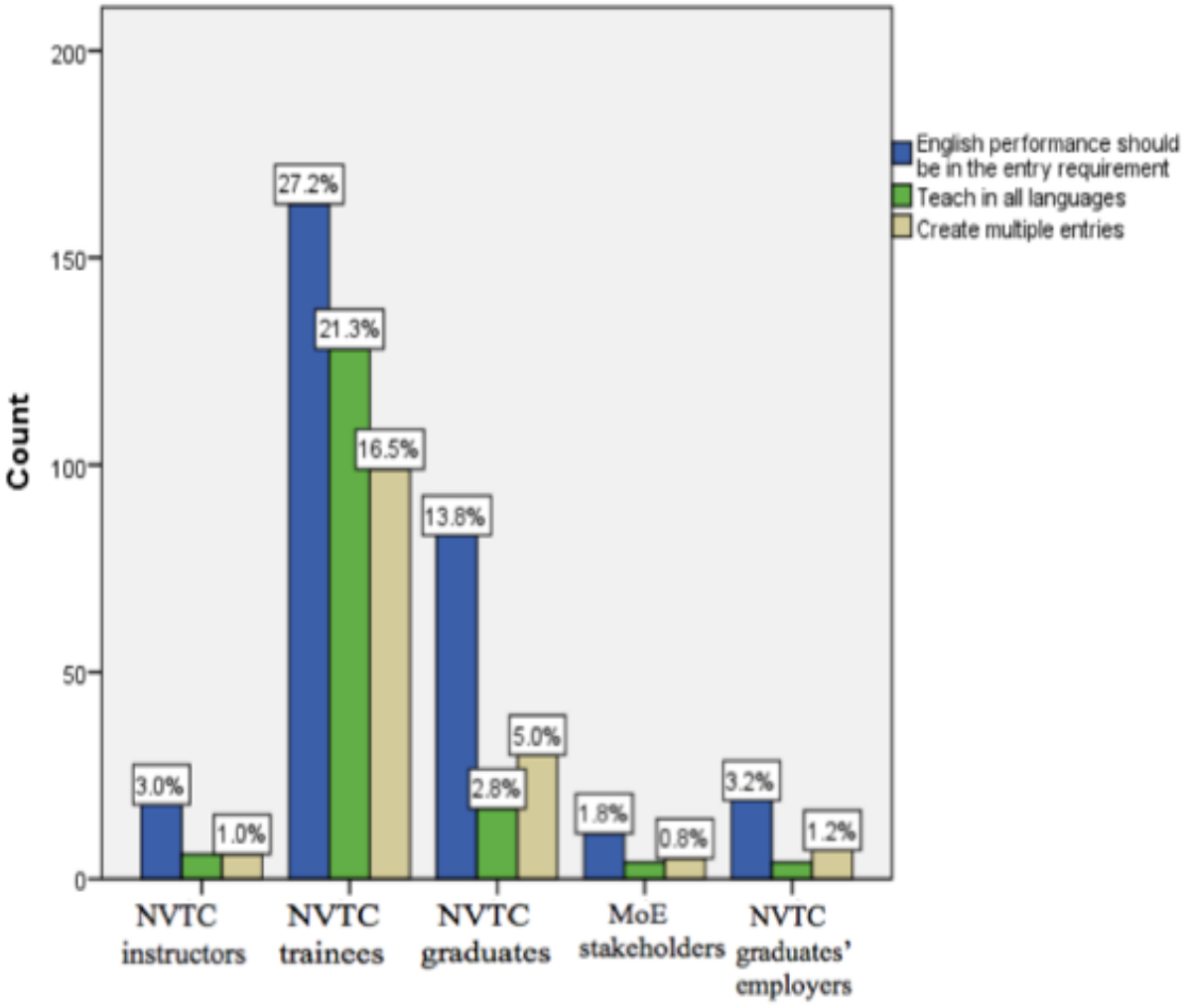


Figure 41: Explanations of what needs to be done regarding the language of instruction in NVTCs

Figure 41 displays the possible explanations pertaining to the language of instruction in NVTCs. The results show that 3.0% of NVTC instructors, 27.2% of NVTC trainees, 13.8% of NVTC graduates, 1.8% of MoE stakeholders and 3.2% of NVTCs graduates' employers indicated that English performance should be part of the entry requirements for NVTCs.

Nonetheless, some of the respondents were of the view that other (local) languages should be used as medium of instruction in NVTCs (see Fig. 41). The Chi-square test ($\chi 2$ (8) = 30.10, p-value of 0.025 < 0.05) showed a significant association between the categories under which respondents fell and improvement regarding the language of instruction in NVTCs.

The most dominant view among respondents was that English performance should be part of the entry requirements for NVTCs. The inclusion of English is a way of raising educational standards in NVTCs due to the important role the language plays in NVTC activities. Improving entry requirements in the language of instruction might result in improved communication, thus raising educational standards.

4.2.4 CBET curriculum implementation

This section looks at the implementation of NVET programmes and CBET features in NVTCs. Specific obstacles regarding the implementation, enhancement of educational standards in NVTCs and professional skills among NVET stakeholders are addressed.

4.2.4.1 Obstacles related to the implementation of NVET programmes in NVTCs

Question D1 (Appendix 4) was: "In your opinion, are there obstacles that are related to the implementation of NVET programmes in NVTCs?" The question had two parts. Part (i) solicited views of respondents on their observations about obstacles related to the implementation of the CBET curriculum in NVTCs. Part (ii) asked the respondents to give

reasons for the opinion held on the observed obstacles to the implementation of the CBET curriculum in NVTCs. The responses are given in Fig. 42.

i. Respondents' views on obstacles related to the implementation of NVET programmes in NVTCs

This section provides respondents' opinions on obstacles related to the implementation of NVET programmes in NVTCs.

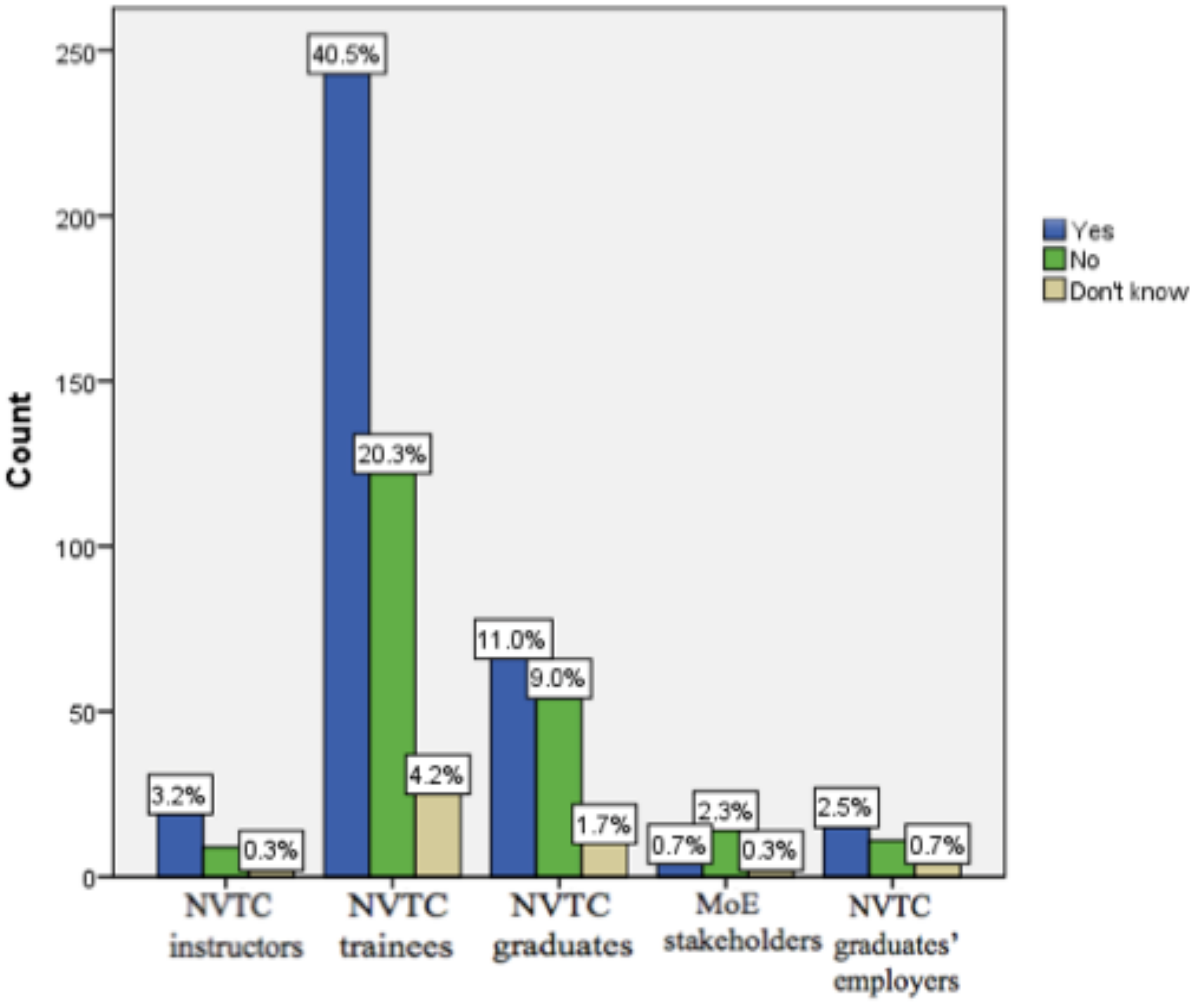


Figure 42: Respondents' views on obstacles related to the implementation of NVET programmes in NVTCs

The respondents' views on the obstacles related to the implementation of NVET programmes in NVTCS are given in Figure 42. The results show that 3.2% of NVTC instructors, 40.5% of NVTC trainees, 11.0% of NVTC graduates and 2.5% of NVTC graduates' employers said "yes", thus confirming that there are obstacles related to the implementation of NVET programmes in NVTCs. About 2.3% of the MoE stakeholders selected the "no" opinion.

The test of association between categorical variations of opinions proved that there is a significant association ($\chi 2$ (8) = 20.45, p-value = 0.009 < 0.05) between the categories under which respondents fell and obstacles related to the implementation of NVET programmes in NVTCs. The view expressed by respondents above conclusively indicates that there are obstacles related to the implementation of NVET programmes in NVTCs.

ii. Explanations of specified obstacles related to the implementation of NVET programmes in NVTCs

In this section results on obstacles related to the implementation of NVET programmes in NVTCs are provided.

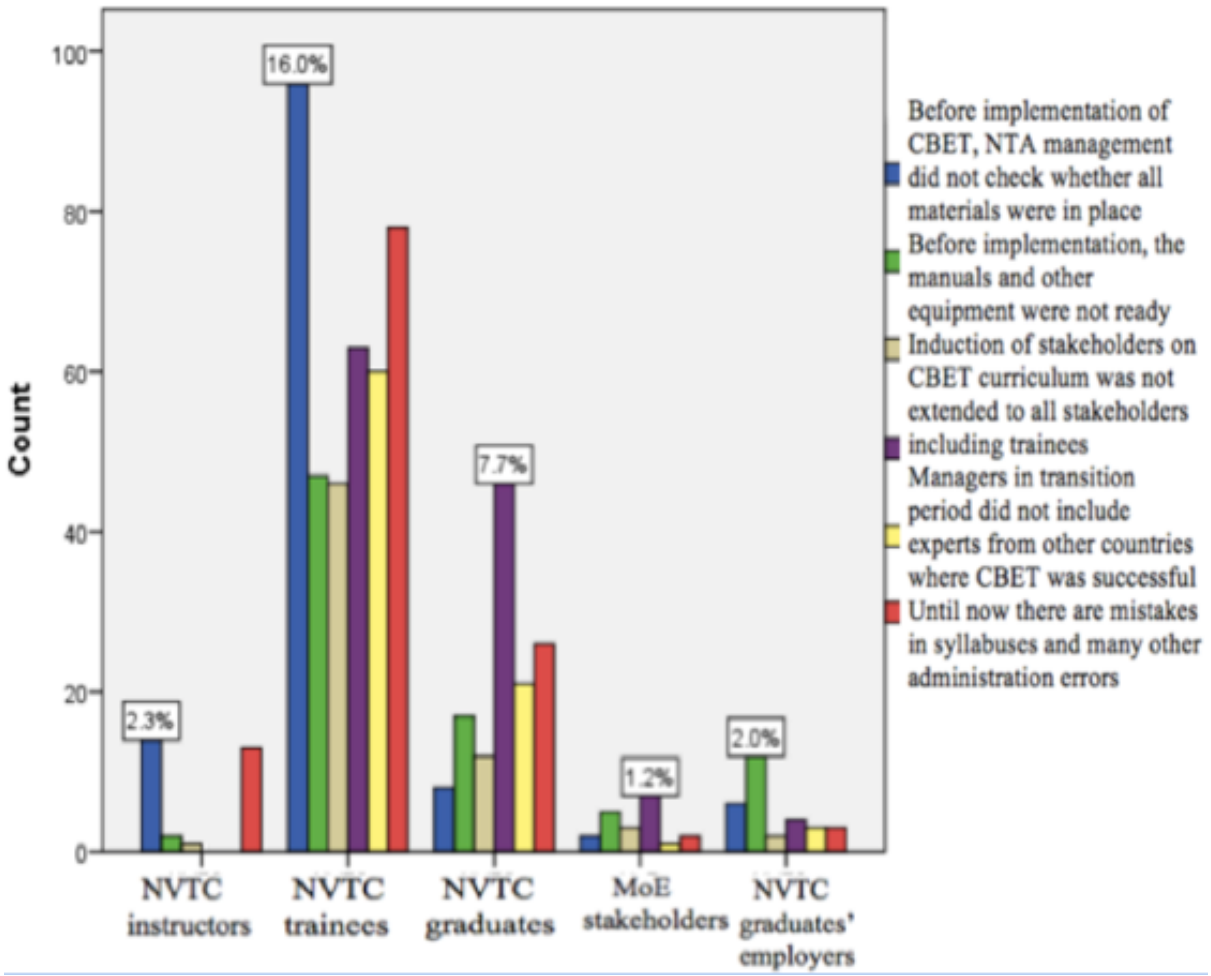


Figure 43: Explanations of specified obstacles related to the implementation of NVET programmes in NVTCs

In Figure 43, 2.3% of NVTC instructors and 16.0% of NVTC trainees stated that before the implementation of the CBET, NTA management did not check whether all the materials were in place. Further, 2.0% of NVTC graduates' employers added that before implementation, the manuals and other equipment were not ready. Another view was that 7.7% of NVTC graduates and 1.2% of MoE stakeholders said the managers in the transition period did not include experts from countries where CBET had proved to be successful. A test of association between views of respondents was carried out. Chi-square test ($\chi 2$ (20) = 92.62, p-value = 0.000 < 0.05) was obtained showing an association between the categories under

which respondents fell and the explanations of obstacles related to the implementation of NVET programmes in NVTCs.

The emerging view in this respect points at the fact that before the implementation of the CBET system, the NTA management did not check whether all materials were in place at NVTCs. The observed fall in educational standards in NVTCs could be attributed to the poor implementation process of the CBET system.

4.2.4.2 What should be done for the successful implementation of NVET programmes

Question D2 (Appendix 4) was: "In your opinion, what needs to be done in order to conduct a successful implementation of VET programmes in NVTCs?" The first part of the question solicited the opinions of respondents on what must be done for the successful implementation of the CBET curriculum in NVTCs, while the second part asked them to provide an explanation.

i) What needs to be done for the successful implementation of NVET programmes

Figure 44 shows the views of respondents on the improvements needed for the successful implementation of NVET programmes.

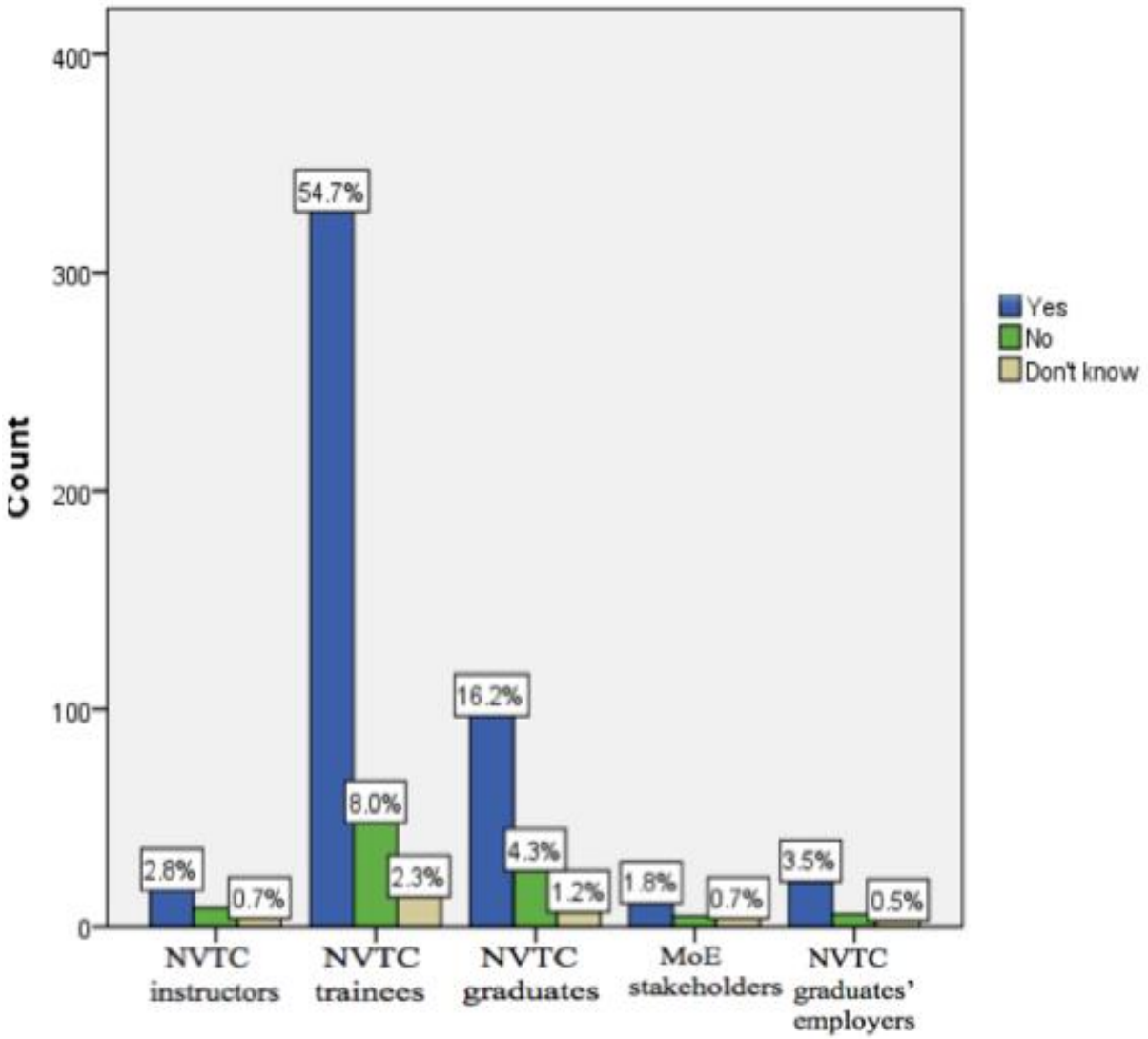


Figure 44: What needs to be done for the successful implementation of NVET programmes

The results in Figure 44 show that 2.8% of NVTC instructors, 54.7% of NVTC trainees, 16.2% of NVTC graduates, 1.8% of MoE stakeholders and 3.5% of NVTCs graduates' employers agreed that something should be done in order to implement the VET programmes in NVTCs successfully. The test of association between categories of instructors, trainees, graduates, MoE stakeholders and graduates' employers with regard to the expressed views on improvements needed for successful implementation of VET programmes in NVTCs proved

significant. ($\chi 2$ (8) = 30.15, p-value = 0.000 < 0.05). The most popular opinion of respondents was that something needed to be done for a successful implementation of NVTCs programmes. This confirmation of a dire need to improve the NVTC curricula justifies the current mainstreaming of the NVET programme upgrading process.

ii) Explanations of what needs to be done for the successful implementation of NVET programmes

Figure 45 presents respondents' explanations of views regarding the implementation of NVET programmes.

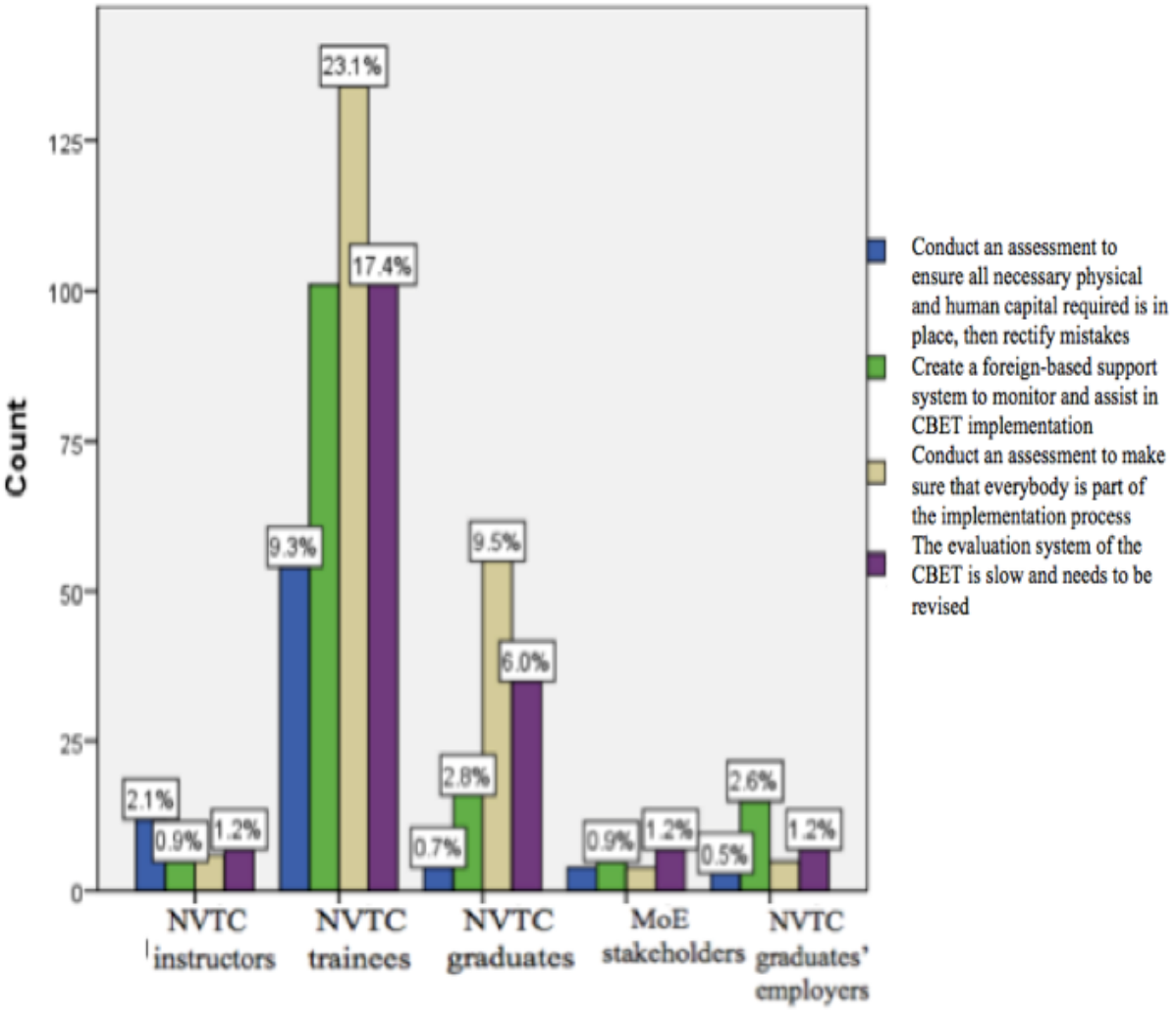


Figure 45: Explanation of what needs to be done for the successful implementation of NVET programmes

Curriculum implementation is an expert work that involves many intertwined stages including curriculum design and curriculum development, leading to implementation and, subsequently, curriculum monitoring and evaluation. The implementation process should be spearheaded by the preparation of various types of curricular documentation, piloting and wider dissemination. The results in Figure 45 show that 2.1% of NVTC instructors said that for the successful implementation of NVET programmes there is a need to conduct an assessment to ensure that all necessary physical and human capital needed for training is in place. Close to 3.0% (2.6%) of NVTC graduates' employers said that there is a need to create a foreign-based support system to monitor and assist the implementation of CBET.

Some 23.1% of NVTC trainees and 9.5% of NVTC graduates agreed with conducting an assessment to make sure that everybody is part of the implementation process, and 35% of MoE stakeholders said the evaluation system of the CBET is slow and needs to be revised. The Chi-square test ($\chi 2$ (12) = 53.37, p-value = 0.003 < 0.05) proved that there is a link between categories under which respondents fell and the explanations given on suggested improvements to NVTC programmes. The emerging trend was that an assessment of the CBET implementation process must be conducted before the start of the execution to ensure that everybody is part of the NVET programmes.

4.2.5 CBET features that need improvement

Question E1 (Appendix 4) was: "In your opinion, what features of the Competency-Based Education and Training (CBET) programme need improvement in order to enhance educational standards in NVTCs?" The end goal of this question was to highlight the CBET

features that need to be improved as a way to raise educational standards in NVTCs. The findings are given in Fig. 46.

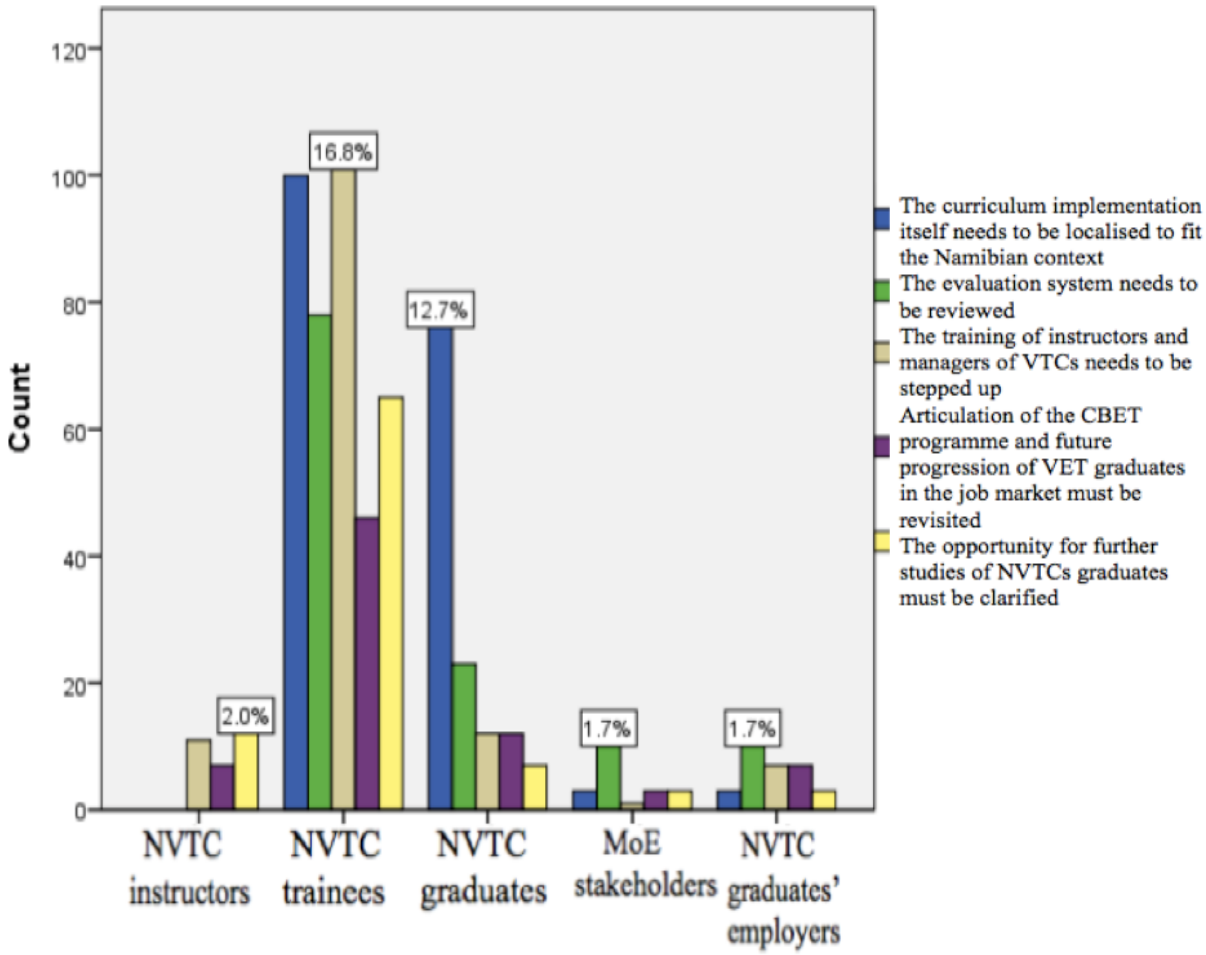


Figure 46: CBET features that need improvement

Fig. 46 shows that 12.7% of NVTC graduates said the curriculum implementation itself needs to be localised to suit the current labour market structure, while 1.7% of MoE stakeholders and 1.7% of NVTC graduates' employers said that the evaluation system in NVTCs needs to be reviewed to make it faster and more effective. Furthermore, 16.8 % trainees said the training of instructors and managers of VTCs needs to be stepped up, while 2.0% of NVTC instructors said the opportunity for further studies of NVTC graduates must be clarified.

The obtained $\chi 2$ results ($\chi 2$ (16) = 115.98, p-value = 0.003 < 0.05) indicated that there is a significant association between the categories of instructors, trainees, graduates, MoE stakeholders and graduates' employers and expressed views on the improvement of features of CBET programmes as a way to raise educational standards in NVTCs.

The most significant trend supported by the respondents was that the curriculum implementation process needed to be localised to suit the context of the Namibian labour market. This opinion brings into play the issue of linkages between the NVTC curriculum and the labour market, an essential tool in raising educational standards in NVTCs.

4.2.5.1 Improvements needed to enhance professional skills among NVET stakeholders

Question E2 (Appendix 4) was: "In your opinion, what needs to be done to improve professional skills among NVET stakeholders?" The question had two parts, namely Part (i) the views of respondents and Part (ii) the related explanations.

i) Views on improvements needed to enhance professional skills among NVET stakeholders

Figure 47 presents respondents' views on enhancing professional skills among NVET stakeholders.

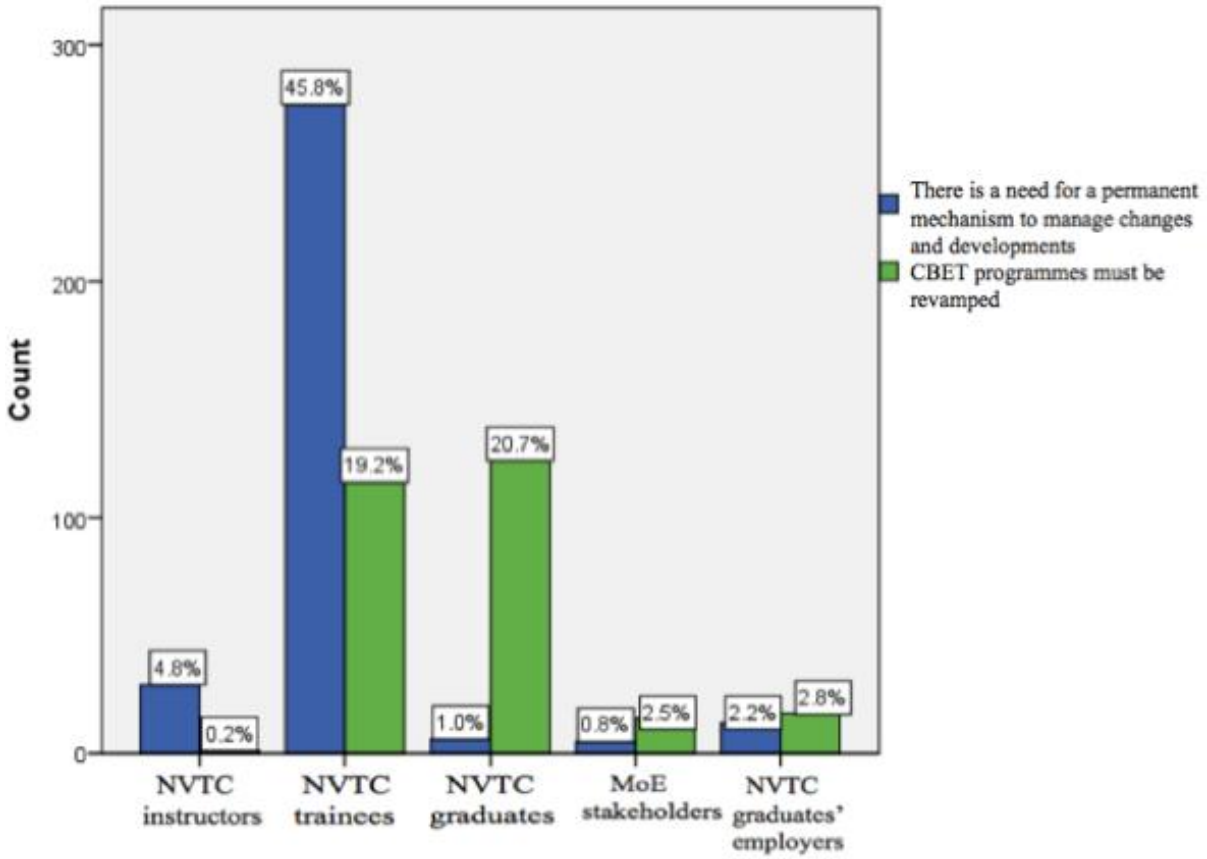


Figure 47: What needs to be done to enhance professional skills among NVET stakeholders

Professional skills of MoE stakeholders refer to the necessary knowledge, skills and abilities to enable the NVET system to generate competent graduates. Figure 47 discloses that 45.8% of NVTC instructors held the view that there is a need for permanent mechanisms to manage change and development in CBET programmes.

On the other hand, the results showed that 20.7% of NVTC graduates, 2.8% of NVTC graduates' employers and 2.5% of MoE stakeholders indicated that the CBET programmes must be revamped to enhance professional efficiency. The Chi-square test ($\chi 2$ (4) = 200.94, p-value = 0.000 < 0.05) confirmed the existence of a significant association between the categories under which respondents fell and the enhancement of professional efficiency among NVET stakeholders.

The most dominant view was that there is a need for permanent mechanisms to manage change and development in NVTCs. This suggestion has the advantage of creating a proactive system in line with the much-needed strategic thinking in NVTCs.

4.2.6 Respondents' closing comments on NVET programmes

Question F (Appendix 4) asked respondents to provide any other comments regarding the VET programmes in Namibia. The question generated substantial information as presented and analysed in the following sections. This section presents respondents' final comments on NVET programmes.

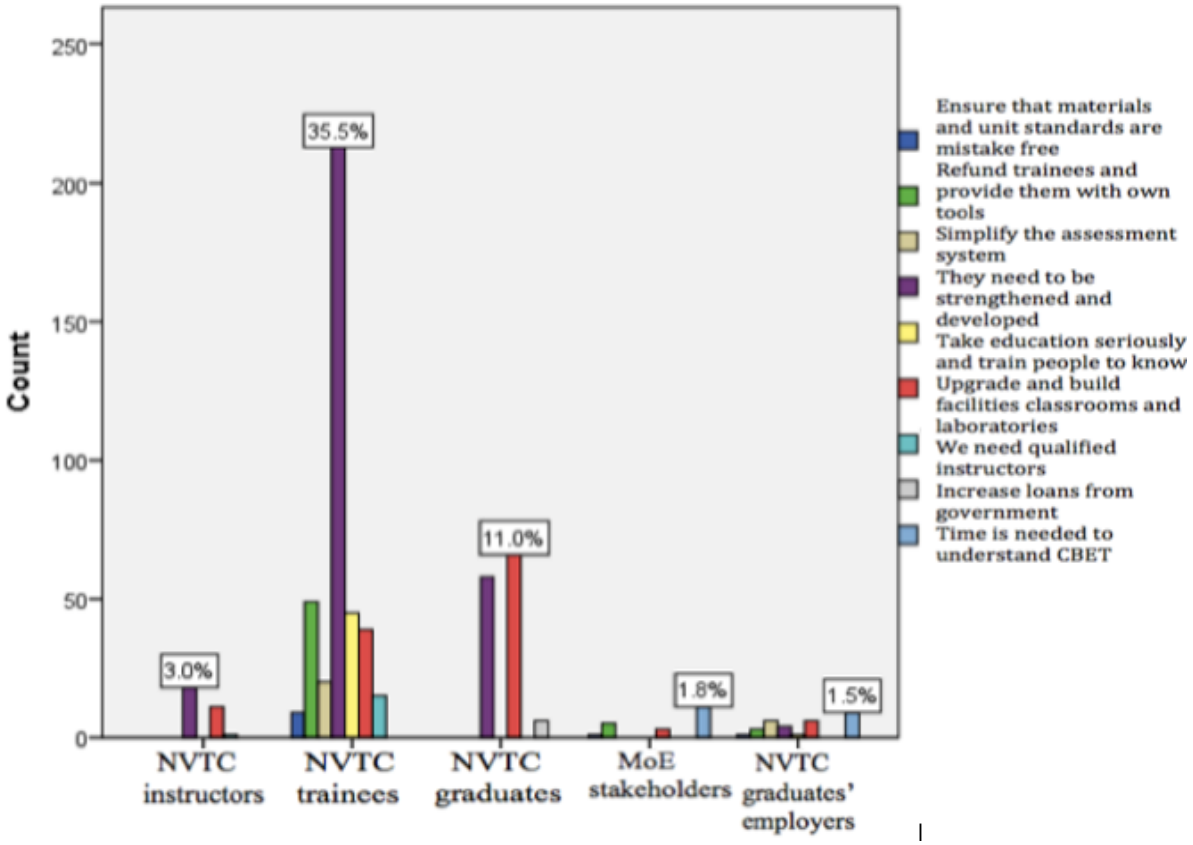


Figure 48: Respondents' closing comments on NVET programmes

The respondents' views that were collected were presented in three major points. The first point was that provided by 3.0% of NVTC instructors and 35.5% of NVTC trainees who were of the opinion that VET programmes in Namibia need to be strengthened and developed.

The second view came from 11.0% of NVTC graduates who said that there is a need to upgrade and build new facilities, classrooms and laboratories in NVTCs. The third view came from 1.8% of MoE stakeholders and 1.5% NVTC graduates' employers respectively who opined that time is needed to understand the CBET system in the Namibian context. The three views will go a long way in improving the education standards in the NVTCs in Namibia.

4.3 Summary

This chapter looked at the biographical data of various categories of respondents with regard to their responses to the perceived poor educational standards in NVTCs. It recommended improvements to the CBET curriculum design features, touched on the implementation of the CBET, features of the CBET and recommendations regarding the NVET programmes in NVTCs.

P-values were used to determine whether to reject or accept the null hypotheses. The causes of the fall in educational standards in NVTCs were identified and included the state of physical facilities, weaknesses in curriculum design features and poor understanding of the CBET system among NVET stakeholders. Possible improvements to the CBET curriculum design features were presented and analysed.

Chapter 5 presents the discussion of the results.

CHAPTER 5: DISCUSSION OF FINDINGS

5.1. Introduction

This study was concerned with benchmarking NVET against international VET models in order to raise educational standards in NVTCs. The benchmarking approach was based on the Common Core Standards for Learning Support System [CCSLSS] (Tyler, 2012) and the COT theory of Weber (1947) prescribing the improvements to the curriculum, the evaluation and the support systems that are common core standards of the current CBET model. The benchmarking process included the comparison of the CBET in Namibia with the German dual model and the Tanzanian self-reliance model (CEDEFOP, 2011; CEN, 2009).

The theoretical framework prescribes the identification of weaknesses in features of the CBET while the fish-bone analysis in Appendix 8 gives the reference framework to identify the causes of the fall in educational standards in NVTCs. The discussion of the results is based on the major themes of the study presented in Chapter 4.

The themes included:

i) Causes of perceived poor educational standards in NVTCs

ii) Identified weaknesses in NVTC curriculum design features

iii) Challenges facing the implementation of the NVTC curriculum, and

iv) Weaknesses identified in CBET features as compared to features in international countries (German and Tanzanian models).

5.2 Causes of poor educational standards in NVTCs

This section discusses the reported causes of poor educational standards in NVTCs and their implications on the fall in educational standards in NVTCs.

5.2.1 The state of training facilities in NVTCs

The study found that the majority (77.7%) of respondents saw the state of training facilities as fair (see Fig. 6). That perception gave an indication that NVTC training facilities were not of a high standard. Tyler (2012) supports that view by stating that in order for the educational system to produce optimum results, the support system including the physical facilities must be of a high standard. As shown in Figure 6, the state of the training facilities in the NVTCs was described as fair. A total of 78.5% of NVTC instructors, NVTC trainees, NVTC graduates and NVTC graduates' employers held this view. The view that the state of training facilities has an effect on educational standards was evoked in the Fourth National Development Plan of Namibia (NDP4) and stressed that infrastructural development was a key to the improvement in all the sectors of the national economy including VET (GRN, 2012). In this context, the state of physical facilities is an important aspect in the quality of education delivery in NVTCs. In order to deliver optimal vocational educational training, physical facilities need to be well equipped with materials for both theory and practice. The absence of or deficiency in physical facilities has a negative effect on the standards of education in VTCs (Mupinga et al., 2006).

The "no" expressed overwhelmingly by MoE stakeholders was an attempt to show that the situation was not as bad as described by other categories of respondents. The support of the widespread opinion that the fall in educational standards can be attributed to the state of training facilities echoes Postlethwaite (2004). According to him resources and planning of facilities are key to the success of VET activities. In this regard, this study found that the fair

standards of training facilities in NVTCs seemed to be caused by a number of factors including old machines, books and equipment that were bought without a needs assessment, books with errors, low-standard laboratories and limited facilities for training. As shown in Table 18 a total of 70.5% of NVTC instructors, NVTC trainees, NVTC graduates and NVTC graduates' employers indicated that the upgrading of laboratories and machinery to fit the technological advancement was a much-needed improvement in NVTCs. By so describing the state of training facilities, respondents indicated that not more than average performance of trainees or instructors could be expected of NVTCs.

A few respondents (5.8%) indicated that the state of training facilities was "bad" (see Figure 6). This view was more prevalent among the instructors. This is an indication that more needs to be done to improve facilities. This would result in enhanced educational standards, and boost NVTC instructors' morale and lead to a better working environment in NVTCs.

5.2.2 Conditions at NVTC graduates' workstations

The studies on working conditions as a way to promote excellence in vocational activities conducted by James and Holmes (2012) show that conditions at worksites are as essential as any other production factor. Therefore, if VTC conditions are less conducive to learning, as the majority of respondents suggested, performance results will surely be affected negatively.

The results presented in Table 19 seem to suggest that the majority of NVTC instructors, NVTC trainees, NVTC graduates and MoE stakeholders (86.8%) were of the view that prevailing conditions at NVTC graduates' workstations were not good. But 60.0% of the NVTCs graduates' employers were of the opinion that conditions at graduates' workstations were reasonable. The study shows that the main problem at NVTC graduates' workstations was that the training content and tasks given to graduates on recruitment did not relate (see

Table 20). In such situation the skills acquired at NVTCs appeared to be of no or little use simply because they did not match the industry's requirements. As a result graduates were not able to apply the skills they had acquired in VTCs, not because they lacked these, but because the industry did not offer them the opportunity to do so. The European Commission (2012) notes that graduates had difficulties in coping with the new pressure from their supervisors since they did not have the required skills and they had to learn relevant skills upon recruitment. The study found that the results on the causes of poor educational standards in NVTCs were interlinked and had serious effects, not only on the schooling system, but also on the job market where graduates from vocational training centres were employed or attached for internship (Mupinga et al., 2006).

The results show that vocational activities have implications on the national economy, the society and the political environment as a whole, because vocational skills create self-reliance (Rosenberg, 2013). The European Commission (2012) and James and Holmes (2012) found that excellence in vocational education was closely linked to the support this sector received from all stakeholders as well as the industry. This factor seems to be wanting in NVTCs.

5.2.3 NVTC instructors' ability to conduct training

The catalytic role and importance of instructors' ability to conduct training, their knowledge, skills and experience in the successful implementation of programmes were emphasised in UNESCO studies (UNESCO, 2012) and EMIS (2005). This study sought to assess NVTC instructors' ability to discharge their duties as a performance indicator of the standards of education in NVTCs. As shown in Figures 6 to 8, the NVTC instructors' training ability was described in three contexts, namely knowledge of the subject, teaching skills and their experience in VET. A total of 81.2% of NVTC trainees, NVTC graduates, MoE stakeholders and NVTC graduates' employers said knowledge of the subject content of instructors was

fair. A total of 57.3% of NVTC trainees, NVTC graduates, MoE stakeholders and NVTC graduates' employers viewed the teaching skills of instructors as bad. A total of 81.2% of NVTC trainees, NVTC graduates, MoE stakeholders and NVTC graduates' employers viewed VET experience of instructors as fair.

The majority of respondents (64.3%) said the skills levels of instructors were responsible for poor educational standards (Table 22). They explained that instructors were artisans and lacked teaching skills, they were not committed, their skills were below average and their impact on educational standards was yet to be felt (Table 23).

The study found that the instructors did not possess the right skills levels for training as their ratings in the three identified areas ranged from poor to bad. Instructors are the key stakeholders in training and development in NVTCs and their skills levels are supposed to be higher than indicated in this study (James & Holmes, 2012).

5.2.4 Conditions at MoE stakeholders' workstations

Conditions at MoE stakeholders' workstations as shown in Table 25 seem to have been responsible for the fall in educational standards in NVTCs as indicated by 36.2% of NVTC instructors, NVTC trainees and NVTC graduates' employers. These respondents indicated that there were confusion, tension, conflict and mistrust in the DVET and as such little was done to improve vocational education in Namibia. In addition, the fact that the transition from DVET to NTA was incomplete did not help matters. The side-lining of the DVET during the piloting and implementation stages of CBET seems to have resulted in passive resistance to the implementation of the CBET by the DVET, hence the low morale and passive contribution to educational development in NVTCs.

Conditions at MoE stakeholders' workstations affected NVTC activities negatively. The absence of input of MoE stakeholders in NVET activities resulted in the observed confusion, riots of trainees, misunderstandings and other demotivating conduct observed in NVTCs (Table 25). The implication is that NVET seems to be moving backwards. This does not act in favour of the desired progress in NVTCs and the constant upgrading of its programmes. Thus, the quality of VET in Namibia seems to be compromised and hence the fall in educational standards in NVTCs.

5.2.5 NVTC trainees' learning ability

As shown in Figures 9 to 12, NVTC trainees' learning ability was identified in four areas, namely study skills, knowledge of procedures, interpersonal skills and their experience in VET. The trainees' study skills were rated as fair by 34.5% of the respondents, their knowledge of procedures as fair by 33.0%, interpersonal skills as good by 51.3% and their VET experience as fair by 67.3% of the respondents. The learning ability of trainees was viewed not to be the reason for the fall in educational standards in NVTCs with a rating of 59.8% as shown in Table 29.

This study further found that the trainees' study skills, knowledge of procedures, interpersonal skills and their VET experience which measured their learning ability seemed to point at the fact that their learning ability cannot be totally regarded as a non-contributing factor in the fall in educational standards in NVTCs (Table 30). The trainees' inability to adhere to a certain disciplined way of studying using appropriate study skills in order for them to learn optimally in their VTCs could be related to the finding that they lacked study skills. Study skills are essential to the learning process in NVTCs. The shortage of study

skills among trainees implies their inability to follow in classes and pursue their studies, and so they contribute to the fall in educational standards in NVTCs.

5.2.6 MoE stakeholders' ability to manage VET activities

As shown in Figures 13 to 15, the MoE stakeholders' ability to manage VET activities was identified in three areas, namely knowledge of procedures, interpersonal skills and their experience in VET. According to Gouws (2008) pedagogical skills are essential to productivity in any academic system. He also notes that as much as academic knowledge is essential for a successful teaching and learning process, interpersonal skills including the knowledge of procedures have a catalytic effect on success.

This study shows that MoE stakeholders' inability to manage VET activities was considered to be responsible for the fall in educational standards in NVTCs by 69.2% of the respondents (Table 32). It is clear from the results from this study that the NVET management was poor. The reason given for this rating was that MoE stakeholders wait until strikes have taken place before they give attention to trainees' problems, and that leads to the low educational achievement in NVTCs. The study further shows that MoE stakeholders do not possess appropriate skills to create an effective linkage with VET activities. They are negligent and only come on board when a crisis arises at vocational training institutions. According to Ladd (2009) and UNESCO (2009), MoE stakeholders are supposed to play a leading role in the effective management and administration of VET activities. Failure to do so makes them ineffective in riot prevention and management and thus causes the fall in educational standards in NVTCs.

5.3 Identified weaknesses in the NVTC curriculum design features

The second research question (1.3.2) addressed the possible weaknesses in the NVTC curriculum design features (Figures 16 to 30). The CBET curriculum design features laid the foundation of NVTC curricula. Ornstein and Hunkins (2009) and Ladd (2009), state that curriculum design is an important exercise since it involves the coherent organisation of various features of the programme according to their use and importance in the implementation stage of the curriculum. The design is a blueprint of the curriculum implementation, thus weaknesses in the process thereof affect the practical implementation process as well as its outcomes negatively (Lasonen & Gordon, 2008). This study revealed that there are weaknesses in NVET curriculum design features. The identified weaknesses in the NVTC curriculum design features are discussed below.

5.3.1 The CBET system and its goals are not well understood by all stakeholders in NVET

The CBET system and its goals are not well understood by all the stakeholders in NVET. Further, natural science and technical subjects are absent from the current CBET curriculum. There is a need for these subjects to be reintroduced in the CBET curriculum. Osorio, Dutta and Lanvin (2013) observe that science and technology could be used to improve the acquisition of soft skills in vocational education and serve as an ignition point for pursued excellence and creative thinking. Thus there is a need to ensure that science and technical subjects be included in NVET programmes in order to enhance the acquisition of essential skills in NVTC graduates (GRN, 2004b; Ministry of Trade and Industry, 2012).

5.3.2 Confusion between employability, self-employment and production skills

The respondents described the CBET curriculum aims, goals and objectives as focusing on theoretical knowledge rather than targeting the practical abilities of the trainees. The

literature review showed that the NTA planned to redirect NVET to respond to the labour market skills, thus the current transformation process at the NTA. While exponents of VET including Naanda (2010) and UNESCO (2013) focus on skills intended to prepare trainees for employment, the current study discovered a confusing situation whereby employability skills are judged to be relevant for an industrialised nation that lacks the labour force (GRN, 2004b; Atchoarene, 2002; Balati, 2000). Worth noting though, is the fact that in this situation**,** respondents' opinions were not consistent. Ideally, all stakeholders in the implementation of any curriculum are expected to be on par with critical issues pertaining to programme implementation and more so when goals and objectives come into play (Links, 2010). The depicted inconsistencies in respondents' opinions on how they understood the objectives of the NVET were consistent with the expressed concern in the industry by employers and potential employers of graduates who accused the NVET management teams of not understanding the real issue of how to address unemployment and skills deficiencies in Namibia. That weakness coupled with inconsistencies among implementers of the CBET curriculum constitutes an impediment to optimum productivity of the VET system which is worth urgent attention.

5.3.3 Shortage of necessary infrastructure for CBET implementation

During the CBET implementation, the NVTCs ran short of the necessary infrastructure, thus in this context the application of theoretical knowledge that found that the CBET failed to produce the expected and desired targeted skills such as production skills (Ministry of Trade and Industry, 2012). The challenge posed by the shortage of adequate infrastructure is also identified by Naanda (2010) who recognises that infrastructure is key to optimisation of the output of NVET, among others.

5.3.4 Challenges linked to low entry requirements in NVTCs

Rather than lowering the entry requirements for VTC programmes, the results of this study suggest that CBET entry requirements should be raised or need to be made much stricter to attract the cream among secondary education leavers. The respondents suggested Grade 12 certificates plus science subjects as entry requirements as a way to improve the standards of education in NVTCs.

5.3.5 Challenges related to the Recognition of Prior Learning (RPL)

The findings of this study revealed that the majority (close to 27.0%) of the respondents were of the view that though regulations were in place, the Recognition of Prior Learning (RPL) in NVET lacked experts in the field to implement the existing policy framework. According to NTA (2013) and the Ministry of Trade and Industry (2012), Namibia aims at transforming the VET system into a driving force towards the realisation of Vision 2030. Subsequently, its programmes should be benchmarked against the best practices in the world. The RPL should be implemented, bearing in mind the UNESCO criteria on RPL as stipulated in UNESCO Guidelines on the Recognition, Validation and Accreditation of the Outcomes of Non-formal and Informal Learning launched in New Delhi 29–30 June 2012 (UNSECO, 2013). To fulfill that goal, the NTA should put into place a team of experts in recognition, validation and accreditation of skills acquired out of the NVET system in line with the recommendations of UNESCO (2013).

5.3.6 Reported shortage of technical subjects in the NVET curriculum

The contents, competencies and skills covered in the CBET curriculum implemented in NVTCs appeared to be short of technical subjects, as reported by the majority of respondents. The implication is that these subjects should be reintroduced in the CBET curriculum. It is hoped that their inclusion in the CBET curriculum will improve the educational standards in

NVTCs, given the central role they play in the production of professional graduates (UNESCO, 2013).

5.3.7 Less focus on practical skills in NVTCs

The CBET skills transfer showed that there was less concentration on the acquisition of practical skills (Fig. 22). Practical skills are essential to the production of goods and services as required by the Namibia National Development Plans (NDPs) (GRN, 2012). Thus the introduction of production skills in the NVTC curriculum would seem to play a major role in the enhancement of the productivity capacity of NVTCs, thus raising the educational standards of the NVET.

5.3.8 Dissatisfaction towards delivery of VET through distance mode

The CBET system has practical subjects that can only be conducted through a face-to-face delivery mode. The implication of this on the CBET curriculum is that only theoretical components of subjects are viable to be conducted through a distance mode. Practical subject components require direct contact with the trainee for the effective mastery of skills.

5.3.9 Lack of adaptation of unit standards to the degree of difficulty of subjects

The unit standards in the CBET curriculum are not adapted to the degree of difficulty of the subject. The unit standard is the guide to the successful implementation of the curriculum. This deficiency in the unit standard implies difficulties in the implementation process. Therefore, the lack of alignment of the degree of difficulty in the unit standard to the subject led to poor understanding of the CBET system among NVTC stakeholders, and therefore the fall in educational standards in NVTCs.

5.3.10 A slow and cumbersome assessment process

The study revealed that the evaluation of courses under the CBET system lacks an arrangement intended to ease the examination process through local institutional-based

evaluations for non-qualifying levels (Levels 1 and 2). This arrangement suggests the involvement of instructors and NVTC management in the evaluation of trainees' performance to avoid lengthy evaluation processes.

5.3.11 Dissatisfaction with the funding system

The CBET funding system identified that there was equipment in VTCs that was bought but not utilised. The funding of services in NVTCs is a responsibility shared by the government of Namibia. The dissatisfaction of stakeholders in this regard constitutes a factor that might hinder the delivery of quality education in NVTCs. Therefore, the government through the NTA may be accused of not delivering to the expectation and this might have caused the fall in educational standards in NVTCs.

5.3.12 Lack of clear guidelines or policy to harness the benefits of job attachment

The system of job attachment or training in the industry showed that job attachment does not have a clear learning programme with clear evaluation processes to monitor individuals with precise stages of performance assessment.

5.3.13 Lack of articulation between VTC programmes and the job market

CBET articulation with the job market or the preparation of graduates for further studies lacks a policy framework and consultations with higher learning vocational institutions, including the Polytechnic of Namibia, to regulate conditions of awarding exemption or giving credit to graduates from VTCs. The Ministry of Trade and Industry (2012, pp.14-15) proposes continuous assessment by the Ministry of Trade and Industry and the National Planning Commission to monitor and assess diverse initiatives geared towards capacity building for swift support of industrialisation in the country.

5.3.14 Shortage of degree courses in NVET

The duration and the scope of CBET certification lack expansion and articulation to include degree programmes. The lack of alternative routes towards higher qualifications and skills in NVTCs may be regarded as an obstacle to the acquisition of the required abilities to perform competitively in the global arena. The expansion of the NVTC curriculum to include other qualifications is an important improvement in the quality of education delivery in NVTCs.

5.3.15 Uncertainty about the future of graduates from NVTCs

The study shows further that NVTCs graduates' prospects for the future could be hampered by the working conditions they experience upon recruitment for job attachment at specific job sites. The improvement in graduates' prospects for the future requires an open dialogue between NVTCs and other stakeholders and more specifically the industry. The involvement of the industry in the training of graduates might improve their future work and socio-economic integration into the job market.

5.4 Gender, image, professional qualifications and language of instruction in NVET

As shown in Figure 31, though gender seemed not to be a major problem in NVTCs, no special attention was given to gender issues. The advocacy on VET intended to boost the image of NVET has not been streamlined and the use of public media, especially the radio and television networks, has not been forthcoming. The study depicted that NVTCs are not well known in Namibia, as marketing of its image focuses on employability rather than on self-employment and production skills.

Figures 33 to 38 address professional qualifications in NVTCs. Professional qualifications including those at doctoral level seem to be mentioned by NVTC instructors, NVTC trainees and NVTC graduates as a necessity as the country targets much higher goals as enshrined in Namibia's Vision 2030 (GRN, 2004b). Similarly, professional qualifications of master's,

honour's, bachelor's and diploma level can be seen as worthwhile and can be introduced in the NVET curriculum given their capacity to increase the competitiveness of NVTC graduates. Introducing these qualifications and other alternative paths would create a multiple-path system that would cater for every type of VET candidate and thus address the ambitions of passionate school leavers who wish to venture into technical fields, thus removing factors that limit access to professional qualifications in NVTCs.

Figure 40 shows that the majority of respondents were in support of English as the language of instruction in NVTCs. This support of the English language implies that a segment of non-English speaking people could experience difficulties in accessing NVTC programmes. It is important to ensure that NVTCs are inclusive and do not discriminate against anyone on the basis of language. Thus the view in Figure 40 that the language barrier should be removed by allowing the use of vernaculars for training in certain trades where English proficiency is not a necessity in skills acquisition is a commendable stand.

5.5 Obstacles related to the implementation of NVET programmes in NVTCs

The third research question addressed obstacles related to the implementation of NVET programmes in NVTCs. It was acknowledged with a show of 57.8% as shown in Figure 43 that there were obstacles relating to the implementation of NVET programmes. The findings seemed to indicate that there were obstacles during the implementation of the CBET system in NVTCs. It appeared that trainees were not consulted and that during the transition period managers did not fully involve experts from countries where CBET was successful. This revealed that implementers appeared to have little or no experience in the CBET system as they did not draw information and guidance from other countries where CBET was successful and thus placed themselves at risk trying to suppress trainees' riots and criticism from the media. Similarly shortcomings such as typing errors were observed in the syllabi, and many other administration errors were detected in official correspondence during the

CBET curriculum implementation. The presence of the aforementioned loopholes suggests that the implementation of the CBET was not as smooth as required, leading to the perceived poor educational standards in NVTCs.

The pilot stage of the CBET system coincided with its implementation, a practice found to be unprofessional and that led to chaos in VET. The absence of an advocacy stage on CBET appears to be the reason for trainees to demand the inclusion of maths and science subjects in the NVTC curriculum. An advocacy stage could have given the NVET management an opportunity to explain to trainees that they did not understand that mathematics in the NVTC curriculum was there as an applied science and mathematics modules, and not the pure mathematics and natural science as such.

5.5.1 Weaknesses in CBET features compared to the features of Germany and Tanzania

In this study TVET in Germany and Tanzania were identified as successful models to emulate in VET in Namibia. The three models are compared with emphasis on the weaknesses in CBET features (Table 36). The results of the study as presented and analysed in Chapter 4 responded to that issue. Furthermore, the discussion of the results in Chapter 5, and the resulting inferences clarified the relationship between the weaknesses found in CBET features and the fall in educational standards in NVTCs as shown in Chapter 4. Table 36 shows the comparative matrix of selected benchmarking features, weaknesses and improvements needed to raise educational standards in NVTCs.

5.6 Respondents' closing comments on NVET programmes

An open-ended question asked the respondents to give their opinions on any other issue pertaining to educational standards in NVTCs. As shown in Figure 47, about 49% of the respondents indicated that VET programmes needed to be improved or strengthened to boost the quality of their outputs. The respondents further indicated that programmes need special

attention in order to ensure understanding of the aim of the CBET system. Further, many respondents felt that infrastructural development is the key to quality education delivery in VET.

This study established the weaknesses in the current VET practice in Namibia, and identified emerging trends and related solutions to vocational training challenges in NVTCs. Moreover, this quest for a benchmark model for educational standards in NVTCs proved to be a worthwhile study that consolidated the expressed trends from respondents in a body of implementable recommendations aimed at improving the CBET curriculum and raising educational standards in NVTCs.

5.7 Summary

The purpose of the research was to look at possible areas dealing with the causes of poor educational standards in NVTCs, weaknesses in and recommended improvements to the CBET curriculum. It became clear that training facilities are not up to the required standard, thus they hamper the quality of training in NVTCs, resulting in the fall in educational standards. The training facilities in NVTCs require upgrading, the use of new technology, accurate training manuals and replacement of old machines. NVTC graduates at workstations are faced with several communication breakdowns between NVTCs and the job market or potential employers. Skills levels of NVTC instructors and MoE stakeholders need to be looked at to strengthen NVTCs. Learning abilities of trainees indicate that they lack science and English on their arrival at NVTCs. The CBET system needs a profound overhaul, since it is not achieving its stated aims, goals and objectives and implementation procedures. The step-by-step execution of NVET programmes needs to be clarified before implementation in order to prevent obstacles in the implementation of the curricula.

From this study it is clear that the VTCs in Namibia are not doing well. They require all stakeholders in VET to come together and look at its weak features as identified in this study and as clarified in the proposed benchmark model (page 334) to save NVET. This must be a joint operation from all stakeholders including NVTC instructors, NVTC trainees, NVTC graduates, MoE stakeholders and NVTC graduates' employers representing the Namibian industry. The Tanzania and Germany VET models are worth imitating and should be adapted and incorporated in the Namibian context as shown in the proposed benchmark model (page 334).

CHAPTER 6: PRESENTATION OF THE IMPROVED NVET BENCHMARK MODEL

6.1 Benchmarking process

The construction of a benchmark model of educational standards in NVTCs as per the description given by ETF, ILO & UNESCO (2012) as well as Ornstein & Hunkins (2009) entails a rigorous step-by-step analytical process. The first step as prescribed by Ornstein & Hunkins (2009) is the situational analysis. In this case, it is the analysis of prevailing conditions in NVTCs, the job market (the industry) and other related stakeholders such as VET curriculum developers, e.g. the MoE VET Directorate, NIED and standards setting and evaluation agents including NTTC and NQA. In this study, the analysis of the prevailing situation culminated in the identification of the gap and weaknesses in VET curricular features. The second is the choice of a design type. This stage entails outlining and describing the approach used to combine and consolidate various trends, views and suggestions given by respondents on remedial solutions in a comprehensive and systematic process (ETF, ILO & UNESCO, 2012). The third step is the development of the benchmark model of NVET standards.

The development of a benchmark model entailed the exploitation of the conceptualised, organised and arranged components of the model as per the schedule in the design stage (see 6.4.1, p. 271). In practice, the development of a benchmark model is the definition and explanation of how VET activities should be conducted and ultimately regulated by the training authority or any other VET managing authority (Nkaza, 2003; NTA, 2013). Therefore, the development of educational standards for NVTCs was an exercise that involved putting in place the requirements and regulations on how NVET ought to be conducted in order to optimise the outputs of the NVTCs. The development of educational

standards for NVET also involved the consideration of the strategic objective enshrined in the Namibia Vision 2030 aimed at moving the country from the list of third-world countries to the first world and to become an economic competitor in the global markets (GRN, 2004b). The exercise also involved the choice of the orientation of programmes (the aim and goals), whether employability-driven (to solve unemployment), production-driven (to create wealth and services) or job market-compliance (to respond to current market challenges).

Armacost (2003) distinguishes two approaches to the benchmarking process. The first identified approach is the problem-based process, while the second is the process-based benchmarking approach. The problem-based benchmarking, also known as feature based benchmarking, is applied when a problem comes up and the benchmarking effort focuses on the problem. The process-based benchmarking applies when the researcher's concern is on one specific feature. Armacost (2003) explains that the process-based approach focuses on a few vital business processes, e.g. survey, process analysis support and assessment support. In this study, the focus was on the identification of the problem or the cause(s) of the fall in educational standards in all its features with the purpose to devise a benchmark model to improve its weak structures. Explicitly, the issue is how to close the gap between the deficient curricular features and the features of successful international models. The features based benchmarking in this context is in essence the extraction and comparison of fundamental features of each of the above models as evidence in the process of changing the new curriculum or the benchmark model that is envisaged.

In the second case, the weaknesses of the current NVET model are presented in the findings of this study. The judgement to retain, exclude, include or effect corrective changes was made based on the research evidence. The popularity or unpopularity of suggestions for

changes was scrutinised against the ideal conditions and/or international models and other identified practices locally and internationally. In this study, it was imperative to compare the analysed features that constitute the ideal models (the German and Tanzanian VET models) with those of the NVET models perceived as having weak features. The CBET was throughout perceived as the bone of contention, with the poor transition from the old system regarded as the ultimate cause of the current fall in educational standards in NVTCs.

The Classical Organisational Theory (COT) by Weber (1947) (see the conceptual and theoretical framework in 2.2) adopted to guide the study was applied in the process, since it suggested the identification of weaknesses and causes of the fall in educational standards in line with the outcomes of the literature review and the comparative approach described above. The research evidence from the discussion of findings advised the researcher on which type of design to adopt. Since the feature-by-feature comparison for the entire VET system was practically impossible, the researcher adopted complementary theories to COT on benchmarking as referred to in 6.3.2.1. The complementary theory referred to allowed the researcher to identify the Common Core Standards Features (CCSF) that needed improvement from among the list of identified weaknesses as shown in Table 63.

6.2 Identified gaps and suggested improvements to the current NVET model

6.2.1 Poor articulation

Two types of articulations and their shortcomings were identified in the literature review. There was the lack of horizontal articulation that should have addressed the internal harmonisation of NVET levels, NVET courses, subjects and activities on the one hand, and on the other hand a lack of vertical articulation that would have addressed the harmonisation

of practice and procedures across institutions as well as the absence of alternative routes towards further studies of NVTC graduates.

6.2.2 Shortage of employability skills

According to Naanda (2010) imparting employability skills is the key to the effectiveness of NVET in addressing the issue of unemployment. Although the study of Naanda (2010) recommends the inclusion of employability skills in the NVTC curriculum, that gap still exists. The absence of employability skills in the NVTC curriculum contributed to responses whereby respondents suggested their inclusion in the NVTC curriculum. Besides the lack of employability skills, it also emerged that other skills related to employment creation were lacking (see 6.2.3).

6.2.3 Shortage of production, wealth creation and innovation skills

The current practice in NVTCs leans on fitting and fixing skills. The proposed new model should aim at technical advancement and wealth creation through innovation and production of new goods and services in line with the Namibia Vision 2030 and Namibia's Industrialisation Policy (GRN, 2004b; Ministry of Trade and Industry, 2012).

6.2.4 Weaknesses related to aims, goals and objectives in NVET

i. Shortage of value-addition skills

The aims, goals and objectives of NVET focus on skills acquisition and the satisfaction of the ideals of the Namibia Vision 2030, which focuses on building a knowledge-based economy by the year 2030 (GRN, 2004b; Ikela, 2013). This study found that the current job market requires a competent workforce that is able to add value to Namibia's raw materials exported

in the raw form (see 2.4.1.11). The lack of value-addition skills is an unforeseen feature that is exploited in the new JMCSR model.

ii. Shortage of production (wealth creation) skills

The findings of this study established that Namibia's job market is based on consumption of goods and services imported from abroad (Links, 2010). The study further established that Namibia's workforce does not have the capacity to produce goods and services for self-sustainability. Production skills as such are not included in any VET curriculum in Namibia. Thus, the JMCSR model suggests the mainstreaming of production skills as a solution to the shortage of goods and services in Namibia's job market.

iii. Shortage of innovation skills

This study found that NVTCs make use of old tools and equipment for training. The study highlights that there is a need for modern approaches to skills training in NVTCs. Modernisation must be led by the exploitation of new technologies that are available locally and globally.

iv. Self-employment skills

NVET policy documents (GRN, 2005), political and public statements encourage NVTC graduates to create their own employment opportunities (Iyambo, 2011). The study shows that political rhetoric does not indicate how the statement on self-employment can be implemented, thus the persistency of unemployment nationwide. The JMCSR model suggests a road map towards self-employment because it borrows from the Tanzanian model on self-reliance (Kent & Mushi, 1995).

v. Employability skills

Employability skills are the key to the survival of NVTC graduates upon completion of their studies. The study shows that although employability skills have been recommended their implementation has not been forthcoming (Naanda, 2010). This study goes beyond employability skills by suggesting the combination of production skills for self-reliance, because the nature of Namibia's job market requires production skills.

6.2.5 Recognition of prior learning

Though the Recognition of Prior Learning (RPL) policy is in place, more conversant personnel in the area of comparative education, quality assurance and professional skills evaluation are needed. This expertise should be involved to ensure constant monitoring, evaluation and assessment of skills submitted for recognition and certification. Criteria for each trade should be put into place to guide the evaluation of qualification in related areas.

6.2.6 Shortage of pre-vocational skills

The recent decision by the Ministry of Education to include pre-vocational skills in the schooling curriculum has several implications for the organisation of school activities in Namibia (Iyambo, 2011). The NVET system must be aligned with the general education structure for harmony and continuity (See Appendix 10). The introduction of pre-vocational courses should be regarded as the foundation of a vocational education career. There is a need for agreed-upon promotion criteria among stakeholders to support decisions on promotion from grade to grade and from level to level until certification. Primary, secondary and tertiary education including formal and informal education should be followed by their equivalent TVET stages.

6.2.7 Low entry requirements for VET

The issue in this study was how to raise educational standards in NVTCs. The entry requirements for NVTC programmes should be raised and designed to attract excellence in VET. According to the Konrad Adenauer Stiftung (2010), Mushauri (2008) and Wallace (2012), the ability to address the diverse needs of its VET customers and maintain the quality of its programmes is one of the characteristics of high standards in VET institutions. Therefore the new model should be a multi-entry and multi-exit system. Entry requirements should be specified for each qualification. The articulation and profile of programmes must be decided for each programme through consultation. Formal and informal VET should be clearly distinguished and their articulations defined. The entry points in pre-vocational, primary vocational, secondary vocational, tertiary vocational and post-tertiary vocational and technical advancement should be specified to suit national standards (Barr, Blosveren & O'Hara, 2012).

In the case of the current NVET, informal VET should be formalised through the recognition of prior learning. Grade 11 and 12 or their equivalents should be the requirement to enter for all technical courses of higher education (vocational colleges and engineering). The diverse types of certificates and diplomas should be evaluated against common criteria on the NQF to establish their academic and professional value. Technical Vocational Education centres should strive to pursue high educational standards through recruitment of highly qualified technical and vocational instructors, and recruit trainees from among successful and motivated Grade 12 candidates. Aspiring trainees with qualifications lower than Grade 12 should be placed in remedial programmes in order to acquire the required level. The improvement of NVET should be articulated with the new development of the PoN becoming a University of Science and Technology as evoked in 2.4.2.1*(iv)*.

6.2.8 Deficiencies in students' support system

The study identified students' support as an important factor in quality education provision in NVTCs. The study found that the provision of equipment and other physical facilities during the transitional period of the implementation of the CBET had been guided by the availability of funds and not by the pre-identified needs in VTCs. Countless instances were cited where machinery was donated to VTCs where it was not needed. The result was that some VTCs had unused machinery, which was needed by others. A cross-VET revisit of this challenge must be done to ensure optimal utilisation of available resources. The NSFAF funding system should be improved by increasing the amount given to support trainees and closing loopholes in awarding funds by using only academic criteria to award study funds.

6.2.9 Implementation problems

The study identified implementation problems including these related to professional skills among intructors and managers, limited understanding of the CBET system, the timming of the implementation ot the CBET system and the lack of the involvement of trainees in the planning process. Problems included also weaknesses in Namibian secondary economic sector.

6.2.9.1 Lack of professional and technical skills among instructors and managers of VTCs

The first challenge regarding the implementation of the new VET curriculum is that the NVET is in transition. The NVET leadership is new and in constant change over. The research has identified among others the challenges linked to the poor understanding of the system by those entrusted to manage it. Further, the system seems to be led by technicians and socio-scientists and not managers. The respondents also underscored the issue of how to transform the instructors from mere technicians to trainers. Therefore, constant on-the-job

training and professional development courses should be organised across NVTCs to address the lack of pedagogical skills among instructors. The other suggestion that emerged is related to compulsory skills training courses for all technicians recruited as trainers in VET. Similarly, VTCs should not recruit people who have finished a level to train their peers without additional specialised training or further qualifications.

With regard to the poor understanding of the CBET system among staff in VTCs, constant training and induction courses were suggested. CBET implementation should be conducted under the supervision of experts in the field. These experts should preferably come from countries where the CBET system has proved to be a success story. It was also suggested that at each VTC panel or management board at least one expert should be appointed to infuse a sense of understanding of the system and that, over a period of time, the experts should be replaced by locally trained VET practitioners.

6.2.9.2 Limited understanding of the (CBET) system

The poor understanding of the CBET system that was piloted and is currently under implementation should be treated seriously. As indicated by King (2009), the understanding of a problem is part of the solution. Therefore, the mere fact that this study found that the CBET system is not well understood by various implementation agents is a step in the right direction in the identification of the appropriate solution(s) to the issue of skills deficiencies in Namibia. The identification of the problem of the partial understanding of the CBET is the key to finding the solution, because it shows the magnitude of the crack in the NVET system that needs an urgent solution (Pupkewitz, 2006).

6.2.9.3 Timing of the implementation and lack of students' involvement

More involvement of stakeholders in any academic endeavour including VET planning is key to its success (Kröner, 2004). The omission or isolation of key stakeholders in the VET system in Namibia during its transition time to the CBET has led to poor results in NVTCs during the past five years (NTA, 2010; Kaulinge, 2012). In this regard the study referred to the alleged little or no involvement of trainees in the planning and implementation of the CBET (See 4.2.2.17 and 7.4.6.1).

6.2.9.4 Weak secondary economic sector

The identified weakness in the Namibian industrialisation process in the literature (see 2.4.1.11, p. 43) is the root cause of the continued export of Namibia's raw materials and an indirect export of job opportunities. Vocational Education and Training in Namibia should by law play a catalytic role in driving the envisaged transformation of the country into an industrialised nation by the year 2030 (Dude, 2012). The Namibia industry is in an infancy stage and offers a rare opportunity for VET production skills development and mainstreaming. NVET activities should be geared towards the fulfilment of the ideal of making Namibia an industrial country.

6.3 Proposed benchmark model features

This section presents the NVET benchmarking process and the new improved benchmark model.

6.3.1 Outlines of the benchmarking process

The curriculum processes that underpin the model of VET education in Germany and Tanzania were identified in the literature (see 2.4). The curriculum weaknesses in the NVTCs were also identified in this study. The features-based benchmark of the NVET is presented in the comparative matrix (see Table 36). The matrix in Table 36 presents the German VET

model features, the Tanzanian VET model features and weaknesses of the NVET model features. The diagrammatic representation of weak features allows the systematic and logical progression of the inductive logic as suggested by Adelman and Tyler (2008), Armacost (2003) and Weber (1947), and from the known causes of the fall in educational standards in NVTCs to a new model which rectifies the identified weaknesses of the NVTCs curriculum.

6.3.2 Identified benchmarking features

According to Wiggins and McTighe (2011), when developing curricula, additional supportive theoretical perspectives may be needed. Therefore, in this study the identification of selected benchmarking features necessitated additional theoretical supports, which are complementary to the COT earlier discussed (See 2.1 and 2.2).

6.3.2.1Complementary benchmarking framework

The fifth key question of the study was intended to establish a comparison between features of the CBET system and those of Germany and Tanzania as successful countries in VET. The comparison with features of successful countries served as a pillar to the benchmarking process. Three theoretical complementary pillars in the selection of the features that needed improvement are discussed in this section.

i) Classical Organisational Theory (COT)

The Classical Organisational Theory (COT) suggests that the identification of the causes of the drop in educational standards should inspire the researcher to devise appropriate solutions and improvements to features of the CBET system.

ii) The Common Core Standards for Learning Support Component Theories (CCSLST). This theory is complementary to the COT in that it supplies the identified common features that need to be addressed in order to improve the educational standards in NVTCs.

iii) Fish-bone theory

The Fish-bone theory that stresses the cause-and-effect dynamic by Riddle and Hersey (2012) supports the COT theory as shown in the diagram in Appendix 8 by linking causes and effects in a fish-bone analysis diagram. The emerging core features are, among others, firstly the instructional support component (curriculum and teaching) that is intended to improve the learning process directly, secondly the enabling or the learning support component intended to address barriers to learning and teaching, and thirdly the management component intended to address governance and resource management issues (Riddle & Hersey, 2012; Sheehy, 2012; Tyler, 2012).

iv) Common National Standards (CNS)

The Common National Standards (CNS) (Barr, Blosveren & O'Hara, 2012) indicate that implementing the Common Core State Standards requires the study and improvement of at least three basic common features, namely the curriculum contents, the instructional and the assessment processes. A comparison of the three complementary theories demonstrates that the authors are in agreement on what should constitute the core of what must be dealt with in order to improve the educational standards. The apparent differences observable in the formulation of diagrams and models are not significant.

The selection of core features presented and described in the emerging benchmark model (presented in the diagrams in 6.4.3) followed the patterns of the three intertwined theories presented above. The core identified features are the *curriculum* at the centre of quality enhancement, which gives quality to the qualification, the *evaluation system* which gives quality to the certificates and the *support system* which is an enabler that gives the necessary means for the implementation of changes and improvements (Almashaqba et al. 2010; Barr et al., 2012; Sheehly, 2012).

6.3.2.3 Selected benchmarking features

The focus of the benchmarking process was one of the three core components, namely the CBET curriculum, its evaluation process and the related support system. The benchmark model that explains the improvement of the CBET features is shown in a matrix (Table 36). The new proposed benchmark model of educational standards in NVTCs has been generated, based on the theoretical framework as described in Max Weber's Classical Organisational Theory and supplemented by the Common Core Standards for a Learning Support Component Theories (CCSLST) as well as the Common National Standards (CNS) (Almashaqba et al. 2010; Barr et al., 2012; Sheehly, 2012). The three theories used in conjunction with the findings of the study, discussions and conclusions thereof led to the identification of weaknesses in the core curriculum components where improvements were needed.

Table 36: Comparative matrix of the selected benchmarking features

FEATURE	DESCRIPTION OF DESIGN FEATURES	INTERNATIONAL MODELS		MODEL UNDER SCRUTINY (NVET)		NEW OR PROPOSED BENCHMARK MODEL
		GERMAN VET	TANZANIAN VET	CBET/NVET NTTC (Under transformation)	PROPOSED IMPROVEMENTS/ CHANGES/ CORRECTIONS	
FEATURE 1:	**Aims, goals and objectives.**	Market-driven/ Culture.	Social needs.	(Knowledge economy) Knowledge- and skills-focused.	(Production-based economy and self-reliance economy) Social and production compliance.	**Production- and innovation driven.**
FEATURE 2:	**Implementation procedures.**	Apprenticeship	School and industry.	Apprenticeship	Apprenticeship should be brought back into the act.	**Information and consultation.**
FEATURE 3:	**Entry requirements**	Pre-vocational skills.	Pre-vocational skills.	Grade 10/12 (/dropouts).	Grade 12 + pre-vocational/ science and mathematics.	**Multi-entry and multi-path.**
FEATURE 4:	**Recognition of Prior Learning (RPL).**	Assessment	Assessment	Unit standards	Modularised (regrouped) unit standards.	**Tested comparative education expertise, professional evaluation and sense of academic and professional rigour.**
FEATURE 5:	**Curriculum contents (-Dependent on specific subjects requirements -Generally:**	Theory (40%) and practice (60%).	Theory (40%) and practice (60%).	Theory (subject-based) and practice (subject-based).	Theory (40%) and practice (60%).	**Theory (40%) and practice (60%).**

	theory (40%) and practice (60%).					
FEATURE 6:	**Training methods.**	Functional skills focused.	Functional skills-focused.	Targeted skills	Combined approach for practical skills	**Market research-based skills.**
FEATURE 7:	**Delivery mode**	6 months theory in class versus 6 months in the industry.	Theory and practice in the work (work–study).	Theory and practice at VTC.	Theory (at VTC) and practice (in the industry as part of remunerated employment).	**Apprenticeship**
FEATURE 8:	**Unit standards.**	Target skills	Target skills	Specify the NQF levels and the expected training outcomes	Aim at higher achievements/ precise and free from mistakes	**Unlimited mobility.**
FEATURE 9:	**Evaluation process.**	Conducted by the Qualifying and Certifying bodies.	Conducted by Qualifying and Certifying bodies.	Competency assessment by NTA and NQA.	L1-L2: VTC based evaluation L3: VTC and NTA official assessment L4: International standardised examinations in the industry and specialised certification institutions.	**Recommended International Qualifying and Certifying bodies.**
FEATURE 10:	**Support system/ Funding system.**	Funded by the Federal Government budget.	Government funded and private.	Private funds and Government support (NSFAF).	The awarding system (preferential to meritocracy).	**Awarding of bursaries/ study loans according to academic criteria** **Encourage private initiatives.**

FEATURE 11:	**Job attachment and training in the industry.**	Workstudy	Training as part of the REAL production world	Half-paid job attachment.	Training as part of the REAL production world.	**Training as part of the REAL production world.**
FEATURE 12:	**Curriculum articulation:**	Natural feeder of technical and professional programmes.	Natural feeder of technical and professional programmes.	VET qualification not a natural qualifying document for entry for PoN technical programmes. Entry made through Grade 12 irrespective of whether candidates are in possession of vocational qualification or not.	Regular consultations between the feeder and receiver, e.g. NVET and PoN to harmonise both programmes.	**Polytechnic of Namibia (PoN) or University of Science and Technology to adapt/negotiate its programmes/entry requirements to make it the natural receiver of NVTC graduates. NVTCs to line up/step up the scope of their programmes to meet the academic standards at the PoN.**
	a) For the satisfaction of job market needs.	Training is conducted in identified and critical areas of development.	Training is conducted and provided by government and private institutions. Potential trainees enrol for courses of their convenience in	Training is conducted and provided by government and private institutions. Potential trainees enrol for courses of their convenience in	Critical areas of development where NVTCs are required and can be productive to be conducted. Recruitment of trainees to be guided and determined by their abilities and not	**Research to be conducted to establish critical areas of development where NVTCs are needed. Focus on production skills and not employability skills.**

			accordance with their abilities and future social participation and integration.	accordance with their abilities and future social participation and integration.	by the availability of funds.	
	b) For further studies and mobility.	The system is multi-path and does not limit trainees to further their studies and specialisations.	Multi-path with limited number of options due to fast technical development in developed countries.	Single-path with much left to chance. Articulation between VET and higher education not clear with fewer opportunities to further studies.	VET programmes to be aligned with higher learning technical education institutions.	**-Create more VET higher education institutions** **-Memorandum of Understanding (MOU) with PoN and regional VET higher learning institutions.**
	c) For employability	Employability opportunities known before training and determined during training.	Employability opportunities determined upon completion of the qualification.	Employability not assured at any time; it is left to chance.	Determine/assess employability and productive areas of interest before the choice of career path.	**Determine/assess employability and productive areas of interest before the choice of career path.**
	d) For self-employment/ reliance.	Self-employment is a choice and is lucrative and offers progress/fulfilment.	Self-employment is not necessarily a choice and may be valued by the achievement. Fulfilment is possible.	Self-employment is not necessarily a choice and may be valued by the achievement. Fulfilment is possible. Frustration with NVET qualifications.	Encourage self-employment and production skills.	**Encourage informed decisions about self-employment and involvement in technical production skills acquisition.**

	e) For production and innovation.	Knowledge/ skills and wealth creation	Knowledge and skills for social participation and integration	Knowledge and skills for survival.	Knowledge and skills for progress, self-development and wealth creation.	**Knowledge and skills for progress, self-development and wealth creation.**
FEATURE 13:	**Programme duration for certification.**	In accordance with the career path of choice for related skills and knowledge. Essential in specialised technical institutions.	In accordance with the career path for related skills and knowledge. Preferable in specialised technical institutions	In accordance with the career path for related skills and knowledge (not clarified).	Put in place optional programmes, multi-path of the duration commensurate with the career of choice.	**Put in place optional programmes, multi-path of the duration commensurate with the career choice.**

6.4 Presentation of the emerging NVET benchmark model

6.4.1 Representation of the NVET benchmarking process

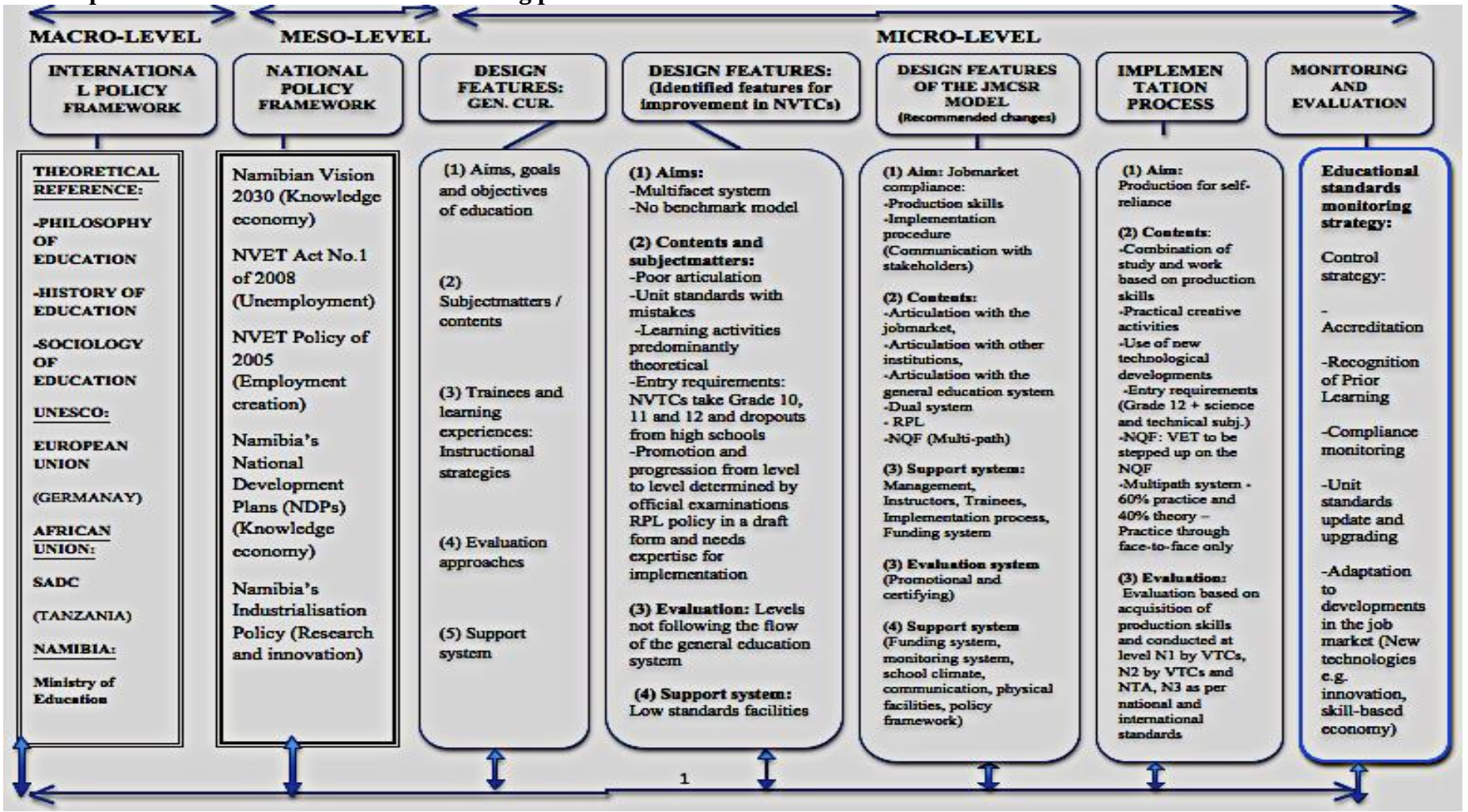


Figure 49: NVET benchmarking process

6.4.2 Production-based paradigm

The new model was suggested, based on challenges of the research findings, the analysis of the nature of the job market and the applicability of the suggested changes in the CBET model to the new Job Market Compliance for Self-Reliance (JMCSR) model as explained below.

6.4.2.1 Social vs. academic standards

The initial thinking on the issue of how to solve NVET problems was dictated by the public outcry and complaints from the society and politicians. If it had been found that the problem of educational standards were a street or social issue and an unacademic problem, the model would certainly have used socially oriented standards. The findings of this study showed that the problem was a curricular or an academic issue, thus a paradigm shift from a socially oriented model to a job market model intended to study how to make use of NVET as an academic and professional entity to solve social problems of unemployment. Notwithstanding the fact that the proposed job market compliance model responded to issues pertaining to the social outcry, the job market model will dwell on the link between the academic processes leading to skills training by improving features of the current NVET model, the inputs from stakeholders including the employers and potential employers of NVTC graduates and the profile of graduates upon graduation.

6.4.2.2 Goals of the new benchmark model

The current benchmarking process was driven by the urge to have NVTC graduates obtain employment as employment seekers. The frequency of statements such as *skills anorexia* and *skills shortage* suggests that NVTC graduates acquired sub-standard skills as compared to current job market vacancies. The government's efforts were geared towards closing the skills gap in the job market or enabling graduates to be employable. Thus employability skills were proposed as a solution to the problem in agreement with the findings of Naanda (2010).

The study revealed that the perception stated above created a dilemma since the Namibian market is in essence made of outlets of the South African manufacturing industry, individual retailers and family businesses. In Namibia the only promising industry with the potential for massive job creation remains the mining sector followed by agriculture and the hospitality industry (Links, 2010). About 90% of the employers and potential employers of NVTC graduates and 76.9% of the graduates in this study remarked that production skills are needed for sustainable economic growth. It was noticed that the new world economy does not need employment seekers or business managers only, but producers of goods and services termed *employment creators*, *wealth creators* and independent producers of goods and services, which is in line with the Tanzanian VET model of self-reliance. It would thus have been erroneous to move away from a production skills-focused model to an employment-based model. More specifically, in a country with an almost non-existent market like Namibia, to create a skilled workforce of employment seekers would not be realistic. Thus the paradigm shift to a more job market-compliance model which focuses on equipping trainees with productive skills for self-employment, reliance and creators of jobs in a country with a small market.

6.4.2.3 Implications of the job market compliance model

The first implication of this paradigm shift includes, among others, the consideration of the training process as a dynamic and systematic acquisition, not only of employability skills, but primarily of production skills for self-reliance, self-employment and self-development. The second implication is that the training process should move from the confinement of classrooms to a symbiotic approach to training termed by the Germans *dual system*. The dual system is based on apprenticeship and takes training to the industry. In this process, theoretical knowledge acquired in schools and technical skills acquired through on-the-job

training would be geared towards the satisfaction, not only of the job market, but essentially towards self-reliance and the production of goods and services, employment and ultimately national development through wealth creation. The third implication of the paradigm shift is that the training process is essential to the acquisition of technical skills encoded in practical tasks and the process of innovation and value addition, which is different from producing job seekers.

The fourth implication is that within the confinement of the international practice, the concept of business management has a greater role to play in the development process of nations. Looking at the Namibian context, however, it is erroneous to think that business administration and leadership skills alone will drive economic development. The preceding step often missed in the Namibian context is the obvious absence of businesses, more specifically the weak industry. Currently, the job attachment exercise has serious problems due to this shortcoming. Trainees are attached for the sake of being attached without clear guidelines on what they have to achieve. Trainees on job attachments are expected to perform jobs they were not trained for due to the absence of what they were trained for in the specific industry. The priority of training is therefore the provision of business creation skills. Literally, business creation should precede business management, given that one can only manage a business that has been created. Having missed that step is mother to numerous unemployed business managers roaming the streets with degrees in business management; an illness that has only one remedy, namely to step up technical and vocational skills aimed at addressing skills shortage and encourage self-employment, innovation and value addition. In other words, educational funds should be invested in areas where there is a potential for employment growth: training of mining engineers, commercial farmers, hospitality industry developers, and others.

The fifth implication is that this research realised the paradigm shift from the perception that vocational skills are essentially employability skills, but that on top of that, vocational skills should go beyond employability. Vocational skills must be a tool to problem solving in the society as in the German and Tanzanian VET models. Therefore, in the context of this study, vocational skills are technical skills geared towards increasing the capacity of graduates to be self-reliant, as in the case of Tanzania, and being producers-learners at the same time, as in the German context. From this dual perception and given the adaptation to the Namibian environment, the term *employability* would better suit the industrialised nations where the industry is strong but lacks qualified manpower to fill vacancies in specific skills. This is contrary to the Namibian context. The industry in Namibia is made up of foreign businesses, whose growth is still developing to become full-fledged manufacturing entities not seeking an employable labour force, but employment creators, producers of goods and services in line with Namibia's Vision 2030. The focus of NVET should be redefined along these lines to make it more market-compliant. That is the training of graduates who are not only true artisans but also producers, self-reliant citizens, expanders of the Namibian industry and creators of jobs.

6.4.3 The emerging NVET benchmark model

The proposed model has been named the Job Market Compliance for Self-Reliance model (JMCSR). Figure 50 shows the features of the JMCSR and describes its core components as well as the related support system.

6.4.3.1 Job Market Compliance Model for Self-Reliance as the emerging NVET benchmark model

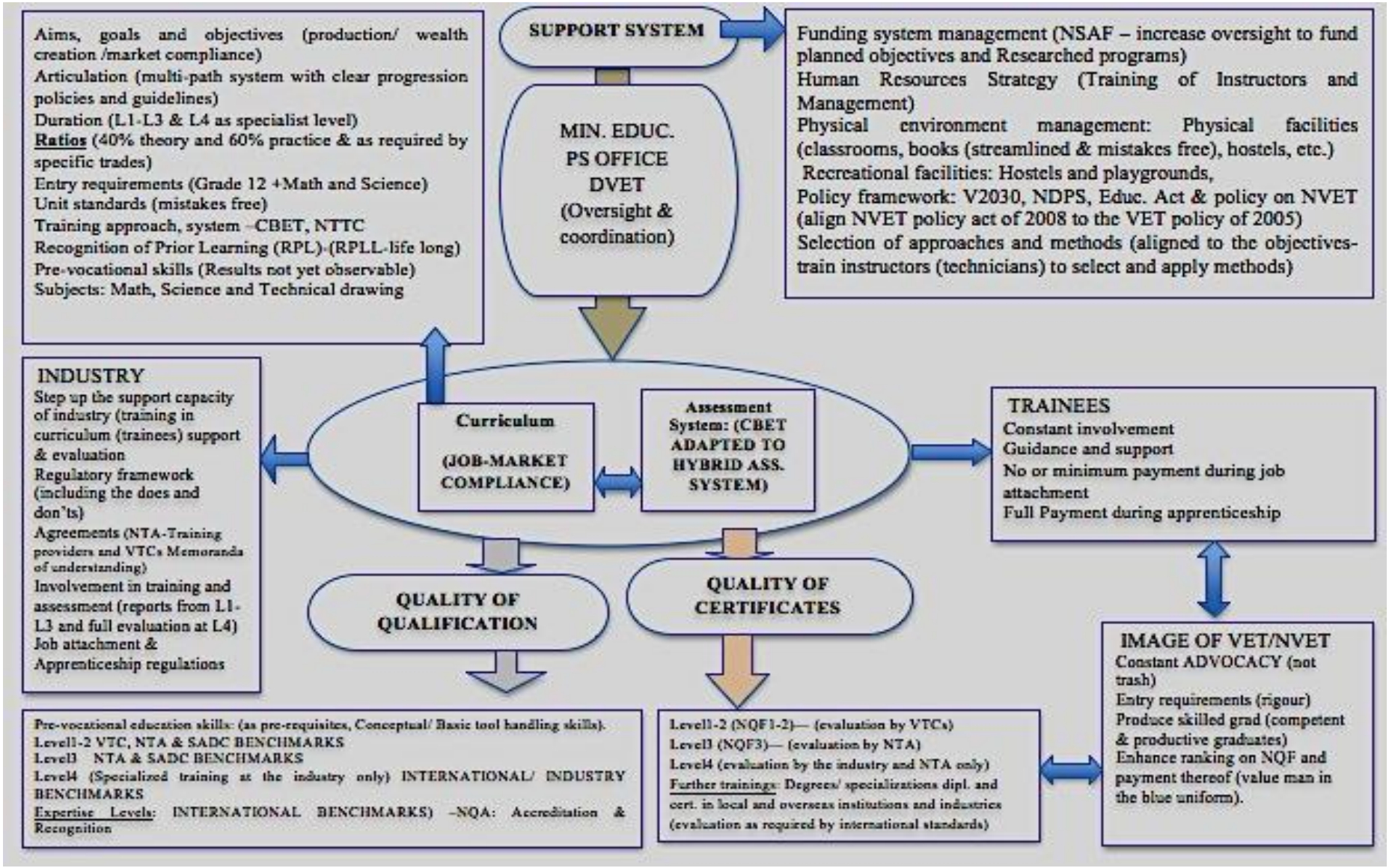


Figure 50: Emerging NVET benchmark model

6.4.3.2 Features of the job market compliance NVET benchmark model

This section presents core features of the JMCSR model that include the CBET curriculum, the evaluation and the support system during the implementation (Wiggins & McTighe, 2004).

6.4.3.2.1 Curriculum

- *Aims*

The aims of vocational education in Namibia should be aligned with the policy enshrined in the government's development plans in line with Vision 2030 and the NDP4. The JMCSR proposes a shift from the aim of building a knowledge economy to that of building a production and self-reliamce skills-based economy.

- *Goals*

The medium-term achievements leading to full integration of graduates into the job market and self-reliance should be stipulated in amendments to the NVET Act No.1 of 2008. The Ministry of Education will give directives on JMCSR to guide the elaboration of competencies to be outlined in syllabi. The JMCSR policy will put special emphasis on increasing exposure of NVTC trainees to production, innovation and self-reliance activities.

- *Objectives*

Objectives will be based on production and innovation abilities for self-reliance, and will focus on training activities based on respective classroom objectives derived from the educational goals. The objectives in the JMCSR model will be based on including more practical and production-based activities in the curriculum at a ratio of 40% theoretical contents to 60% practical and production-based contents.

- *Duration of programmes and delivery mode*

This will be harmonised across trainings at the same level and use the same delivery mode. The theoretical component of the curriculum may be offered through the distance delivery mode.

- *General, specific and special entry requirements*

General requirements will include Grade 12, plus passes in mathematics and sciences. Specific and special entry requirements to respond to specific and specialised fields are suggested. Depending on the course chosen by specific candidate, additional entry requirements may apply.

- *Unit standards*

All unit standards should be developed in accordance with the situation prevailing in the Namibia job market and should specify the competencies required to ensure that VTCs yield productive and self-reliant graduates. Therefore unit standards should mainly focus on the transfer of practical production skills and specify preparatory production and self-reliance activities and exercises.

- *Dual system*

This system is to be adopted as the training approach intended for production and self-reliance of graduates. It will emphasise the training to be conducted at the percentage ratio of 40/60 theory and practice. During the implementation, arrangements will be made by the employer that trainees on job attachments be paid for services they render to the industry in accordance with the terms and conditions to be defined on mutual agreement. Government policies should apply to any such arrangements.

6.4.3.2.2 Evaluation system

The evaluation system in the JMCSR model will be based on the training contents arrangement of the dual system whereby the ratio of 40% theory to 60% practice will be used to assess the ability of trainees. The job attachment will be evaluated through the evaluation of the practical work produced by the apprentice. The promotion from level to level will be guided by the same logic so that practical and production-based activities will carry more weight than theoretical performance.

6.4.3.2.3 Support system

Detailed plans of the support system to trainees will be designed by institutions and will be agreed upon between VET management and trainees' representative teams. Requests will be made for an increase in government support for trainees. This support is currently limited to a small amount (Gereon, 2007). The support system will include the training of instructors, improvements to physical facilities and the amendments of the NVET policy to encourage and accommodate people with disabilities.

6.5 Proposed implementation procedure

The proposed JMCSR model implementation is scheduled for implementation in three major phases, namely the pilot phase, the expansion phase and the finalisation phase. The implementation will be conducted in schooling institutions, NVTCs and the industry and will involve all stakeholders.

During the pilot phase, all stakeholders in NVET will attend an induction workshop intended to familiarise them with the JMCSR model and its requirements as explained in Table 36. The pilot phase of the model will be conducted in selected government NVTCs to ensure they fulfill the same conditions for evaluation purposes. The pilot phase will last one year, and will be closed by evaluation sessions where the aims, goals and objectives will be checked. Errors in materials, methods, approaches and procedures will be rectified and the final curriculum contents will be established.

The expansion phase will take place in all NVTC institutions and annual mid-term curriculum evaluations will be conducted. The JMCSR evaluation will focus on checking whether the curriculum has led to the desired quality of qualifications, whether the assessment system has led to the desired quality of certificates and whether the support system was implemented as expected.

The finalisation phase will be implemented through the adoption of the model through an amendment to NVET Act No. 1 of 2008, translated into a policy on JMCSR. Hence, the adoption of the policy on the JMCSR will be the culmination of the implementation process.

6.6. Summary

In this chapter the process that was followed to design the new benchmark model of educational standards in NVTCs was described. The JMCSR specifies three main features of the new benchmark model, namely the curriculum, the assessment and the support system. The JMCSR shows that the CBET curriculum determines the quality of NVET qualifications, the assessment system determines the quality of the

certificates of graduates trained in NVTC, and the quality of the support system, namely the funding system and the human resources system, determines the quality of education in NVTCs.

The proposed new benchmark model (Table 36) addresses the gaps in the CBET curriculum, suggested improvements including the articulation of NVET programmes, shortage of employability skills, shortage of production, innovation and wealth creation skills in the current VET curriculum. This chapter also gave the road map for the implementation of JMCSR.

CHAPTER 7: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

In Chapter 7 a comprehensive summary of the most significant findings is provided. Detailed conclusions followed by recommendations have been established and are presented in accordance with the major findings of the study. Similarly, the chapter pinpoints potential areas on which further clarific ation and research enquiries can be conducted.

7.2 Summary of the study

This study was undertaken with the purpose to investigate the standards of education in NVTCs. The major issue was how to raise educational standards in NVTCs. Therefore the study identified the features of the current NVET model and proposed a new benchmark model of educational standards in NVTCs. The following questions were addressed:

(1) What are the causes of the perceived poor educational standards in NVTCs?

(2) What design features, e.g. objectives, contents, assessment methods, admission and promotion criteria form the Namibian NVET programmes?

(3) What are the problems of the NVET implementation?

(4) How are the NVET design features and programmes comparable to those of Tanzania and Germany?

(5) What design features are the most suitable to raise educational standards in NVTCs?

(6) What are the design features of the benchmark model resulting from the comparison of the current NVET system with those of Tanzania and Germany?

Hypotheses were identified and tested during the analysis and related inferences in the quantitative part of the study. The Ho hypothesis stipulated that there was no relationship between the category under which the respondents fell and the fall in educational standards in NVTCs, while the Ha hypothesis argued that there was indeed a relationship between categories under which the respondents fell and the fall in educational standards in NVTCs.

A total sample of 600 respondents was selected through stratified random sampling techniques. The sample comprised 390 NVTC trainees, 30 NVTC instructors, 130 NVTC graduates, 20 MoE stakeholders and 30 NVTC graduates' employers at ten identified vocational training centres in Namibia.

NVTC graduates' employers were obtained through identified NVTC graduates who provided contact details of employers where fellow graduates were employed. The questionnaire and structured interviews were used to collect data from respondents. The analysis of qualitative data followed the guidelines suggested by Ahmed (2009) and Alan (2012) while the quantitative data were analysed by counts of responses of the respondents.

The results of this study showed that NVTC management and NVTC instructors lack the required skills level in the management of VET activities, while NVTC trainees lack study skills and NVTC graduates do not have the required skills to meet the job market requirements. The study noted that conditions of confusion and tension could be the cause of the fall in educational standards in NVTCs. The respondents also perceived that the cause of poor educational standards include weaknesses in CBET curriculum design features where the implemented unit standard has mistakes, and the absence of articulation and production led to the fall in educational standards in

NVTCs. The findings from NVTC instructors, NVTC trainees and MoE stakeholders revealed that too much is lacking in their skills for them to meet their different obligations in NVTCs.

The findings showed that the CBET curriculum itself is not well understood by NVET stakeholders, from there the focus on employability skills instead of on production skills. Implementation of NVET programmes took place before the training materials were ready, thus causing riots and unnecessary delays in training.

Finally, as the result of improvements to the CBET curriculum features, the JMCSR model emerged. The JMCSR model comprises three core features regarded as crucial to the improvement of educational standards in NVTCs, namely the curriculum, the evaluation and the support system. The model suggests the implementation of the dual system and the paradigm shift from a knowledge-based VET model that is regarded as theoretical to a production-based model that is regarded as promoting production, innovation and self-reliance.

7.3 Major conclusions

The following conclusions were reached:

7.3.1 The study established that the training facilities in NVTCs such as books, buildings and equipment were old and of a low standard, which contributed to the fall in educational standards in NVTCs.

7.3.2 There was a lack of support and clear guidelines from the industry during job attachment or actual work where NVTCs graduates were stationed, leading to poor performance in the job market.

7.3.3 Weaknesses were identified in skills of VET instructors. Their knowledge of the specific subjects and their teaching skills were judged to be fair, while their knowledge of the VET system was also perceived as fair.

7.3.4 The study discovered that the MoE stakeholders' workstations displayed confusion, tension, mistrust, conflict, competition and other negative attitudes.

7.3.5 NVTC trainees lacked the study and analytical skills levels required to understand the contents of training in NVTCs.

7.3.6 Facilities in NVTCs were not yet ready to accommodate people with physical disabilities.

7.3.7 NVTCs curriculum design (CBET) was not well understood by all the stakeholders involved in NVTCs.

7.3.8 Implementation was conducted without all the necessary physical and human capital in place. There was no foreign-based support system to monitor and assist with the implementation of the CBET curriculum.

7.3.9 NVET practice and programmes were in a state of confusion. This confusion in NVTC programmes needs urgent attention in order to restore the image and improve the educational standards in NVTCs.

7.3.10 NVET practice was derived from many VET models based on building a knowledge society. There is a need for a new benchmark model based on production skills.

7.4 Recommendations

This section provides recommendations on the identified challenges in NVTCs. The recommendations address issues related to the improvement of the state of training facilities in NVTCs, conditions at NVTC graduates' workstations, NVTC instructors' ability to conduct training, MoE stakeholders' workstations, NVTC trainees' learning abilities, MoE stakeholders' ability to manage VET activities, identified weaknesses in CBET curriculum design features, the implementation of NVET programme challenges and ideas for further studies.

7.4.1 The state of training facilities in NVTCs

The following recommendations are addressed to MoE stakeholders, NVTC management, NVTC trainees, NVTC graduates, NVTC graduates' employers and potential employers.

7.4.1.1 Laboratories and machinery should be adapted to technological innovation in order for trainees and graduates to be taught using the latest equipment in the industry to enable them to cope with their tasks effectively upon graduation.

7.4.1.2 Training materials required to implement programmes should be accurate and checked before implementation to ensure effective training of trainees. In addition, old training manuals should be replaced to allow NVTCs to keep abreast with the pace of other countries where vocational education is offered.

7.4.2 Working conditions at NVTC graduates' workstations

The recommendations presented in this point are directed at MoE stakeholders, NVTC instructors and NVTC graduates' employers. They address recommended

strategies to improve the conditions at the sites where graduates are employed.

7.4.2.1 A support system and communication strategy or guidelines should be put into place to regulate the interaction between NVTCs, including MoE stakeholders and graduates' employers, in order to provide a smooth transition between training and employment. Similarly, NVTCs and enterprise management should put into place regulations based on the pre-established policy on job attachment. In this way trainees on job attachment will follow the procedures as stipulated in the pre-established regulatory framework.

7.4.2.2 The industry and potential employers of NVTC graduates should be involved in training, since trainees are to be recruited by the industry. The involvement of the industry in the preparation of graduates in specific trades required by them is a necessity.

7.4.2.3 NVTC graduates should undergo induction programmes upon recruitment by the industry to familiarise them with working conditions at worksites.

7.4.2.4 Employers or potential employers should be bound to agreed-upon work ethics and regulations with the line ministries (Ministry of Labour, Ministry of Education) so as to treat VTC graduates humanely.

7.4.3 NVTC instructors' ability to conduct training

The recommendations in this section are directed at NVTC instructors with regard to the improvement of their ability to conduct training.

7.4.3.1 The NVTC management should provide induction and capacity building courses focusing on pedagogical and interpersonal skills. Skills upgrading courses for instructors should be scheduled on a regular basis to ensure that instructors are abreast with the pace of developments in their field.

7.4.3.2 Progressive training of instructors should be coupled with the continuous assessment of skills needed in the job market to ensure instructors' skills level growth regarding new technological advancements nationally and internationally.

7.4.3.3 NVTC management should ensure that the pre- and post-recruitment periods of instructors are accompanied by checking their methodological capability. Where weaknesses are detected, specialised courses should be presented in collaboration with specialist higher learning institutions tasked to conduct such training. Skills upgrading courses should be made compulsory for all instructors.

7.4.4 Conditions at MoE stakeholders' workstations

This section presents recommendations on identified challenges in the Ministry of Education. They were directed at the MoE stakeholders in VET.

7.4.4.1 The Ministry of Education should put into place exchange programmes between the DVET and specialised institutions such as those in Germany and Tanzania to harness the existing external expertise in the implementation of the dual and the self-reliance systems.

7.4.4.2 The DVET should play the role of a policy monitoring and coordination body of the Ministry of Education with regard to VET. The DVET should be fully devolved from the NTA and report directly to the Ministry of Education through the

Department of Lifelong Learning (Appendix 9). Furthermore, an external support from CBET experts should be put into place to facilitate the CBET implementation process in NVTCs.

7.4.4.3 Given the apparent communication breakdown and confusion between the NTA and the DVET, the Ministry of Education should restore and adhere to inter- and intra-ministerial government policies and provisions on communication channels. Since the DVET is based in the Ministry of Education, it should be given the role of a policy-coordinating and -monitoring entity of the Ministry in VET matters and should report to the Department of Lifelong Learning (Appendix 10). As an advisory body, its mandate would be to monitor, audit and report on VET adherence to the government policy by stakeholders in VET matters, including the funding of programmes.

7.4.5 NVTC trainees' learning ability

The recommendations in this section are directed at NVTC instructors and MoE stakeholders (NVTC management) in order to improve the learning ability of trainees.

7.4.5.1 NVTC should create a favourable environment for training so that trainees are motivated to enrol for courses that are offered at NVTCs.

7.4.5.2 Trainees should be offered computer courses to enhance their knowledge of information, communication and technology so that they can supplement their studies through the use of ICT and keep abreast with current developments in their trades.

7.4.5.3 More time should be assigned to training trainees as most of them come to vocational training institutions with inadquate basic mathematics and science knowledge. Time is needed to bring them up to the required level to understand the content and required operations in technical subjects.

7.4.5.4 English proficiency should be made a requirement for admission to VET. Since it is the medium of instruction, all trainees should be proficient in spoken and written English to enable them to follow instructions.

7.4.5.5 Trainees should be furnished with new technological know-how in terms of hardware, software and related safety measures to make sure they are equipped and protected by institutional rules and regulations to avoid harm. Working environments should be made conducive to production. Exposure to harm such as abuse and haphazardous substances should be avoided.

7.4.6 MoE stakeholders' ability to manage VET activities

Discussions in NVTCs and informative sessions on the CBET system were recommended. The study also recommended the NTA to treat the issue of training levies with sensitivity.

7.4.6.1 Open discussion forums between students and management should be created and regularly convened in VTCs to listen to concerns of trainees and address their concerns before any upheaval arises. Institution-based occupational standards should describe the means and ways they address the concerns from trainees.

7.4.6.2 Workshops and courses on the CBET system should be convened by the MoE to explain to all stakeholders involved in these vocational training institutions about the necessity of regular consultation with NVTCs management.

7.4.6.4 The MoE and more specifically the NTA should treat with sensitivity the issue of training levies and ensure that only academical and performance criteria are used to award them to institutions.

7.4.7 Weaknesses in CBET curriculum design features

The recommendations in this section relate to features of the NVET. They are directed at MoE stakeholders since it falls under the line ministry in charge of curricular matters. Therefore the following recommendations are made to improve the NVTC curriculum design features.

7.4.7.1 Design features

The CBET is not well understood by all the role players in VET; it is therefore imperative that the CBET curriculum design features be explained to stakeholders.

7.4.7.1.1 Science and technical subjects that are key to promotion of trainees to higher programmes should be enhanced in the current curriculum to allow able and successful VET trainees to pursue higher qualifications. CBET programmes should close all loopholes that could result in trainees stagnating in one position. Multi-path and multi-option systems in line with the dual system of the German TVET should be created.

7.4.7.1.2 The focus of NVET aims, goals and objectives should be directed at the creation of programmes aimed at production skills, innovation and self-reliance in line with international models such as those of Tanzania and Germany. VET programmes must be strengthened to suit international standards with the purpose to ensure that wherever trainees and graduates from NVTC go, they will remain competitive.

7.4.7.1.3 Advocacy about the CBET system should be stepped up, all the necessary documents should be prepared and the infrastructure should be ready before the implementation of the CBET programmes.

7.4.7.1.4 Specific entry requirements for each trade and special cases that need attention should be identified, implemented and adhered to all the time. To maintain high standards, NVTCs should strive to recruit trainees with higher points with a focus on science and technology subjects. A Grade 12 certificate should be the requirement to enroll for NVTC programmes.

7.4.7.1.5 The literature collected from the NTA confirmed the existence of a policy framework and RPL guidelines. The recognition of prior learning guidelines should be widely disseminated among potential beneficiaries since they are new and not well known.

7.4.7.1.6 Technical subjects should be added to the curriculum. The curriculum contents should be adapted for those who are illiterate and VET programmes should be diversified to cater for anyone who wants to enroll for VET institutions.

7.4.7.1.7 The dual system in training should be introduced with different methods that can make the skills transfer process worthwhile. The industry should be involved in training. The concentration should be on skills acquisition in practice with less coverage of theory in the curriculum as a way to promote inclusiveness in NVET.

7.4.7.1.8 All practical training should be conducted through a face-to-face mode. The distance education delivery mode should be applicable to theoretical subject components only.

7.4.7.1.9 Each unit standard that is developed should satisfy the set criteria, and careful recruitment of a well-trained skills training team be put into place. Unit standards should be easy to evaluate, clear, contain no mistakes, be easy to understand and adapted to the degree of difficulty of subject areas.

7.4.7.1.10 Local examiners should be trained with regard to procedures, own examination centres should be set at VTCs. Assessment should be centre-based for Levels 1, 2 and 3 and final certification assessments (Levels 3, 4 and higher, including diplomas) should be conducted by the NTA and certified by the NQA.

7.4.7.1.11 Ministerial oversight on NSFAF should be increased, funding of NVET activities should be needs-driven and the Ministry of Education should create an audit unit to oversee how the funds allocated to VTCs are utilised.

7.4.7.1.12 Training and support in the industry should be improved. NVTCs should clarify job attachment arrangements to ensure that they are production-based and

promote learning among trainees. The attachment should be conducted in clear, productive stages and evaluation should follow upon completion of skills acquisition in accordance with industry VTC pre-set criteria. Prior arrangements should be made for trainees to be attached to their respective trades to avoid job attachment just for the sake of it in trades they were not trained for.

7.4.7.1.13 The NVTCs management should ensure that the intra- and inter-institutional mobility of graduates is secured. VET programmes should be the natural feeder of higher learning institutions and allow graduates to do other advanced programmes they choose. A joint memorandum of understanding or policy framework should be put into place to ensure the flow from VTC programmes into the Polytechnic of Namibia and other higher learning VTCs so as not to disadvantage graduates from NVTCs. Articulation of CBET programmes, opportunities for further studies and future progression of VET graduates in the job market should be revisited and clarified.

Negotiations should also be entered into between the DVET and NTA management and local and foreign higher learning VTCs to ensure that NVTC graduates are admitted into higher level programmes offered in those institutions.

7.4.7.1.14 NVTCs should expand their programmes to include higher professional qualifications. There should be no limit for those who want to further their studies. NVTC programmes should be articulated in such a way that failures in a trade are accompanied by opportunities to explore possibilities within the system, preferably a reorientation in other trades in accordance with the individual ability of the trainee.

7.4.7.1.15 Step up advocacy on the importance of VET in economic development. NVET graduates' working conditions should be improved. Incentives should be used to encourage best performers in secondary education to make VET their preferred career choice. Salaries of VTCs graduates and artisans should be ranked in an equitable manner with those of their peers in other sectors to avoid low remuneration for artisans.

7.4.8 Gender issue

Gender should be addressed in NVTCs through equality between sexes, and motivation should be used to encourage female students to enter vocational education. The image of NVET should be improved to attract female students through media usage, e.g. radio and newspapers.

7.4.9 Professional qualifications

Higher professional qualifications such as doctorates, master's and honour's degrees and diplomas should be introduced in NVTCs through a multiple-path system where trainees can choose the professional qualification they wish to pursue.

7.4.10 Language of instruction

To ensure better performance and following instructions in all VET subjects an English proficiency test should be part of the entry requirements for trades. To ensure inclusiveness and to avoid discrimination against people who have language difficulties but who are VET passionate, NVTCs should create a VET path where students can be taught vocational skills in their own vernaculars.

7.4.11 Obstacles related to the implementation of NVET programmes in NVTCs

7.4.11.1 Successful implementation requires that all necessary physical and human resources required are in place. Since the era of VET is changing at a rapid pace, constant assessment should be conducted to ensure that all stakeholders are part of the implementation process, and the evaluation system of CBET should be guided by the principle of speed and pragmatic implementation decisions.

7.4.11.2 Before the CBET curriculum is implemented, the NTA should ensure that induction training of instructors and trainees takes place, that managers of VTCs understand the CBET curriculum as well as the implementation process thereof and that the evaluation system is well planned.

7.4.12 Recommendations for further studies

7.4.12.1 A study on the improvement of educational standards with the focus on investigating factors hindering professional development of NVTC graduates in the Namibian industry, the development of requirements and special arrangements for specific trades, with the focus on the following issues:

i) How to promote the professional development of NVTC graduates in the Namibian industry. The aim would be to assist NVTC graduates to move from being sub-standard workers to becoming real contributors to the national development efforts.
ii) How to respond to specific entry requirements for identified and special trades that need less or extra requirements. The aim would be to focus on special situational

issues related to raising standards in a system of VET in transit towards a more involved system in economic development, the creation of categories in the VET system according to entry requirements to fulfill different entry profiles of prospective trainees, and the creation of a multi-entry and multi-path system of VET.

iii) How to solve specific challenges in specific trades for the improvement of educational standards based on the current benchmark model. The aim in this regard would be to close possible loopholes in the new model.

iv) How to learn from successful VET systems worldwide. The aim would be to ensure that adherence to international standards is used to make Namibia a VET player worldwide.

v) How to make use of innovation and value addition to improve on educational standards in NVTCs. The aim would be to develop an implementation plan for VET programmes as a tool in industrialisation.

7.5 Summary

Chapter 7 gives the summary, conclusions and recommendations that emanated from the study. This chapter ends with suggestions for further studies to be conducted in order to address additional issues of concern in NVET. The summary of the study highlights the proposed strategies on raising the standards of education in NVTCs with reference to the views of stakeholders in VET. Conclusions established that the state of training facilities, poor management skills, confusing conditions at MoE stakeholders' worksites and the low skills levels of instructors constituted the cause of

the perceived poor educational standards in NVTCS. Weaknesses were identified in the CBET curriculum, while the improvement of features of the CBET system culminated in a new benchmark model that was inspired by the German dual system and the Tanzanian self-reliance models. The new benchmark model was named the Job Market Compliance for Self-Reliance (JMCSR) model. The identified JMCSR was followed by its description and the implementation guidelines. Major conclusions drawn suggested improvements to the state of training facilities and the design features of the CBET system, and attention to obstacles related to the implementation of NVTCs programmes.

Recommended improvements gave suggestions on NVTC learning materials, the support system of trainees, improvement of the competitiveness of graduates, constant upgrading of training facilities, the use of academic criteria in awarding funding and the improvement of the image of the NVET through increment of wages and remuneration of NVTCs graduates. The proposition on further studies indicated that there was a need to investigate factors hindering professional development of NVTC graduates in the Namibian industry, to study entry requirements for each trade and to foster innovation and value addition as an improvement strategy to NVET educational standards.

REFERENCES

Adelman, H.S. & Tyler, L. (2008). *Rebuilding for learning: Addressing barriers to learning and teaching and re-engaging students.* New York: Scholastic, Inc.

Advisory Council on Teacher Education and Training (2008). *Consultancy to develop guidelines on teacher education reform – Including curriculum development and institutional development.* Windhoek: Higher Education.

Afeti, G. (2010). *Technical and Vocational Education and Training for Industrialisation*. Retrieved May 2012 from http://www.arrforum/

African Development Bank [ADB] & Organisation for Economic Cooperation and Development (OECD) (2007). *African Economic Outlook*. Namibia. Windhoek: South Region A.

African Development Bank [ADB] (2009). *Namibia Country Strategy Paper 2009-2013.* Windhoek: South Region A.

African Union [AU] (May, 2007). *Meeting of the Bureau of the Conference of Ministers of Education of the African Union.Strategy to Revitalise Technical and Vocational Education and Training in Africa*. Addis Ababa: African Union.

African Union [AU] (2010). *Second Decade of Education for Africa (2006-2015): Draft Plan of Action.* Addis Ababa Department of Human Resources, Science and Technology: African Union.

Agapitus, A., Svendson, L.H., Tjeldvoll, A. & Welle-Strand, A. (1991). *Learning by Production – A Realistic Method of Education? Evaluation of the Loudima Model.* Windhoek: Namibia Foreningen. 81-84.

Ahmed, S. (2009). *Methods in sample surveys. Stratified sampling.* Baltimore: Johns Hopkins University.

Akoojee, S., Gewer, A. & McGrath, S. (2005). *Vocational Education and Training in Southern Africa. A Comparative study*. Cape Town: HSRC Press.

Alan, C. E. (2012). *Statistical Analysis Quick Reference Guidebook: With SPSS Examples (*Kindle Edition). Arkansas: Arkansas University.

Almashaqba, Z. M. S., Alajloni, M. M. & Al-Qeed, M. A. N. (2010). The Classical Theory of Organisation and its Relevance. In *Irbid: Irbid Private University International Research Journal of Finance and Economics.*1450-2887(41).3-6.

Amukugo, E. (1998). *Education and Politics in Namibia. Past trends and Future Prospects*. Windhoek: Gamsberg McMillan.

Andersen, B. (2000). *Industrial Benchmarking for Competitive Advantage*. Trondheim Norway: University of Trondheim.

Angula, N. (1991). *Conference on Education in Namibia.* Windhoek: GRN.

Angula, N. (2000). *Education for All: How it all began.* In *E. Tylor (Ed.) Education in Perspective, Namibia's First Decade*. Windhoek: Gamsberg Macmillan. pp. 13-17.

Angula, N. (2004). *Strict education code launched.* Retrieved May 2012 from http://www.the Namibian.com.na/index.

Angula, N. (2010). *Namibia: Doing Away with Bantu Education - A Personal Journey*. At the awards ceremony of the President's Medal of Excellence. April 24, 2010. New York: Teachers College, Columbia University.

Angula, N. (2011a). Ramatex and the Dream of Vocational Training. How about turning the Ramatex complex into a grand vocational school fully equipped with workshops and boarding facilities. *Windhoek Observer, April 26*, pp.1, 3-6.

Angula, N. (2011b). *The elusive quest for education excellence in post-independent Namibia: The challenges of diversification and implementation. Paper delivered at the National Conference on Education 27 June – 1 July, 2011.* Safari Conference Centre Windhoek: Ministry of Education. pp. 4-7.

Anonymous (2013). *Education in Bangladesh.* Retrieved February 2013 from http://en./Educ-n-Bangladesh.org.

Armacost, R. L. & Wilson, A. L. (2003). *Methods for Benchmarking Academic Programmes: A Graduate Programme Example. University Analysis and Planning Support, Annual Conference, July 2003.* University of Central Florida: Florida Association for Institutional Research.

Asche, M. (2001). *Vocational Education Performance Standards.* Blacksburg: Division of Vocational and Technical Education, Virginia Polytechnic Institute and State University.

Association for the Development of Education in Africa (ADEA) (2008). Biennale on Education in Africa (Maputo, Mozambique, May, 5-9, 2008). *Beyond Primary Education: Challenges and Approaches to Expanding Learning Opportunities in Africa*. Maputo: ADEA.

Association for the Development of Education in Africa (ADEA) (2012). *Triennale on Education and Training in Africa. Promoting critical knowledge, skills and qualifications for sustainable development in Africa: How to design and implement an effective response by education and training systems. Lifelong technical and vocational skills development for sustainable socio-economic growth in Africa. The Joint SADC-UNESCO Regional Experience.* Ouagadougou: ADEA.

Association of Tanzania Employers (ATE) (2010). *Improving TVET in Tanzania*. Arlington USA: JE Austin Associates.4-6.

Atchoarena, D. & Delluc, A. (2002). *Revisiting Technical and Vocational Education in sub-Saharan Africa. An Update on Trends, Innovations and Challenges.* Paris: IIEP.

Balati, J. & Falk, I. (2000). *Community Capacity and VET.* Cairns and Lawrencestor: University of Western Sydney.

Barnett, R. (2006). *Higher Education a critical Business*. Open University press: USA.

Barr, A., Blosveren, K. & O'Hara, M. (2012). *Implementing the Common Core Standards. A Workbook for State and District Leaders*. USA: Achieve and U.S. Education Delivery Institute.

Barreiro, L. P. & Albandoz, J. P. (2001). *Population and sample. Sampling techniques*. Seville: University of Seville.

Bernard, H. R. (2012). *Social Research Methods: qualitative and quantitative approaches* (2nd ed.). London: SAGE Publications.

Better Education for Africa's Rise [BEAR] (2012). *Technical Vocational Education and Training (TVET).* Windhoek: UNESCO.

Billet, S. (2011). Positioning Vocational Education. *International Journal for Educational and Vocational Guidance.* 107715 (256). 24-24.

Brunette, H.C. (2006). *Technical Education in Namibia: Past trends, Present circumstances and Future prospects.* Unpublished PhD Dissertation. Bloemfontein: UOFS.

Butler, M. (2004). *Outlcomes based/ Outcomes focused education overview.* UK: University of Reading.

Carnoy, M. (2005). Have state accountability and high-stakes test influenced student progression rates in high school? *Educational Measurement, Issues and Practice,* 24. Retrieved February, 2013 from Pro-Quest database.

Case, B. & Zucker, S. (2008). *Policy reports on Horizontal and Vertical alignments. Conference on Alignment of Assessment and Instruction.* Beijing: Pearson 3-4.

CEDEFOP (2011). *Germany VET in Europe Country Report*. Thessaloniki: CEDEFOP.

Central Bureau of Statistics (2006). *Namibia Facts: A Summary of Census Statistics Pamphlet.* Windhoek: National Planning Commission.

Central Bureau of Statistics (CBS) (2007). *Namibian Central Bureau of Statistics, National Accounts 1996-2006*. Retrieved March, 2013 fromhttp://www.npc.gov.na/cbs/index.htm.

Centre for International Education Benchmarking [CIEM] (2013). *Learning from the world's High performing education systems.* Geneva: Switzerland.

Chappell, C. (2003). Researching vocational education and training: Where to from here? *Journal of Vocational Education & Training,* 55(1), 22-26.

Chillisa, B. & Preece, J. (2005). *African perspective of adult learning: Research methods for Adult Education in Africa.* Hamburg: UNESCO.

Clarke, K. (2012). Entry to vocations: current policy trends, barriers and facilitators of quality in VET in schools. *International Journal of educational development.* 33(4), 22-23.

Clegg, A. (2004). Partnership for relevant science and technology education. In *Report of a sub-regional workshop on private sector partnership in science and technology education in Southern Africa,* held July 28-30, 2003, in Windhoek, Namibia. Windhoek: UNESCO.

Collins, C., Hanges, P. & Locke, E. (2004). The Relationship of Achievement Motivation to Entrepreneurial Behaviour: A meta-analysis. *Human Performance,* 17(1), 94-117.

Creswell, J. W. (2002). *Educational Research: Planning, conducting and evaluating quantitative and qualitative research*. New Jersey: Merill.

Creswell, J. W. & Clark, P. V. L. (2011). *Designing and conducting mixed-methods research (2nd ed.).* Thousand Oaks, CA: Sage.

Croom, S. (2011). Developing a Forensic Approach to Process Improvement: The Relationship between Curriculum and Impact in frontline operator education. *Journal of Education in Business.* 86(6), 312-313.

Culata, R. (2011). *Behaviourist Learning Theory.* Miami: CIA University.

Davis, D. (2005). *The learning organisation and its dimensions as key factors in firm performance.* Unpublished doctoral dissertation. University of Wisconsin: Milwaukee.

David, W. (2012). *Technical Vocational Education and Training and Skills development and agency perspectives*. Geneva: Graduate Institute of International Development Studies.

Development of Higher Education Management Systems (DEHEMS) (2011). *Employability of Graduates and Higher Education Management Systems.* Vienna: University of Economics and Business.

DeiBinger, T. & Hellwig, S. (2011). *Structures and functions of Competency-based Education and Training (CBET): A Comparative Perspective.* Mannheim: GTZ.

Dotto, L. (2009). Vocational Education and Training Authority. *Approaches and Experiences* in the VET System in Tanzania. AFD –GTZ – Regional Workshop

on PPET held in Uganda 21 – 22 October 2009. Kampala: AFD.

Douban, M.A.R. (2010). *Competence-Based Education Framework: Implications for Higher Education Process in Malaysia.* Bayan Lepas: INTI International College Penang.

Dude, S. (2012). The gap in our vocational education; as Maria Nangolo-Rukoro embarks on the transformation of the NTA. *Prime focus September 2012*, Windhoek: John Meinert Printing, p. 9.

Duffield, S. K. (2011). Impact of Cooperative Business Management Curriculum on Secondary Students attitude. *Journal of Education in Business.*86(6),358-360.

Du Plessis, A. (2012). Africa candle of humanity. South African Art. Retrieved from http://www.africaforever.org/south-african-art.aspx.[In English. Last checked: April 2012.

Durango, L. (2012). *The New System of Training and Qualifications: Localisation of Curricula and Decentralisation of Curriculum Development*. Windhoek: NTA Village. Slide no. 3.

Education International (2009). Literature Review in Vocational Education and Training. Retrieved from http://www.eiie.org/en/ websections/content.

Ekongo, I. (2010). WVTC submits to students' demands. *New Era: 15(202).*1-2.

Ember, M. & Ember, C.R. (2003). *Countries and their cultures.* Encyclopedia of medical anthropology. Vol.3. New York: Kluwer Academic / Plenum Publishers, vol. 3, 1540-1543.

EMIS (2005). *Education and Training Sector Improvement Programme*. *ETSIP*

Ministry of Education.Windhoek: Government Printers.

ETF, ILO & UNESCO (2012). Proposed Indicators for Assessing Technical and Vocational Education and Training Inter-Agency Working Group on TVET Indicators. Paris: UNESCO.

European Committee for Standardisation (CEN, French: Comité Européen de Normalisation) [CEN](2009). What is a standard? *Official Journal of the European Union.* (Issue L316 of 14 November 2012). pp. 4-7.

European Telecommunications Standards Institute [ETSI] (2012). *Annual report 2012.* Sophia CEDEX: Iso.

European Commission (2012). *Education and training monitor 2012.* Strasbourg: European Union, p. 42.

European Quality Assurance Systems for Vocational Education and Training (EQAVET) & Education and Culture Directorate General (2013). European Quality Assurance Reference Framework for Vocational Education and Training. A tool for VET providers (Brochure). Hamburg: EQAVET and EU.

Faraday, S., Overton, C. & Cooper, S. (2011). *Effective teaching and learning in vocational education.* London: City and Guilds.

Few, W. (2005). *Conditional distribution.* University of Massachusets, USA: Department of computer science.

Fiksel, J. (2002). *Towards a sustainable cement industry. Key performance indicators.* U.S Office: World Business Council for Sustainable Development. 6-11.

Flanagan, L. & Jacobsen, M. (2003). Technology leadership for the twenty-first century principal. *Journal of Educational Administration*. 41 (2), 123-125.

Gall, M.D., Gall J. P. & Borg, W. (2003). *Educational Research: An Introduction.* 7th Ed. Boston: Pearson.

Gereon, F. (2007). *The Namibian Educational System.* Windhoek: Friedrich Ebert Stiftung.

Goodman, R., Hatakenaka, S. & Kim, T. (2009). *The Changing Status of Vocational Higher Education in Contemporary Japan and the Republic of Korea.* Paris. UNESCO and UNEVOC.

Gouws, E. (2008). Entrepreneurship education: Implications for Teacher training. *South African Journal of Higher Education*. 22(2), 47.

Government of Britain (2010). *The Importance of Teaching: The School's White Paper 2010.* London: The Stationery Office Limited.

Government of the Republic of Namibia [GRN] (1990). *The Constitution of the Republic of Namibia*. Windhoek: Government Printers.

Government of the Republic of Namibia [GRN] (1999). *Presidential Commission on Education, Culture and Training.* Windhoek: John Meinert.

Government of the Republic of Namibia [GRN] (2000). *Presidential Report on Education, Culture and Training*. Windhoek: Gamsberg McMillan.

Government of the Republic of Namibia [GRN] (2001). Promulgation of the

Education Act (Act No. 16 of 2001). Windhoek: Government Gazette. *Government of the Republic of Namibia (2001).* 3144(15), 23-25.

Government of the Republic of Namibia [GRN] (2002). *Education for All (EFA) National Plan of Action 2002–2015.* (Revised). Windhoek: Government Printers.

Government of the Republic of Namibia [GRN] (2003). Promulgation of Higher Education Act, 2003 (Act No. 26 of 2003). Windhoek: *Government Gazette.* Government of the Republic of Namibia (2003). 3125(268). 43-45.

Government of the Republic of Namibia [GRN] (2004a). *Draft national report of Namibia on adult learning and education.* Windhoek: Government Printers.

Government of the Republic of Namibia [GRN] (2004b). *Namibia Vision 2030. Policy framework for long-term national development.* Windhoek: Office of the President.

Government of the Republic of Namibia [GRN] (2004c). Promulgation of the National Disability Council Act, 2004 (Act No. 26 of 2004). Windhoek: *Government Gazette.* Government of the Republic of Namibia (2004). 3360(286).15, 18.

Government of the Republic of Namibia [GRN] (2005). Promulgation of the National Youth Service Act No. 6 of 2005. *Windhoek: Government Gazette.*Government of the Republic of Namibia. 3468 (91*).*

Government of the Republic of Namibia [GRN] (2007). *Education and Training Sector Improvement Programme (ETSIP) Planning for a Learning Nation.*

Programme document Phase I (2006-2011). Windhoek: Government Printers.

Government of the Republic of Namibia [GRN] (2008a). *Namibia Vocational Education and Training (NVET) Policy.*Windhoek: Government Printers.

Government of the Republic of Namibia [GRN] (2008b). *Promulgation of Vocational Education and Training Act (Act No. 1 of 2008.* Windhoek: Government Gazette. Government of the Republic of Namibia (2008). 4042 (105).

Government of the Republic of Namibia [GRN] (2012). *Fourth National Development Plan. NDP4 2012/2017 Office of the President:* NPC.

Government of the Republic of Namibia [GRN] & International Labour Organisation [ILO] (2013). *Towards a New Namibian Employment Policy. Multi-stakeholder Workshop on Employment Policy Finalisation. 24–-25 April 2013.* Heja Lodge Windhoek: GRN. pp. 18-35.

Guliano, V. & Severo, V. S. (2000). *Development of Standards in Vocational Education and Training - Specification, Experience, Examples.* EU: European Training Foundation.

Haihambo, C.K., February, P.J., Brown, A. & Hengari, J.U. (2009). *Responses of Namibian Vocational Training Institutions to Inclusive Education: Successes, Challenges and Future Prospects. SANORD 07–09 December 2009*. Grahamstown: Rhodes University.

Hall, R. (2009). Efective education for employment: A global perspective. United Kingdom: Edexcell.

Hambata, D. (2010). 2010: Year of success and progress Pohamba. – *Government Information Bulletin. March, 2010*. Windhoek: Government printers.

Harris, J. (2001). *Developing Modern Higher Education careers services.* London: DFEE.

Haufiku, M. (2011). N*amibia: Much Expected From Education Conference*. Retrieved May 2012 from http://www.newera.come.na

Haufiku, M. (2013). Engineering graduates in limbo. *New Era.* 18(109), 1-2.

Higgs, P. (2006). Nation building and the role of the University: A critical reflection. *South African Journal of Higher Education*. 22(6), 15-16.

!Hoabes, I. (2011). Cultural sites unpopular. Retrieved April 2012 from http://www.newera.come.na.

Howe, R. K. (2004). A Critique of Experimentalism. *Qualitative Inquiry,* 10 (4), 42-61.

Iipinge, S. M. (1999). *Quality in education and access to education in Namibia: Goals of Education after years*. Windhoek: MoE. 2-4.

Ikela, S. (2012). Student uprising at training centre. Retrieved April 2012 from *http://www.namibiansun.com/content/national-news/student-uprising-training-centre.*

Ikela, S. (2013). Vocational Training Centres a vital backbone – Nanso. Retrieved January 2013 from *http://www.namibiansun.com/content/national-news/-vocational-training-centrebackbone-nanso* p. 1.

International Labour Organisation [ILO] (2012). *Overview of apprenticeship system and issues. ILO contribution to the G20 Task Force on Employment.* Geneva: ILO. pp. 2-6.

Isaacs, D. (2009). VTC students to boycott classes. Retrieved April 2012 from *http//:www.the Namibian/ VTCstudentstoboycottclasses.html* pp. 1-7.

Iyambo, A. (2011). *Reintroduction of technical subjects in the school curriculum* [Internal memorandum]. Windhoek: Ministry of Education. 1-3.

Jacobs, R. M. (2012). *Educational Research: Instruments (caveat emptor). Published PhD Dissertation.* USA*:* Office of Study Abroad (OSA): Vanderbilt University.

James, E. (2006). Statistical Methods, Volume II. *Learning and Performance Journal*, 11(2), 46-47.

James, S. & Holmes, C. (2012) *Developing Vocational Excellence: Learning Environments within work environments*. SKOPE: University of Oxford.

Jones, E, Voorhees, R. & Paulson, K. (2002). *Defining and assessing learning: Exploring competency-based initiatives.* Washington, DC: Council of the National Postsecondary Education Cooperative.

Jordi, P. (2009). *Challenges of the recognition of competences acquired informally and non-formally by vocational education and training teachers: reflections based on the EU's experience*. Malaysia: University Tun Hussein Onn Malaysia.

Justin, J.W.P., Coutrot, L., Graf, L., Bernhard, N., Kieffer, A. & Solga, H. (2009). *Comparing the relationship between Vocational and Higher Education in*

Germany and France. Retrieved September 2012 from http://www.wzb.eu/bal/aam-vocational education. pp. 4-5, 8-9.

Kakunawe, S. (2008). Vocational students unhappy with new system. In *The Namibian*: 23(62) pp.1-3.

Kamupingene, T. (2002). *Government of the Republic of Namibia. Education for All (EFA). National Plan of Action.* Windhoek: Government Printers.

Kasanda, C. D. (2005). Education in Africa: Post-colonialism and Globalisation in science and mathematics education: The case of Namibia and Zambia. In Mostert; M. L. and Kasanda, C. D. (Eds.) *Education in Namibia A Collection of Essays*. Windhoek: University of Namibia publishers. 107-109.

Kaulinge, V. (2012). The Human Resource plan. In *National Planning Commission Quarterly Newsletter.* Retrieved May 23 from http://www.npc. gov.na/ publications/ NPC pp. 3-7.

Kent, D. W. & Mushi, P. S. D. (1995). *The education and training of artisans for the informal sector in Tanzania.* London: Overseas Development Administration.

Kessel, F., Rosenfeld, P. L. & Anderson, N. B. (Eds.) (2008). *Interdisciplinary research: Case studies from health and social science.* New York: Oxford University Press.

King, K. (2009). *A Technical and Vocational Education and Training Strategy for UNESCO. A Background Paper.* Nottingham: London.

KMK (2005). *The Education System of the Federal Republic of Germany.* Retrieved April, 2012 from http://www.kmk.org/dossier/htm.

Konrad Adenhauer Stiftung (2010). *State, Society and Democracy. A Reader in Namibian Politics.* Windhoek: MacMillan 177-178.

Kröner, H. (2004). *Governance of Technical and Vocational Education and Training findings from UNESCO TVET Survey 2004*. Tunis: ADEA.

Kukler, R. (2007). *Best Practice in Education and Training: Hype or Hope? Namibia: A Balanced Approach to TVET.* Norrag. 34-36.

Kwikiriza, B. F. (2012). *AFD-GTZ Regional Workshop on Post-primary Education and Training. Practical examples – Policy Frameworks – Strategies and visions, 21-22* October. Entebbe, AFD.

Ladd, H. F. (2009). *Teachers' Perceptions of their Working Conditions: How Predictive of Policy-Relevant Outcomes?* Washington D.C.: Duke University. 10-13.

Laurillard, D. (2005). *Rethinking University teaching. A framework for effective use of IT*. New York: Routledge.

Layton, C.A. & Lock, R.H. (2007). *Use authentic assessment techniques to fulfill the promise of no child left behind*. *Intervention in School and Clinic.* 42(3). Retrieved June 21, 2007 from ProQuest database. pp. 170-171.

Lasonen, J. & Gordon J. (2008). Improving the attractiveness of the image of VET.CEDEFOP (ed.), In *Modernising vocational education and training. Fourth report on vocational education and training research in Europe: background report.* (pp. 21-23). Luxemburg: Office for Official Publications of the European Communities.

Lave, J. (2011). *Apprenticeship in critical ethnographic practice.* Chicago and London: University of Chicago press.

Lee, J. (2009). Partnerships with Industry for Efficient and Effective Implementation of TVET. *International Journal of Vocational Education and Training.* 17(2), 41-43.

Lewis, J.R. & Saurro, J. (2006). When hundred percent really isn't a hundred percent: Improving the accuracy of small sample estimates of completion rates. *Journal of Usability Studies*. 3(1), May 2006, 140-145.

Likando, G., Wolhuter, K., Matengu, K. & Mushaandja, J. (2011). *Comparative Education: An Introduction. (2nd ed.)* Noordbrug: Keurkopie Uitgewers.

Links, F. (2010). *Namibia's Skills Deficits: Cross-sectoral Perceptions and Experiences.* Windhoek: IPPR. 5-8.

Louw, M. (2013). *From prejudice to prestige. Overcoming Negative Perceptions on VET*. Windhoek: NTA.

Mabizela, M. (2005). Namibia: Repositioning Vocational Education and Training. Vocational Education and Training in Akonjee, S., Gewer, A., & McGrath, S. (Eds.). *Southern Africa: A Comparative Study*. Cape Town: HSRC Press. 81-98.

Mapesela, L. (2002). Is the Proliferation of private colleges spelling doom for South Africa Public Higher Education? *South African Journal of Higher Education.* 22(3). 59-60.

Mans, M. (2000). Using Namibian Music/Dance traditions as a basis for reforming arts education. *International Journal of Education and the Arts*. September 11, 2010. 1(3), 4-10.

Marope, T. M. (2005). *Namibia Human Capital and Knowledge Development for Economic Growth with Equity.* Africa Region Human Development: The World Bank. 8-10.

Marsh, C. J. & Willis, G. (2003). *Curriculum: Alternative approaches, ongoing issues* (3rd ed.). Upper Saddle River, NJ: Pearson.

McMillan, J. & Schumacher, S. (2006). *Research in Education. Evidence-Based Inquiry* (6thed.). Boston: Pearson.

McNulty, R.J. & Gloeckler, L.C. (2011). *Fewer, clearer, higher common core state standards: Implications for students receiving special education services.* Rexford, NY: International Centre for Leadership in Education. pp. 1, 3-5.

Metha, R. (2008). *University of Namibia – University of Toronto Partnership Programme.* Windhoek: University of Namibia Press.

Melber, H. (2005). *Namibia's post-colonial socio-economic (non-) transformation*: *Business as usual*? Uppsala: The Nordic Africa Institute.

Ministry of Education and Culture [MEC] (1993). *Towards Education for All. A Development Brief for Education, Culture and Training.* Windhoek: Gamsberg McMillan.

Ministry of Basic Education, Sport and Culture [MBESC] (1999a). Directorate of Planning and Development. *Education for All 2000 Assessment: Country report*

of Namibia. Windhoek: Namibia.

Ministry of Basic Education, Sport and Culture [MBESC] (1999b). *Ten-year plan for educator development and support in Namibia 2000-2010.*Windhoek: Namibia.

Ministry of Basic Education, Sport and Culture [MBESC] (2001). *The development of education. National report of the Republic of Namibia.* Document presented at the 46th session of the International Conference on Education, Geneva.

Ministry of Basic Education, Sport and Culture [MBESC] (2004). *National report on the development of education in Namibia.* Document presented at the 47th session of the International Conference on Education, Geneva.

Ministry of Basic Education, Sport and Culture [MBESC] (2005a). *A profile of Education in Namibia.* Windhoek: Namibia.

Ministry of Basic Education, Sport and Culture [MBESC] (2005b). *Namibian Vocational Education and Training Policy.* Windhoek: MBESC.

Ministry of Education [MoE] (2006a). *Annual report for the Year 2005/6.* Windhoek: Government Printers.

Ministry of Education [MoE] (2006b). *Education Statistics: Education Management Information. Windhoek: Ministry of Education.*

Ministry of Education [MoE] (2006c). *National professional standards for teachers in Namibia.* Windhoek: Government Printers.

Ministry of Education [MoE] (2007). *Education and Training Sector Improvement Programme (ETSIP): Planning for a Learning Nation: Programme Document: Phase I: 2006-2011*. Government of the Republic of Namibia.

Ministry of Education [MoE] (2008a). *Contribution to the report on inclusive education.* Windhoek: NQA.

Ministry of Education [MoE] (2008b). *Directorate of Adult Education contribution to the national report for the 48th session of the international conference on education.* Windhoek: DAE.

Ministry of Education [MoE] (2008c). *ETSIP review:* Windhoek: ETSIP Ministry of Education (2006-2011). *Education Statistics: Education Management Information.*

Ministry of Education [MoE] (2008d). *Inclusive Education from qualifications reform perspective in Namibia: Namibia – Contribution from the Namibian Qualifications Authority to the Namibian country paper for the international conference on education in general.* Windhoek: NQA.

Ministry of Education [MoE] (2008e). *National Policy on Inclusive Education* (draft). Windhoek: PQA.

Ministry of Education [MoE] (2008f). *Proposed system to attract teachers with scarce qualifications to underserved areas and retain good performances.* Windhoek: PQA.

Ministry of Education [MoE] (2008g). *Report/ Information concerning the inclusive education conference,* Okahandja: NIED.

Ministry of Education [MoE] (2008h). *Report on Inclusive Education from the Directorate of National Examinations and Assessment.* Windhoek: DNEA.

Ministry of Education [MoE] (2008i). *The development of Education. National report*

of Namibia. Document presented at the 48th session of the International Conference on Education, Geneva. pp. 6-10.

Ministry of Education [MoE] (2008j). *The National Curriculum for basic education – The revised broad curriculum for schools (Grade 1 – 12.)* Okahandja: NIED.

Ministry of Education [MoE] (2010). National Institute for Educational Development. *The National Curriculum for Basic Education.* Windhoek: Government Printers.

Ministry of Education [MoE] (2011). National Report of Namibia on The Development of Education. International Conference on Education: The way of the future. Windhoek: Government Printers.

Ministry of Higher Education Vocational Training Science and Technology [MHEVTST] (1996). *Annual report for the year ending December 1996.* Presented to the National Assembly of the Republic of Namibia, Windhoek, Namibia.

Ministry of Education of the People's Republic of China [MoEPRC] (2006). The system of vocational education and its development. Retrieved February 2013 fromhttp://www.china.org.cn/living_in_china/abc/200812/08/content_17989905.htm

Ministry of Trade and Industry (2012). Namibia's Industrial Policy. Windhoek: Government Printers.

Millennium Challenge Account (2008). Namibia Strategic Environment Assessment. Compact: Volume 6: Thematic Analysis Report-Education. Washington: MCA Namibia.

Millennium Challenge Account (2009). MCA Namibia Education Project Description. Washington: MCA Namibia.

Mostert, L. M. (2005). A Namibian perspective on the main factors regarding the influence of career selection and placement. In *Education in Namibia. A Collection of Essays*. Windhoek: University of Namibia publishers. pp. 45.

Mukendwa, J. (2012). The imposition of a vocational education and training levy. Retrieved May, 2013 from http://www.nta.com.na/

Mupinga, D. M., Busby, J. R. & Ngatiah, J. W. (2006). Post-secondary Technical and Vocational Education Institutions in Kenya: Needs and Challenges. In *International Journal of Vocational Education and Training.* 14(1). pp. 21-25.

Mutorwa, J. (2004). Access to Education 1990 – 2000. Reflections on the Implementation of Namibia's Policy towards Education for All. Windhoek: Gamsberg Macmillan.

Mutorwa, J. (2004a). National Report on the Development of Education in Namibia. Geneva: International Conference on Education.

Mutorwa, J. (2004b). Strict education code launched. Retrieved May, 2012 from http://www.the Namibian.com.na/index.php?id.p. 1.

Murenge, M. (2012, April 23). Can we speak of African pedagogy and indigenous education before colonialism? –Part 1. *The Villager*, 1(42) 2012. pp. 6.

Mushauri, J. (2008). Localisation of technical and vocational education and training (TVET): The case of Namibia. *Biennale on Education in Africa (Maputo, Mozambique, May, 5-9 2008).* Maputo: ADEA.

Mwanyika, J. P. (2006). *Tanzania Vocational Education and Training act.* (2006 ed.) Dar es Salaam: The United Republic of Tanzania.

Naanda, R. (2001). *Policy guidelines to enhance the contribution of TVET to development in Namibia. Unpublished M. Tech. Thesis.* South Africa: Technikon.

Naanda, R. (2010). *The Integration of Identified Employability Skills into the Namibian Vocational Education and Training*. *Unpublished PhD Dissertation.* RSA: Stellenbosch University.

Naanda, R. (2012). *Vocational Education and Training is not a dumping site*. Retrieved February 2013 from http://www.Namibian Vocational Education Dumping Ground.html.

Namibia Chamber of Commerce and Industry [NCCI], Namibian Manufacturers Association [NMA], Institute for Public Policy Research [IPPR] (2013). *Namibian Business and Investment Climate Survey.* Windhoek: Solitaire Press.

Namibia Training Authority [NTA] (2010a). *Namibia Training Authority Strategic summary* 2009 – 2010. Windhoek: NTA.

Namibia Training Authority [NTA] (2010b). *Curriculum development and evaluation workshop*. Retrieved May, 2012 from http://www.nta.com.na/.

Namibia Training Authority [NTA] (2010c). *Vocational Education and Training in Namibia. Understanding competence-based education and training in the VET sector*. Windhoek: NTA.

Namibia Training Authority [NTA] (2011a). *CBET Implementation workshop.* Retrieved March, 2012 from http://www.nta.com.na/.

Namibia Training Authority [NTA] (2011b). *The Funding of Vocational Education and Training.* Retrieved March, 2012 from http://www.nta.com.na/.

Namibia Training Authority [NTA] (2012). *National consultation on curriculum and training levy.* Training. Retrieved May 2012 from http://www.nta.com.na/.

Namibia Training Authority [NTA] (2013). *National training fund skills development.* Windhoek: NTA.

Namibia Qualifications Authority [NQA] (2010). *National Qualifications Framework for Namibia*. Retrieved August 2012 from http://www.namqa.org/.

National Planning Commission [NPC] (2008). *Second Millennium Development Goals Report. Namibia, Progress at Mid-term.* Windhoek, September 2008.

National Planning Commission [NPC] (2012). National Planning Commission Quarterly Newsletter. Windhoek: NPC.

Nkaza, P. K. (2003). *Regulation of Technical and Vocational Education in Zambia. Conference on the Reform of Technical and Vocational Education and Training (TVET).* August 4 – 6, 2003). Gaborone: GTZ.

Nyambe, J.M. & Amunkete, T. (2009). *Trade and Pro-Poor Growth Thematic Working Group Small-Scale Mining and Its Impact on Poverty in Namibia: A Case Study of Miners in the Erongo Region.* Ausspannplatz Windhoek: Namibian Economic Research Unit.

OAS Hemispheric Project (2006). *Assessment in Competency-Based Education.* Jamaica: NCTVET.

Odendaal Commission (1964). *Report for the commission of enquiry into South West African Affairs.* Pretoria: Government of South Africa. pp. 233-235.

OECD (2003). Germany's system of vocational education and training: Challenges and modernisation issues. *International Journal of Training Research.* 10 (2) 2212. pp. 76-99.

OECD (2007). More Jobs but Less Productive? The Impact of Labour Market Policies on Productivity. In *OECD Employment outlook.* Paris: OECD. pp. 1-3.

OECD-CERI (2009). *Working out Change: Systemic Innovation in Vocational Education and Training*: Paris: OECD.

OECD (2010). *Education at a glance 2010: OECD Indicators*. Paris: Directorate for Education.

Oertzen, D. (2010). Namibian National Issues Report on the key sector of energy with a focus on mitigation. Windhoek: UNDP.

O'Lawrence, H. (2007). *A Case Study Report of a Comprehensive Benchmarking Review of the Status of Vocational Education Students in California: Building a New Relationship between Community Colleges and California State University System*. California: California State University.

Ornstein, A.C. & Hunkins, F.P. (2009). *Curriculum foundations, principles and issues (5th ed.)* Boston: Allyn and Bacon.

Osorio, B. B., Dutta, S. & Lanvin, B. (2013). *The Global Information Technology Report 2013 Growth and Jobs in a Hyperconnected World*. Geneva: World Economic Forum.

Pohamba, H. (2008). Speech of His Excellency President Hifikepunye Pohamba at the centenary celebrations of the Deutsche Höhere Private Schule (DHPS). *The Namibian April 2nd*. 23(62). pp. 3-4.

Polytechnic of Namibia [PON] (2010). *Polynews.* Retrieved June 2011 from http://www.polytechnic.edu.na/.

Porter, A. C. (2002). Measuring the content of instruction: Uses in research and practice. In *Educational Researcher*. 31(7), pp. 4-6.

Postlethwaite, T.N. (2004). *Monitoring educational Achievenment*. Paris: UNESCO.

Pupkewitz, H. (2006). Harold Pupkewitz on the Education Crisis in Namibia. *The Namibian March 31st, 162(11).* pp. 1-4.

Redecker, M., Wihstutz, A. & Mwinuka, J. (2000). *Vocational Education and Training by Government in Tanzania. The Example of Community-oriented Vocational Training in Folk Development Colleges*. Bonn, Dar-es-Salaam: VETA/GTZ.

Rhode Island College (2008). *Curriculum Alignment Mathematics summit. May 12, 2008.* Rhode Island: Rhode Island College Press.

Riddle, M. & Hersey, M. S. (2012). *The Common Core State Standards (CCSS). Preparing for a new paradigm and the International Baccalaureate:* NASSP, IBA.

Rosenberg, M. (2013). Sectors of the Economy. Primary, Secondary, Tertiary, Quaternary and Quinary. In: *New York Times.* Retrieved March, 2013 from http://geography.about.com/od/urbaneconomicgeography/a/sectorseconomy.htm pp. 1-8.

Royal Society of Chemistry (RSC) (2006). *Improving school laboratories? A Report for the Royal Society of Chemistry on the number and quality of new and refurbished laboratories in schools.* London: Burlington House.

Sandelowski, M., Voils, C. I., & Knafl, G. (2009). On quantitising. *Journal of Mixed Methods Research,* 3(3). pp. 208-222.

Satour, S.A. (2012). *African Renaissance.* Retrieved April 2012 from http://www.satour.co.za/more/articles/africanrenaissance.php.

Sasman, C. (2010). Education for a new Namibia. In *Government Information Bulletin*. *March, 2010.* Windhoek: Government of the Republic of Namibia. pp. 16-17.

Sasman, C. (April 2012). *Basic Education to be overhauled.* The Namibian. 26(78). pp. 1-2.

Saurro, J. (2010). *What Is A Representative Sample Size For A Survey?* Retrieved March, 2013 from http://www.measuringusability.com/survey-sample-size.php.

Schneider, U. H., Krause, M. & Woll, C. (2007). *Vocational education and training in Germany. Short description. CEDEFOP Panorama series; 138.* Luxemburg: Office for Official Publications of the European Communities. pp. 13-16.

Shaketange, L., Siyomunji, M., Jan, J. & Nitschke, M. (2008). *A Country Report on the Preparation for the Sixth International Conference on Adult Education (CONFINTEA VI)*. Republic of Namibia 28 April 2008. pp. 13-15.

Sheehy, K., (2012). *Common Core State Standards for English Language arts and Literacy in History/Social Studies, Science, and technical Subjects.* Common Core State Standards: Preparing America's Students for College and Career. pp. 62-67.

Shinovene, I. (2012). *Namibia: VTC students boycott classes.* Retrieved June 2012 from http://www.namibia.com.na/index: pp.1-5.

Short, P. (2008). *Report on Technical and Vocational Education and Training in India*. Delhi: Government of India.

Smith, J. M. (2010, June 18). Nantu blasts ministry over VTC curriculum. *The Namibian: 25(113)3.* pp. 3-4.

Smith, N. (2013). Training Levy to be introduced, In *The Namibian*. Retrieved from http//.www.namibian.com.na/index.php?id.p. 1.

Swarts, P.S. (2003). *The Transformation of Teacher Education in Namibia. The Development of Reflective Practice.* Windhoek: Gamsberg McMillan.

Sweller, J. (2003). Evolution of Human Cognitive architecture. In *B. Ross (Ed.) The Psychology of Learning and Motivation.* San Diego: Academic Press.

Taapopi, N. (2013). Poly name change precipitates review and reform of higher education. In *Polynews January, 2013.* p.1.

Thatcher, D. (2012). *Common core state standards legislation: 2012.* Retrieved April 2012 from https://docs.google.com/spreadsheet/ccc.

Tyler, L. (2012). *Common Core Standards and Learning Support*. Los Angeles: University of California, Los Angeles: UCLA Centre. pp.12-16.

Tylor, C.K. (2012). Differences in Descriptive and Inferential Statistics. Retrieved November, 2012 from http://Statistics.about.com/od/Descriptive-Statistics/a/Differences-In-Descriptive-And-Inferential-Statistics.htm.

United Nations Educational, Scientific and Cultural Organisation [UNESCO] (2004). *Higher Education in a Globalised Society: UNESCO Education Position Paper, Division of Higher Education.* France. UNESCO.

United Nations Educational, Scientific and Cultural Organisation [UNESCO] and International Labour Organisation [ILO] (2007). *Recommendations technical vocational education and training and human resources development for the 21st century.* Paris: UNESCO.

United Nations Educational, Scientific and Cultural Organisation [UNESCO] (2009). *Technical and Vocational Education for the 21st Century. UNESCO Recommendations*. Paris: UNESCO.

United Nations Educational, Scientific and Cultural Organisation [UNESCO] (2011). *World Data on Education.* 7th edition, 2010/11. Retrieved March 2012 from http://www.ibe.unseco.org/ pp. 3-6.

United Nations Educational, Scientific and Cultural Organisation [UNESCO] (2012). TVET Part 1. Conclusion of the third international congress on TVET. Paris: UNESCO.

United Nations Educational, Scientific and Cultural Organisation [UNESCO] (2013). *UNESCO Guidelines on the Recognition, Validation and Accreditation of the Outcomes of Non-formal and Informal Learning launged in 2012.* New Delhi.

United States Department of State (2012). *Namibia tradition*. Retrieved April, 2012 from http://www.Namibia tradition.webarchive/ people.

UNEVOC (2012). *World TVET data base. Promoting learning for the world of work. Paris: International Centre for Technical Vocational Education and Training.* Retrieved November, 2012 from http://www.unevoc.unesco.org/.

Van der Merwe, R. (2011). *Distance education for vocational education and training.* Natal: University of Natal.

Vavrus, F., Thomas, M. & Bartlett, L. (2011). *Fundamentals of Teacher Education Development Ensuring quality by attending to inquiry: Learner-centred pedagogy in sub-Saharan Africa.* Columbia: UNESCO.

Vecchio, R. P. (2003). Entrepreneurship and Leadership: Common Trends and Common Threats. In *Human Resource Management Review*, 13 (303). pp. 27-28.

Victorian Tertiary Admission Centre [VTAC] (2013). *The VTAC guide 2013*. South Melbourne: VTAC.

Waghid, Y. (2000). *Reconceptualising engineering education: Creating spaces for outcomes and dialogical agape.* RSA: Kluwer Academic Publisher.

Walford, G. (2001). *Doing Qualitative Educational Research*. New York: Houghton.

Wallace, O. (2012). *What is Vocational Education?* Retrieved April 2012 from

http://www. What Vocational Education. F. web archive.

Weber, M. (1947). *The Theory of Social and Economic Organisations*. Henderson, A. M., & Parsons, T. (trans.) New York: Oxford University Press.

Wiggins, G. & McTighe, J. (2011). *Understanding by design: Guide to advanced concepts in creating and reviewing units*. Alexandria, VA: ASCD.

Wiggins, G. & McTighe, J. (2012a). *From Common Core Standards to Curriculum: Five Big Ideas.* Alexandria, VA: ASCD.

Wiggins, G. & McTighe, J. (2012b). *Unpacking the Common Core Standards Using the UbD Framework. (DVD)*. Alexandria, VA: ASCD.

Wolhuter, C.C. (2004). Education in Tanzania: Attempting to create an education system for a Sub-Saharan African country, SA-*eDUC* 1(2): 72-94.

World Bank (2006). *Skills Development in India. The Vocational Education and Training System. Human Development Unit. South Asia Region.* Washington, DC.: World Bank.

Young, D. L. & Weiss, N. A. (2012). *Multiple Regression Analysis. Module A. and Introductory statistics 9th Edition.* Boston: Addison Wesly. p. 30.

Yu, F. (2007). *Mixed methods Sampling*: A Typology with Examples. In *Journal of Mixed Methods.* 1(77). pp. 13-18.

APPENDICES

APPENDIX 1: Letter from the UNAM authorising the researcher to conduct research

UNIVERSITY OF NAMIBIA

Private Bag 13301, 340 Mandume Ndemufayo Avenue, Pioneerspark, Windhoek, Namibia

Windhoek

10 May 2012

TO WHOM IT MAY CONCERN

Ph. D Student Edward Hategekamina

I hereby request you to allow Mr Edward Hategekamina to conduct research at you educational/training institution. Mr Hategekamina is a registered Ph. D student in the Faculty of Education at the University of Namibia. He has to do research with regard to vocational training in Namibia as part of a thesis and therefore needs to compile data by means of interviews and/or questionnaires.

I shall therefore appreciate it very much if you would permit Mr Hategekamina to conduct the research. The findings of the action research will definitely contribute towards a better understanding of the current provision of vocational training in Namibia and will eventually contribute to the improvement of the vocational training system in Namibia.

Should you need more information, you are welcome to contact me at the enclosed contact details.

Regards

Dr H.C. Brunette

Lecturer: Department of Educational Foundations and Management, Faculty of Education, UNAM
Tel: 061-2063714
E-mail: hbrunette@unam.na

APPENDIX 2: Letter from the Permanent Secretary of the Ministry of Education authorising the researcher to conduct research

REPUBLIC OF NAMIBIA

MINISTRY OF EDUCATION

Tel. (061) 2933523
Fax (061) 253671
Enquiries: M. Bendt

Private Bag 13186
WINDHOEK

09 May 2011

Mr. E.K. Hategekimana
PhD Student: UNAM
PO Box 3009
WINDHOEK

Dear Mr. Hategekimana

RE: TO SEEK PERMISSION TO DO RESEARCH STUDY IN NAMIBIA VOCATIONAL TRAINING CENTRES

Your letter dated 2 May 2011 on the above captioned subject bears reference.

I am pleased to inform you that permission is hereby granted for you to conduct research in the Namibian Vocational Training Centres.

I wish you all the best with your research.

Yours truly,

MINISTRY OF EDUCATION
Office of the Permanent Secretary
18 JUN 2011
Private Bag 13186, Windhoek Namibia

A ILUKENA
PERMANENT SECRETARY

cc Dr H.C. Brunette
Lecturer: Department of Educational Foundations and Management
Faculty of Education
UNAM

APPENDIX 3: Letter from the Chief Executive Officer of the NTA authorising to conduct research

NAMIBIA TRAINING AUTHORITY

26th June 2012

Dear Sir/ Madam,

Re: To Centre Managers

As per the recommendation letter from the University of Namibia dated May 10, 2012, Mr. Edward Hategekimana is a registered Ph.D. student at the afore mentioned institution. Mr. Edward is currently conducting research on Vocational Education and Training system in Namibia. For that reason he will be visiting vocational education and training practitioners and institutions to collect the required data for his dissertation.

May I please ask you to render him any assistance he may need in this regard.

Your sincerely

Maria Nangolo-Rukoro
Chief Executive Officer

NAMIBIA TRAINING AUTHORITY
P.O. Box 70407
Khomasdal, Windhoek
website: www.nta.com.na
e-mail: info@nta.com.na
OFFICE OF THE CEO
Tel: 061-279550 - Fax: 061-279551

APPENDIX 4: Research Questionnaire (for trainees, instructors, graduates, MoE stakeholders and graduates' employers and potential employers)

QUESTIONNAIRE FOR TRAINEES

Dear Respondents

The aim of this questionnaire is to collect information which will be used to build up a benchmark model for Namibian Vocational Education and Training, and by so doing contribute to the process of solving the issue of quality skills shortages in the job market in the country. The research is being conducted as part of the fulfilment of requirements of the Doctoral Degree in Education.

Therefore you are requested to answer the questions honestly. Your responses will be used solely for the purpose of this research. Please do not write your name on any part of this questionnaire.

Thank you.

……..

Instructions:

- *Please read all instructions carefully.*
- *Please remember that there are no right or wrong answers to the questions you are about to answer.*
- *To ensure confidentiality of your answer, do not write your name.*
- *Be as objective as you can.*
- *Please put an X in the box next to the response of your choice.*
- *A separate sheet of paper may be used if needed for some of the questions.*
- *After completing the questionnaire, please hand it back to the researcher.*

SECTION A: BIOGRAPHICAL DATA

A1. Under which category do you fall? (Please tick one)

NVTC instructor	
NVTC current trainees	
NVTC graduate	
MoE stakeholder (MoE administration, NIED, NTTC, NQA, NTA)	
NVTC Graduates employer/ potential employer	

A2. Put an X in the box next to your age group.

16 to 25 years	
26 to 35 years	
36 to 45 years	
46 to 55 years	

56 to 65 years	
Over 65 years	

A3. Put an X in the box next to your gender.

Male	
Female	

A4. Put an X in the box next to the type of organisation where you are currently working.

Government owned	
Government subsidiary	
Parastatal	
NGO	
Private VTC	
Not working	
Others	

Please specify the name of your VTC.

……
……

SECTION B: CAUSES OF PERCEIVED POOR EDUCATIONAL STANDARDS IN NVTCs

B1**:** How do you best describe the state of training facilities in NVTCs?

Excellent	
Good	
Fair	
Bad	
Insuffiecient	
Don't know	

B2. In your opinion, do physical facilities contribute to the fall in educational standards in NVTCs?

Yes	
No	
Don't know	

Please explain:

……
……

B3. What needs to be done to training facilities in order to improve the educational standards in NVTCs?

……
……

B4. In your opinion, do the prevailing conditions at workstations where NVTC graduates are employed cause their poor performance?

Yes	
No	
Don't know	

Please explain:

……
……

B5. What needs to be done at the workstations where NVTC graduates are employed to improve their performance?

……
……

B6. How do you describe NVTC instructors' ability to conduct training activities?

a) Knowledge of the subject	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

b) Teaching skills	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

c) VET Experience	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

B7. In your opinion, does the skills level of instructors contribute to the fall in educational standards in NVTCs?

Yes	
No	
Don't know	

Please explain:

……
……

B8. What needs to be done about the skills level of instructors in order to improve the educational standards in NVTCs?

……
……

B9. In your opinion, what are the conditions at MoE stakeholders' workstations that may cause the fall in educational standards in NVTCs?

……
……

B10. Do the Ministry of Education (MoE) stakeholders' (e.g. NTA, NTTC, NQA, NIED) working conditions contribute to the fall in educational standards in NVTCs?

Yes	
No	
Don't know	

Please explain:

……
……

B11. What improvements need to be made to the MoE stakeholders' working conditions in order to improve the educational standards in NVTCs?

……
……

B12. How do you describe the learning ability of trainees in NVTCs?

a) Study skills	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

b) Knowledge of procedures	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

c) Interpersonal skills	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

d) VET Experience (pre-vocational studies)	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

B13. Does the learning ability of NVTC trainees contribute to the fall in educational standards in NVTCs?

Yes	
No	
Don't know	

Please explain:
……
……

B14. In your opinion, what needs to be done to improve the learning ability of NVTC trainees?
……
……

B15. How do you describe MoE stakeholders' ability to manage VET activities?

a) Knowledge of procedures	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

b) Interpersonal skills	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

c) VET Experience	
Excellent	
Good	
Fair	
Bad	
Insufficient	
Don't know	

B16. In your opinion, does the skills level of MoE stakeholders contribute to the fall in educational standards in NVTCs?

Yes	
No	
Don't know	

Please explain:
……
……
……

B17. What improvements need to be made to the skills level of MoE stakeholders in order to improve educational standards in NVTCs?
……
……

B18. In your opinion, what needs to be done about NVTC training facilities to accommodate people with disabilities?
……
……

SECTION C: NVTC CURRICULUM DESIGN FEATURES

C1. What weaknesses did you observe in the NVTC curriculum features?
……
……

C2. What needs to be done about the following CBET curriculum design features in order to improve educational standards in NVTCs?

a) NVTC curriculum aims, goals and objectives
……
……

b) Implementation procedures
……
……

c) Entry requirements
……
……

d) Recognition of Prior Learning (RPL)
……
……

e) Competency and skills covered in NVTC curriculum contents

……
……
……

f) Skills transfer process methods

……
……

g) Delivery mode

……
……

h) Unit standards

……
……

i) Evaluation (system)

……
……

j) Funding (system)

……
……

k) System of job attachment/Training in the industry

……
……
……...

l) Curriculum articulation with the job market/Preparation of graduates for the job market

……
……
……...

m) Programme duration for certification

……
……

n) Prospect for the future of graduates (e.g. further studies, employability, job creation and self-reliance).

……
……

C3. What needs to be done to address gender issues in NVTCs?

……
……

C4. In your view, what needs to be done in order to improve the image of NVET?

……
……

C5. Which of the following professional qualifications do you think should be introduced in the NVET curriculum? (Tick as many as you can).

Doctoral	
Master's	
Honour's	
Bachelor's	
Diplomas	
Others	

Please explain:

……
……

C6. Do you think that something needs to be done with regard to the language of instruction in order to improve the educational standards in NVTCs?

Yes	
No	
Don't know	

If "yes", please specify:

……
……

SECTION D: QUESTIONS ABOUT THE IMPLEMENTATION

D1. Do you think there are obstacles related to the implementation of NVET programmes in NVTCs?

Yes	
No	
Don't know	

If "yes", please specify:

……
……

D2. In your opinion, what needs to be done in order to conduct a successful implementation of VET programmes in NVTCs?

……
……

SECTION E: QUESTIONS ABOUT CBET FEATURES

E1. In your opinion, what features of the Competency-Based Education and Training (CBET) programme need improvement in order to enhance educational standards in NVTCs?

……
……

E2. In your opinion, what needs to be done to improve professional skills among NVET stakeholders? (Tick as many as possible).

Establish permanent joint committees	
Create incentives to encourage participation	
Encourage performance through evaluation	
Introduce a binding policy between NVET and stakeholders	
Others	

Please explain:

……
……

SECTION F: CONCLUDING STATEMENTS

F. Is there anything else that you would like to say regarding VET programmes in Namibia?

……
……
……

Thank you

APPENDIX 5: Interview questions

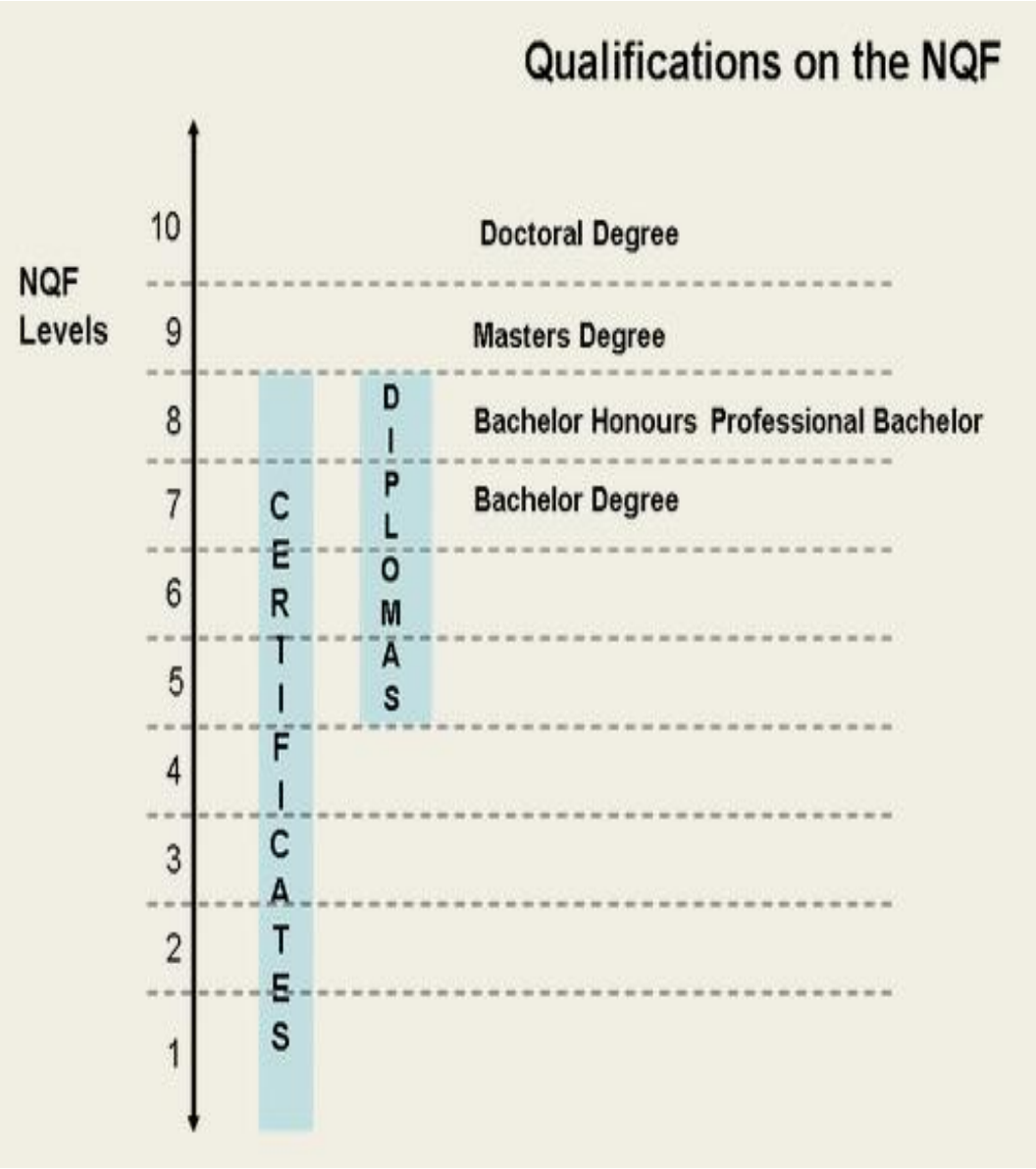
QUESTION NUMBER	QUESTION	EXPRESSED VIEWS
A.	Record of respondents' biographical data: Category (…..…) Age (……..) Gender (……..) Organisation (……..)	
B1-3	In your opinion, do physical facilities contribute to the fall in educational standards in NVTCs? Explain by suggesting what needs to be done.	
B4-5	In your opinion, do the prevailing conditions at workstations where NVTC graduates are employed cause their poor performance? Explain by suggesting what needs to be done.	
B6-8	How do you describe NVTC instructors' ability to conduct training activities? Please explain by suggesting how the skills level of instructors contributes to the fall in educational standards in NVTCs.	
B9-11	In your opinion, what are the conditions at MoE stakeholders' workstations that may cause the fall in educational standards in NVTCs? Please explain by suggesting improvements that need to be made to MoE stakeholders' working conditions in order to improve the educational standards in NVTCs.	
B12-14	In your opinion does the skills level of MoE stakeholders contribute to the fall in educational standards in NVTCs? Please explain how the skills levels of MoE stakeholders contribute to the fall in educational standards in NVTCs. What needs to be done about the skills levels of MoE stakeholders to raise educational standards in NVTCs?	

B15	In your opinion, what needs to be done to improve the learning ability of NVTC trainees?	
B16	In your opinion, what needs to be done about NVTC training facilities to accommodate people with disabilities?	
C1-C2	What weaknesses did you observe in NVTC curriculum features? Please explain by suggesting what needs to be done about CBET curriculum design features in order to improve educational standards in NVTCs.	
C3-4	In your opinion, what needs to be done to address gender issues in NVTCs? In your view, what needs to be done in order to improve the image of NVET?	
C4.	In your view, what needs to be done in order to improve the image of NVET?	
C5.	Which professional qualifications do you think should be introduced in the NVET curriculum? Please explain by suggesting what needs to be done about NVET qualifications in order to improve the educational standards in NVTCs.	
C6.	In your opinion, what needs to be done with regard to the language of instruction in order to improve the educational standards in NVTCs?	
D1-2	Do you think there are obstacles related to the implementation of NVET programmes in NVTCs? Please explain by specifying what needs to be done in order to conduct a successful implementation of VET programmes in NVTCs.	
E1.	In your opinion, what features of the Competency-Based Education and Training (CBET) programme need improvement in order to enhance educational standards in NVTCs?	
E2.	In your opinion, what needs to be done to improve	

	professional skills among NVET stakeholders?	
F1.	Is there anything else that you would like to say regarding VET programmes in Namibia?	

APPENDIX 6: Namibian Qualification framework and descriptor

a) Namibia Qualifications Framework (NQF)



(Source: NQA website: http://www.namqa.org/NQA/Contacts/tabid/180/language/en-GB/Default.aspx).

b) NQF Level Descriptors for a 10 - Level

Definitions

1. In these level descriptors any word or expression to which a meaning has been assigned in the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995) shall have such meaning and, unless the context indicates otherwise –

"applied competence" means the ability to put into practice in the relevant context the learning outcomes acquired in obtaining a qualification;

"autonomy of learning" means the capacity of a leaner for lifelong learning and includes the extent to which a learner can undertake actions for learning independently, the extent to which a learner takes responsibility for his or her own learning and the extent to which a learner is self-reflexive about and can evaluate the quality of his or her learning and eventually that of others;

"field" means a particular area of learning used as an organising mechanism for the NQF;

"level descriptor" means the statement describing achievement at a particular level of the NQF;

"NQF" means the National Qualifications Framework (NQF) as already in the Act;

"operational literacy" means an ability to use basic procedures and operations to complete complex tasks;

"unit standards" means registered statements of desired education and training outcomes and their associated assessment criteria together with administrative and other information as specified in the National Standards Bodies Regulations, 1998.

Purpose

2. Level descriptors for the proposed Levels 5 to 10 of the NQF shall ensure coherence across learning in the allocation of qualifications and standards to particular levels, and shall facilitate the assessment of the international comparability of standards and qualifications.

Descriptor categories

3. Each set of level descriptors consists of two categories:

- Applied competence

- Fundamental knowledge
- Understanding of organisation or operating environment
- Application of essential methods
- Interpretation, conversion and evaluation of text
- Problem solving and changing context
- Information gathering
- Presentation skills

- Autonomy of learning

- Responsibility for own learning
- Decision taking
- Evaluation of own or others' performance
- Manage learning tasks
- Research leadership

5. Level descriptors

NQF level	Applied competence	Autonomy of learning
Typically, a learning programme leading to the award of a qualification or unit standards at this level should develop learners who demonstrate –		
5	a. a fundamental knowledge base of the main areas of one or more fields or disciplines; an informed understanding of the important terms, rules, concepts, principles and theories in one or more fields or disciplines b. an understanding of the organisation or operating environment as a system within a wider context and in relation to the society c. an ability to effectively apply essential methods, procedures and techniques of the field or discipline; an ability to interpret, convert and evaluate text and operational symbols or representations d. an ability to use their knowledge to solve well-defined problems, both routine and unfamiliar, within a familiar context; an ability to adjust an application of a solution within relevant	a. a capacity to take responsibility for their own learning within a supervised environment b. take decisions about and responsibility for actions c. evaluate their own performance against given criteria

	parameters to meet the needs of changes in the problem or operating context; an ability to evaluate the change using relevant evidence e. efficient information gathering, analysis and synthesis, and evaluation skills f. presentation skills using appropriate technological skills; an ability to communicate information coherently using basic conventions of an academic/professional discourse reliably in writing and verbally	

NQF	**Applied competence**	**Autonomy of learning**
Typically, a learning programme leading to the award of a qualification or unit standard at this level aims to develop learners who demonstrate–		
6	a. a sound knowledge in at least one discipline/field b. a sound understanding of one or more discipline/field's key terms, rules, concepts, established principles and theories; some awareness of how the discipline/field relates to cognate areas c. effective selection and application of the central procedures operations and techniques of a discipline/field d. an ability to solve well-defined but unfamiliar problems, using correct procedures and appropriate evidence e. a critical analysis and synthesis of information; presentation of information using basic information technology f. an ability to present and communicate	a. a capacity to evaluate their own learning and identify their learning needs within a structured learning environment b. a capacity to take the initiative to address these needs c. a capacity to assist others with identifying learning needs

	information reliably and coherently, using academic/professional discourse conventions and formats appropriately	

NQF level	Applied competence	Autonomy of learning
Typically, a learning programme leading to the award of a qualification or unit standard at this level should develop learners who demonstrate –		
7	a. a well-rounded and systematic knowledge base in one or more disciplines/fields and a detailed knowledge of some specialist areas b. a coherent and critical understanding of one or more discipline/field's terms, rules, concepts, principles and theories; an ability to map new knowledge onto a given body of theory; an acceptance of a multiplicity of "right" answers c. effective selection and application of the essential procedures, operations and techniques of a discipline/field; an understanding of the central methods of enquiry and research in a discipline/field; a knowledge of at least one other discipline/field's mode of enquiry d. an ability to deal with unfamiliar concrete and abstract problems and issues using evidence-based solutions and theory-driven arguments e. well-developed information retrieval skills; critical analysis and synthesis of quantitative and/or qualitative data; presentation skills following prescribed formats, using IT skills appropriately f. an ability to present and communicate information and their own ideas and opinions in well-structured arguments, showing an awareness of audience and using academic/ professional discourse	1. a. a capacity to operate in variable and unfamiliar learning contexts, requiring responsibility and initiative 2. b. a capacity to accurately self-evaluate, identify and address own learning needs 3. c. an ability to interact effectively in a learning group

	appropriately	

NQF	Applied competence	Autonomy of learning
Typically, a programme leading to the award of a qualification at this level aims to develop learners who demonstrate:		
8	a. a comprehensive and systematic knowledge base in a discipline / field and a depth of knowledge in some areas of specialisation b. a coherent and critical understanding of the principles and theories of a discipline/field; an ability to critique current research and advanced scholarship in an area of specialisation; an ability to make sound theoretical judgements based on evidence and an ability to think epistemologically c. an understanding of a range of research methods, techniques and technologies and an ability to select these appropriately for a particular research problem in an area of specialisation d. an ability to identify, analyse and deal with complex and/or real world problems and issues, using evidence-based solutions and theory-driven arguments e. efficient and effective information retrieval and processing skills; the identification, critical analysis, synthesis and independent evaluation of quantitative and/or qualitative data; an ability to engage with current research and scholarly or professional literature in a discipline/ field f. an ability to present and communicate	a. a capacity to operate effectively in complex, ill-defined contexts b. a capacity to self-evaluate, exercising personal responsibility and initiative c. a capacity to manage learning tasks autonomously, professionally and ethically d. a capacity to continue to learn independently for continuing academic professional development

		academic/professional work effectively, catering for a range of audiences by using a range of different genres appropriate to the context	

NQF level	Applied competence	Autonomy of learning
Typically, a programme leading to the award of a qualification at this level aims to develop learners who demonstrate –		
9	a. a comprehensive and systematic knowledge base in a discipline/ field with specialist knowledge in an area at the forefront of the discipline/field or area of professional practice b. a coherent and critical understanding of the theory, research methodologies and techniques relevant to a discipline/field; an ability to rigorously critique and evaluate current research and participate in scholarly debates in an area of specialisation; an ability to relate theory to practice and *vice versa* and to think epistemologically c. mastery of the application of research methods, techniques and technologies appropriate to an area of specialisation; an ability to undertake a research project and write up a research dissertation under supervision d. an ability to identify, analyse and deal with complex and/or real world problems and issues, drawing systematically and creatively on the theory, research methods and literature of a discipline/field e. advanced information retrieval and	a. a capacity to operate effectively in complex, ill-defined contexts b. a capacity to critically self-evaluate and continue to learn independently for continuing professional development c. a capacity to manage learning tasks autonomously, professionally and ethically d. a capacity to critically evaluate own and others' work with justification

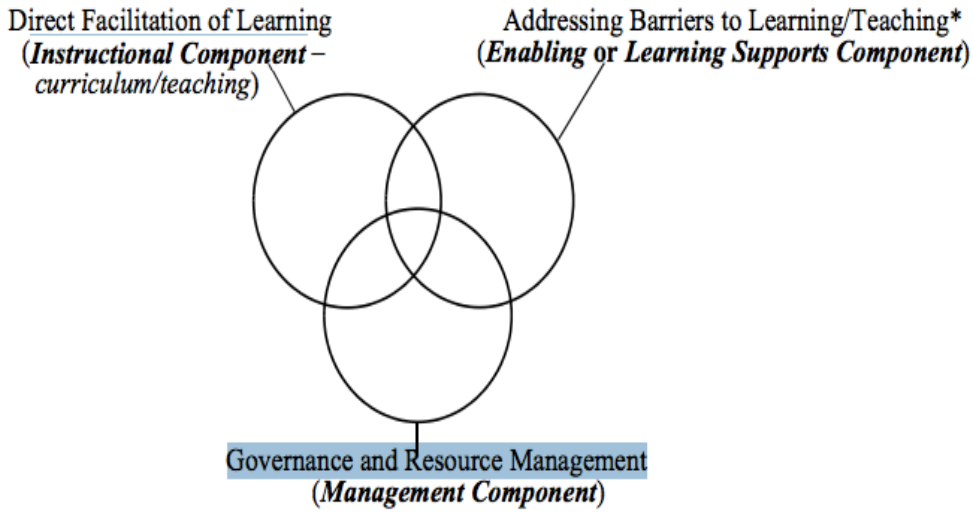
	processing skills; identification, critical analysis, synthesis and independent evaluation of quantitative and/or qualitative data; an ability to undertake a study of the literature and current research in an area of specialisation under supervision f. an ability to effectively present and communicate the results of research to specialist and non-specialist audiences using the resources of an academic/professional discourse; the production of a dissertation or research report which meets the standards of scholarly/professional writing	

NQF	**Applied competence**	**Autonomy of learning**
Typically, a programme leading to the award of a qualification at this level aims to develop learners who demonstrate –		
10	a. a comprehensive and systemic grasp of a discipline/field's body of knowledge with expertise and specialist knowledge in an area at the forefront of the discipline, field or professional practice (and ability to create new knowledge) b. a critical understanding of the most advanced research methodologies, techniques and technologies in a discipline/field; an ability to participate in scholarly debates at the cutting edge of an area of specialisation; an ability to apply knowledge, theory and research methods	a. a capacity to operate autonomously in specialised, complex, ill-defined and unpredictable contexts b. intellectual independence and research leadership through managing advanced research and development in a field professionally and

	creatively to complex practical, theoretical and epistemological problems c. substantial, independent research and advanced scholarship resulting in the (re) interpretation and expansion of knowledge which is judged publishable by peers d. an ability to identify, conceptualise, design and implement research projects that address complex, ill-defined problems at the cutting edge of a discipline/ field e. advanced information retrieval and processing skills; an ability to independently undertake a study and evaluation of the literature and current research in an area of specialisation f. an ability to effectively present and communicate the results of research and opinion to specialist and non-specialist audiences using the full resources of an academic/professional discourse; the production of a thesis which meets international standards of scholarly/professional writing	ethically c. a capacity to critically evaluate own and others' work on the basis of independent criteria

(Source: NQA website: http://www.namqa.org/NQA/Contacts/tabid/180/language/en-GB/Default.aspx).

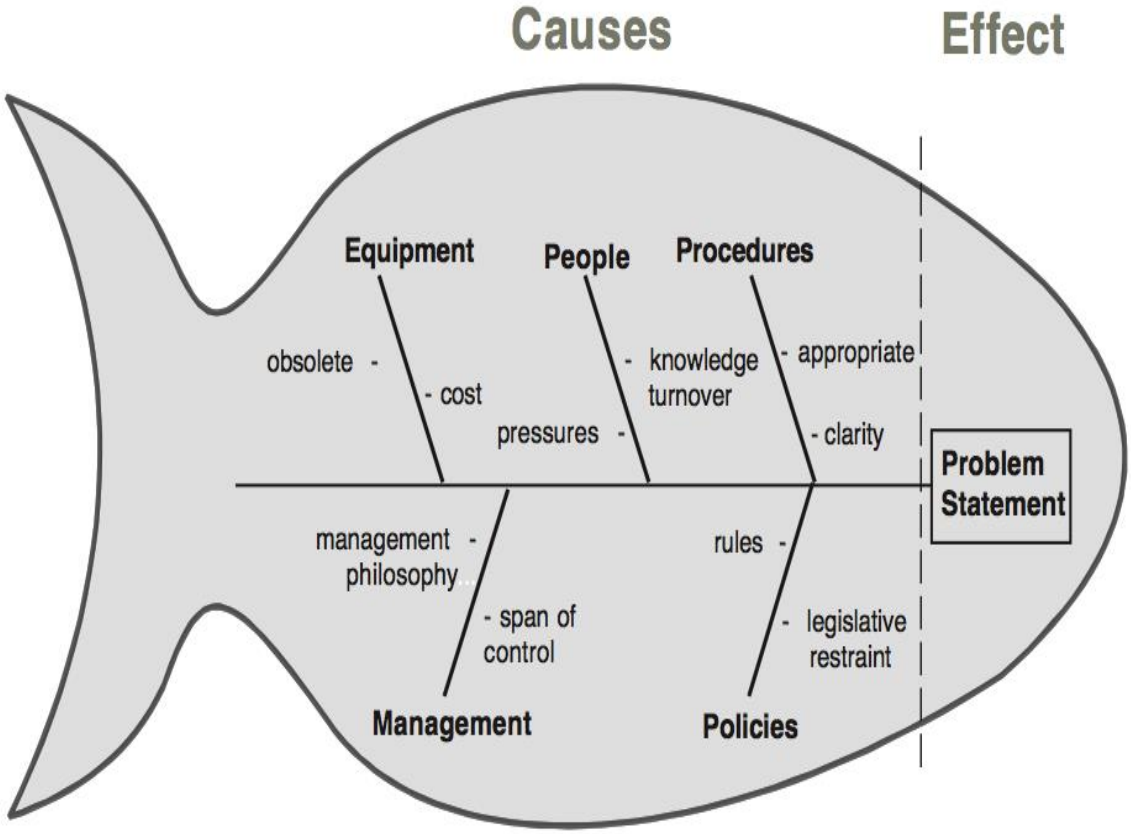
APPENDIX 7: Diagram of the Common Core Standards of the Learning Support System



*Initiatives, programs and services to address barriers often stem from concerns related to safe schools, mandates stemming from compensatory and special education legislation, and various other federal and state programs.

(Source: Tyler, 2012; Thacher, 2012).

APPENDIX 8: Structure of the Cause-and-effect diagram (Fish-bones analysis)

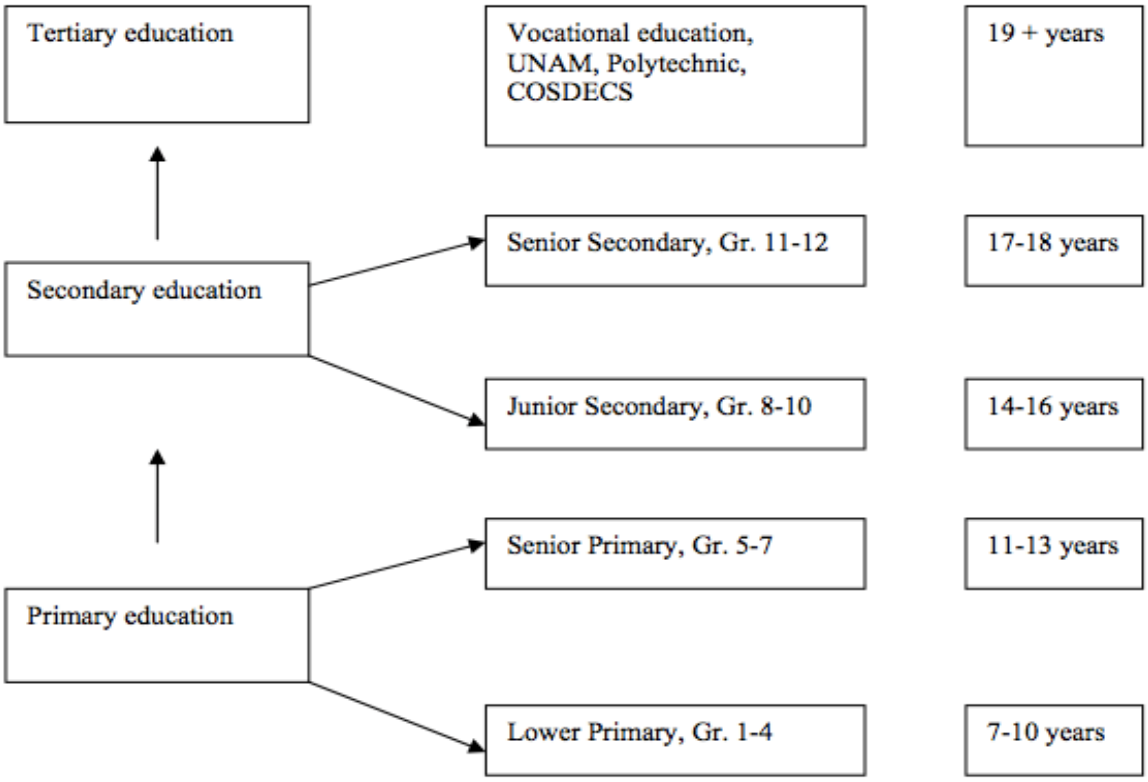


(Source: Tyler, 2012)

APPENDIX 9: Organisational structure of the Ministry of Education

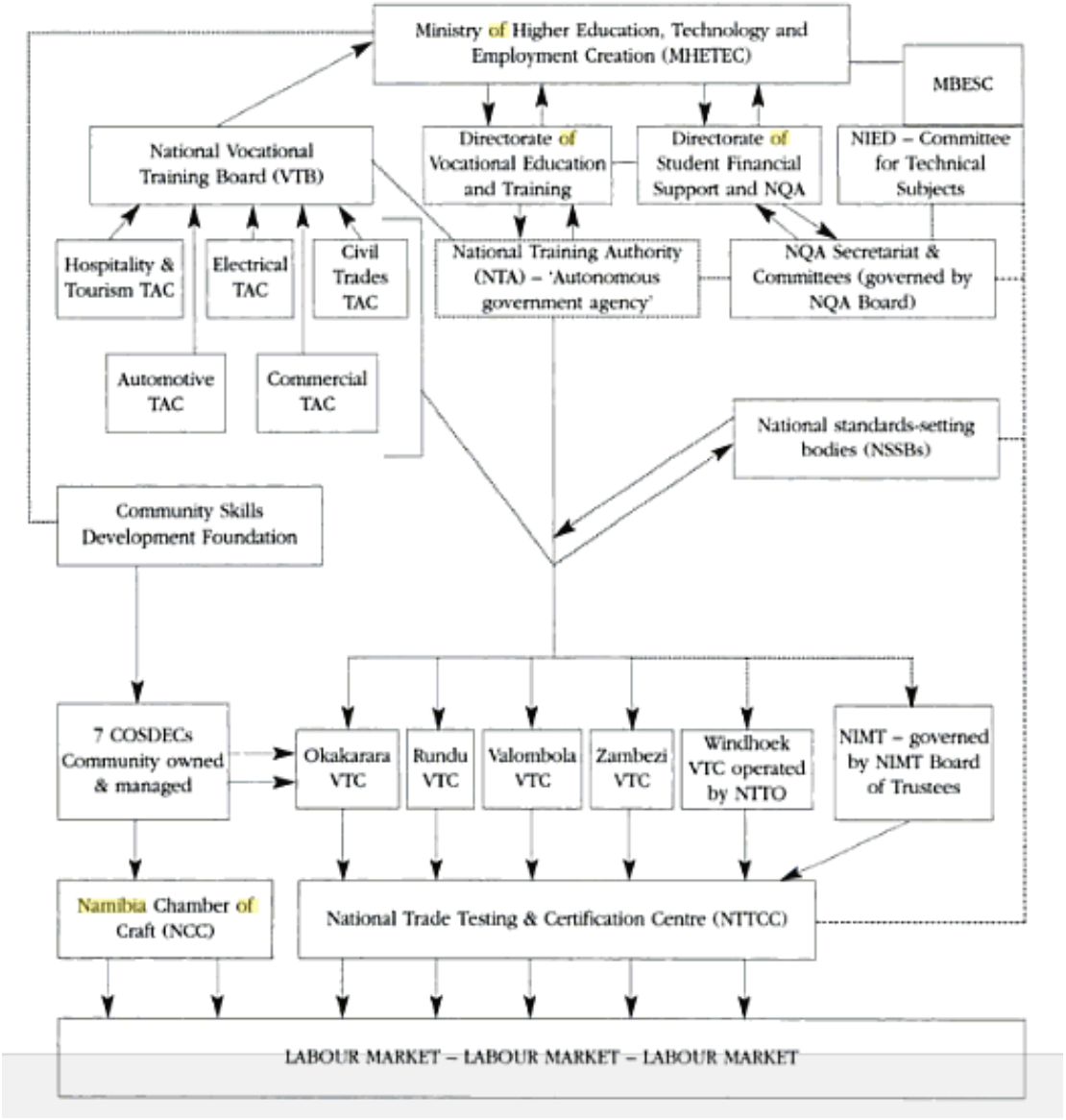
(Source: World data on education 2010/11: UNESCO, 2011).

APPENDIX 10: Structure of educational stages in Namibia



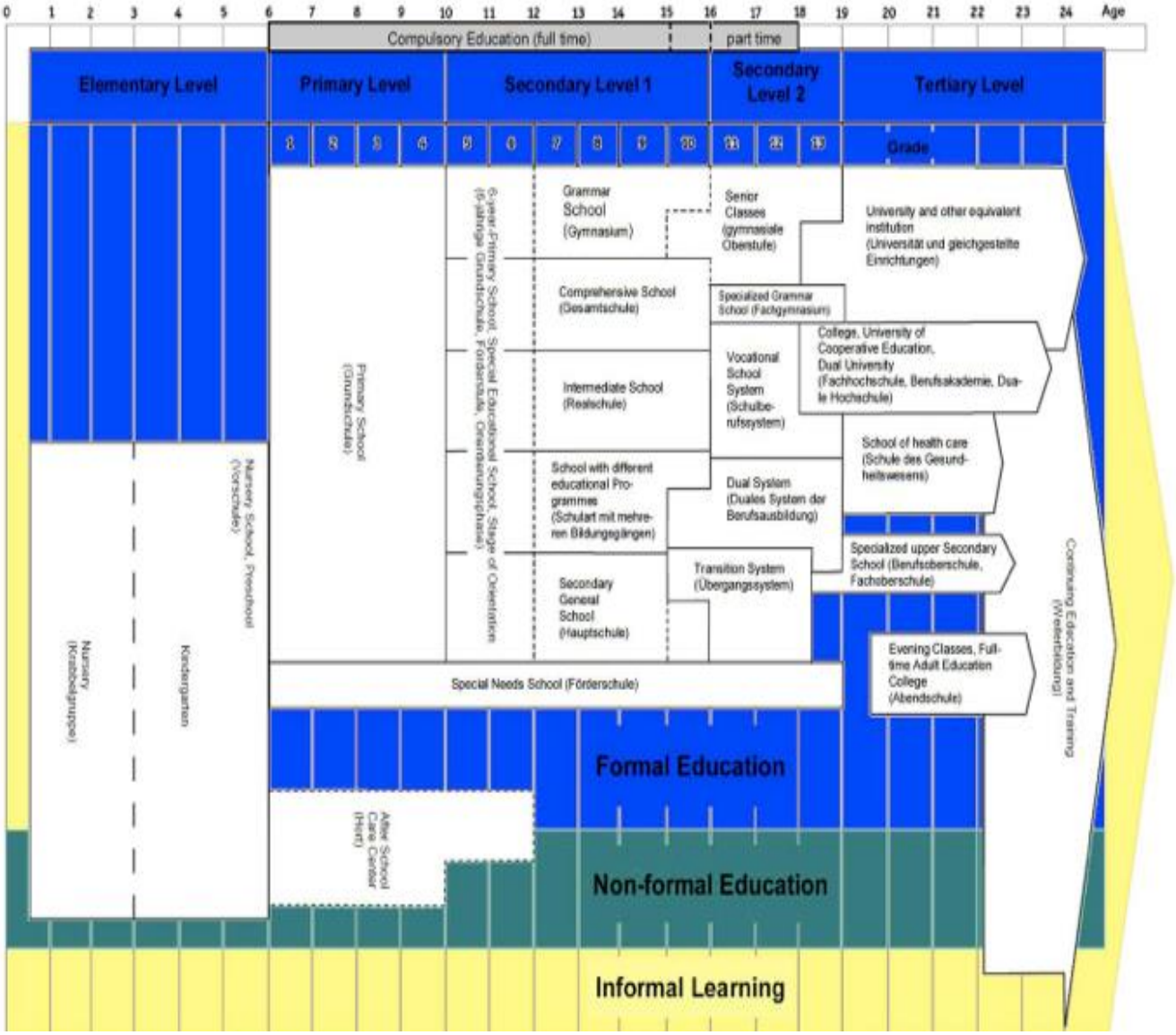
(Source: World data on education 2010/11: UNESCO, 2011).

APPENDIX 11: Structure of the VET system in Namibia



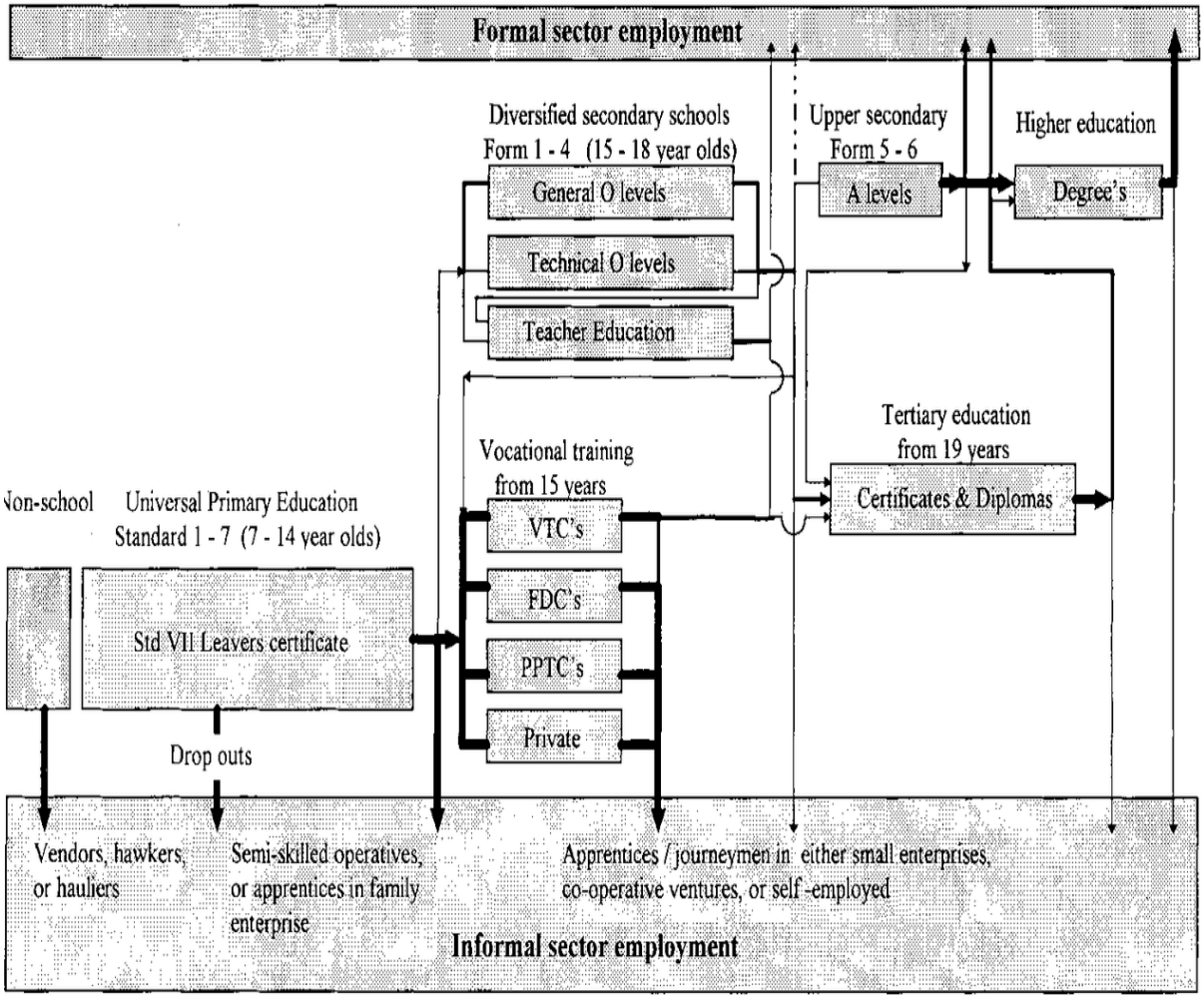
(Source: World data on education 2010/11: UNESCO, 2011).

APPENDIX 12: Structure of the German Education system



(Source: Schneider, Krause & Woll, 2007).

APPENDIX 13: Structure of the VET system in Tanzania



(Source: Tanzania Vocational Education and Training Authority, 2012).