ABBREVIATIONS

AED: Academy for Educational Development
BES: Basic Education Support
DfID: Department for International Development
EFA: Education for All
ELTDP: English Language Teacher Development Project
EQUIP: Education Quality Improvement Program
ETSIP: Education and Training Sector Improvement Programme
GRN: Government of the Republic of Namibia
HoDs: Heads of Departments
IOS: International Organization for Standardization
MoEAC: Ministry of Education, Arts, and Culture
NIED: National Institute for Educational Development
NQA: Namibia Qualifications Authority
NQF: National Quality Framework
NSPI: National Standard and Performance Indicators
NSSE: National School Self-Evaluation
PAAI: Plan of Action for Academic Performance
PQA: Programme Quality Assurance
QA: Quality Assurance
QE: Quality Education
SACMEQ: Southern and Eastern Africa Consortium for Monitoring Educational Quality
SDP: School Development Plan
SIP: Self-Improvement Plan
SPSS: Statistical Package for Social Sciences
TSE: Teacher Self-Evaluation
UNAM: University of Namibia
UNESCO: United Nations Educational, Scientific and Cultural Organisation
UNICEF: United Nations International Children's Emergency Fund
UNISA: University of South Africa
UPE: Universal Primary Education
USAID: United States Agency for International Development

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CHAPTER 1: INTRODUCTION AND ORIENTATION OF THE STUDY

1.1 INTRODUCTION

Chapter one presents the background to the study highlighting various interventions undertaken by the Ministry of Education, Arts, and Culture to improve the quality of education in the Zambezi region of Namibia. The chapter identifies the research problem from which sub-problems of the study are drawn. The chapter also presents the aim and objectives of the study followed by hypotheses. The research paradigm and the research approach used in the study are also covered in Chapter one. Furthermore, Chapter one addresses and justifies the importance (reliability, validity and trustworthiness) of the study at hand and how it can contribute towards education literature on teacher self-assessment in Zambezi region. Lastly, a chronological sequence of the chapters of the study is presented prior to a conclusion of the chapter.

1.2 BACKGROUND TO THE STUDY

Immediately after Namibia gained independence in 1990, the Government of the Republic of Namibia (GRN) enacted laws to eliminate imbalances that prevailed during the colonial dispensation. This helped to allow previously disadvantaged Namibians to have free access to basic education, that is, from primary level to lower secondary levels. The Constitution of the Republic of Namibia [Chapter 3, art. 20, sec. (1), (2), (3)], states that:

(1) All persons shall have the right to education.

(2) Primary education shall be compulsory and the State shall provide reasonable facilities to render effective this right for every resident within Namibia, by establishing and maintaining State schools at which primary education will be provided free of charge.

(3) Children shall not be allowed to leave school until they have completed their primary education or have attained the age of sixteen (16) years, whichever is the sooner, save in so far as this may be authorised by Act of Parliament on grounds of health or other considerations pertaining to the public interest.

Since independence in 1990, Namibia, like many other countries, has been reforming its educational system in ways that would empower the local schools without necessarily eliminating national standards and requirements. The school is regarded as the heart of the educational system; hence, interest in the school practices and processes has reawakened now with the Government of the Republic of Namibia advocating for a speedy but steady process of decentralisation and devolution of powers, functions and authority to local schools and agencies. The Ministry of Education, Arts, and Culture (2013a:3) declares that: 'The State is taking full responsibility for expanding and availing resources, through [the] regional budget program for Pre-primary and Primary education'. Many parents, non-governmental organisations and other interested stakeholders in education countrywide have welcomed this declaration by the Government as it directly addresses the Ministerial major goals of access, quality, equity and democracy in the education sector (Ministry of Education, Arts and Culture, 1993). Hence, the introduction of Universal Primary Education (UPE) in 2013, attaches greater importance to the empowerment of local schools and local communities, while setting standards that all schools should try to meet (Government of the Republic of Namibia, 1999).

However, prior to the introduction of Universal Primary Education in all public schools in Namibia, the Zambezi region was regarded initially as one of the most disadvantaged regions of Namibia. According to the Centre for Global Education Monitoring (2015:4), the Southern and Eastern Africa Consortium for Monitoring Educational Quality '(SACMEQ) research revealed that the northern regions of Namibia had the most difficulty in providing adequate educational resources and achieving minimum levels of learning outcomes'. In an effort to redress the social and educational imbalances in the Zambezi region, the Ministry of Education assigned several non-organisational projects, such as the English Language Teacher Development Project (ELTDP); Basic Education Support Projects (BES) I, II and III; and the Education Quality Improvement Program (EQUIP I). The ELTDP operated under the auspices of the Department for International Development (DFID). The Basic Education Support Projects I, II & III operated directly under the supervision of the United States Agency for International Development while EQUIP I was funded by the United States President's Funds for AIDS Relief (PEPFAR).

However, almost three decades after independence, nearly all these noble initiatives and interventions are no longer in existence as initially planned by the various non-government organisations in the Zambezi region. The departure of non-governmental support has left the impoverished schools in the Zambezi region with limited external donor support.

Furthermore, most of the materials left behind by these agencies in the Zambezi region are now redundant in many schools, except for the rollout of the school self-evaluation that was introduced by BES I and II, which is now formalised in schools. It is worth mentioning that the practice of teacher self-assessment, which forms the basis for this study, is conducted once per year during October countrywide in state schools. This exercise enables school principals and teachers to develop School Development Plans (SDP) and Plans of Action for Academic Improvement (PAAI), (Ministry of Education, Arts and Culture, 2013b).

Additionally, the School Improvement Program (SIP), which was introduced during the second phase of the BES Project in the Zambezi region, had one ultimate aim of empowering and capacitating schools with the skills and knowledge for continuous improvement. The programme design made use of a theoretical framework from the World Bank (2012) study that synthesises the findings of the school effectiveness and school improvement literature from the perspective of the needs of education systems in developing countries, specifically sub-Saharan Africa (Heneveld & Craig, 1996).

The SIP was designed to ensure the implementation of the government's policies to reform instructional practice in grades 1-4 classrooms and methods of assessing and reporting learner performance in those classes; guide improvement in education management; and ensure greater involvement of parents and community members in matters related to primary schooling. The study at hand, therefore, seeks to unfold how teacher self-assessment strategies can enhance quality education in teaching and learning in combined schools in the remote areas of the Zambezi region.

Finally, despite several mitigation strategies by the Ministry of Education to improve the quality of education in the Zambezi region, SACMEQ I and II research findings indicate that the Zambezi region is rated as one of the poorest in literacy and numeracy. Makuwa (2005) found out that ≤ 5% of the learners in the Zambezi region

attained the minimum level of mastery in literacy and ≤ 1.2% of the learners reached the desirable level of mastery in literacy. Less than eighty-percent of the teachers achieved the desirable level of mastery in literacy.

In 2014, the Zambezi region was ranked the least under-performing region countrywide (Salkeus, 2015). The factors for the poor performance of the region are multifaceted. Stakeholders, particularly school principals and teachers, are often blamed for the region's lack of quality education as manifested by the poor national examination results. According to Ntabi, Nkengbeza and Maemeko, (2017:96), 'common observations in the school system show that all stakeholders within the sector points (sic) to each other as being responsible for this mediocre performance'. Teopolina Hamutumua, the Zambezi Regional Director for PQA also acknowledges the region's poor performance but fails to 'pinpoint the reason for the region's failure' (Hamutumua, 2015:5). Therefore, the low performance by learners in local and national examinations necessitated the researcher to explore how the quality of education in teaching and learning can be improved using self-assessment strategies in combined schools in the Zambezi region.

1.3 MOTIVATION FOR THE STUDY

Like in most developing countries, Namibia's monitoring and evaluation of schools has been found wanting due to a variety of factors. These include lack of transport for education officers; too many schools to be covered by education officers; insufficient number of human resources due to budgetary constraints; and climatic factors, such as annual floods in some parts of the Zambezi region, among others. Since most of these factors cannot be easily remedied and because outside monitoring and evaluation are limited, self-assessment strategies are posited as viable means of capacitating school principals and teachers to take ownership of quality education enhancement processes. Therefore, the initiative of using self-assessment strategies in schools requires that it should be owned by school principals and teachers, and not imposed by outside agencies (MacBeath, 1999).

The introduction of universal primary education in Namibia requires schools to become agencies of quality education. Schools are thus expected to offer quality education now that the government is directly funding all the schools in Namibia. However, some

stakeholders are sceptical about quality being compromised as a result of introducing universal primary education amidst massification of learners that is compounded by financial crunches. According to Kooper (2017:20), 'some school principals in the Zambezi region say the government's free education concept was introduced hastily without due consideration to the current financial crisis'. Hence, the use of self-assessment strategies is advanced by the researcher as a supplementary means to make schools become institutions of quality education with very little or no funding.

Another motivation for the study on the use of self-assessment strategies in schools is to build capacity for reflective practice among teachers. Self-assessment strategies enable teachers to find time to critically examine their day-to-day activities at school level with the ultimate goal of enhancing quality education. Furthermore, self-assessment strategies enable schools to develop a culture for continuous improvement of quality education. This practice is in line with the Ministry of Education (2013a) policy that requires teachers to develop plans of action for academic improvement.

In conclusion, self-assessment strategies can be applied by teachers to enhance quality education in teaching and learning in the Zambezi region. Once the teachers and school principals embrace the notion of self-assessment, schools can be better placed to improve the quality of education in teaching and learning in the Zambezi region. However, despite the fact that learners, parents, and other stakeholders (government and institutions of higher learning) play an important role in improving the quality of education in teaching and learning in schools, they were excluded in this particular study. This study focused on how teachers with support from school principals can improve the teaching and learning processes in schools. Self-assessment strategies can enable teachers in schools to systematically identify and sustain their strengths while addressing weaknesses that inhibit them from realising quality education in teaching and learning (USAID, 2006; Ministry of Education, Arts, and Culture, 2013b).

1.4 RESEARCH PROBLEM

McKinsey (2007:44) states that 'the quality of an education system cannot exceed the quality of its teachers and that the only way to improve outcomes is to improve instruction (teaching and learning)'. The process of improving instruction of teaching and learning can not be coincidental. It requires teachers to regularly self-assess their teaching and learning repertoire to improve learner outcomes. Therefore, there is need for teachers to critically self-assess their skills and knowledge against standards at school, regional and national levels. According to the Speaker of the National Assembly of the Republic of Namibia, Honorable Professor Peter Katjavivi (GRN, 2016:7) 'improving education quality calls for contextualised initiatives … at school level practice' that are responsive to the needs and expectations of learners. In an attempt to redress this concern for improved instruction in teaching and learning in state schools only, the following has been identified to be the main research problem:

How can the quality of education in teaching and learning be improved in schools in the Zambezi region?

The above-mentioned main research problem leads to the following sub-problems of the envisaged research:

- What entails quality and quality education?
- How can self-assessment strategies be linked to quality and quality education in general terms?
- What recourses are available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region?
- How can self-assessment strategy models be developed to enhance the quality of education in the Zambezi region?

1.5 AIM AND OBJECTIVES OF THE RESEARCH

The aim of this particular study was to establish how self-assessment strategies can be used to enhance the quality of education in teaching and learning in the Zambezi region. The following were the objectives of the study:

- examine the notion of quality and quality education in general (addressed in the theoretical framework of the study in Chapter two);
- investigate how self-assessment strategies are linked to quality and quality education in general (addressed in the literature study in Chapter three);
- examine the recourses available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region (addressed in the empirical study in Chapter five);
- develop self-assessment strategy models that can enhance quality education in the Zambezi region (addressed as the main outcome of the study in Chapter five).

1.6 RESEARCH PARADIGM, RESEARCH APPROACH, AND UNDERLYING PHILOSOPHIES OF THE STUDY

The terms 'paradigm' or 'worldview' are often used differently by many researchers to describe the basic and fundamental beliefs and assumptions that guide research inquiry on phenomena of the natural and social structures (Lincoln, Lynham, & Guba, 2011; Mertens, 2010; Feilzer, 2010; Creswell, 2014). Kuhn perceives a paradigm as 'a set of generalizations, beliefs, and values of a community of specialists' (Kuhn, in Creswell & Plano Clark, 2011). Creswell (2014:6) defines a paradigm or worldview *as* 'a general philosophical orientation about the world and the nature of research that a researcher brings to a study'. The definitions given by the scholars above are more or less similar to each other in that two key features come out clearly. Firstly, the definitions begin with an emphasis on the body of knowledge (i.e. beliefs and philosophies) that researchers bring to a study; and, secondly, the definitions attempt to make meaning of earthly entities, (i.e. natural/social structures/phenomena). In this study, the term 'paradigm' is regarded as an underpinning philosophy from which a researcher views and understands the diverse and complex nature of the study phenomena in the world.

There are four distinct paradigms that researchers are exposed to, namely, 'post-positivism, constructivism, transformative and pragmatism' (Creswell, 2014:6). According to Creswell (2014:6), 'post-positivists hold a deterministic philosophy in which cause (probably) determine effects or outcomes'. Yilmaz (2013:312) states that

post-positivism ‘emphasizes the measurement and analysis of causal relationships between isolated variables within a framework which is value-free, logical, reductionistic, and deterministic, based on a priori theories’. It is a paradigm that attempts to verify theories by using measurable and statistical data as is done in laboratories when an experiment is being conducted. This paradigm is closely linked to quantitative research in which ‘a researcher begins with a theory, collects data that either supports or refutes the theory, and then makes necessary revisions and conducts additional tests’ (Creswell, 2014:7).

The constructivism paradigm, unlike post-positivism, does not interrogate theories but rather makes sense of the interpretation and understanding of the subjects’ view of a world phenomenon that is under study. In other words, the constructivists try to make meanings of social constructs. Yilmaz (2013:312) states that the constructivist paradigm:

> Explores what it assumes to be a socially constructed dynamic reality through a framework which is value-laden, flexible, descriptive, holistic, and context sensitive; i.e. an in-depth description of the phenomenon from the perspectives of the people involved.

The transformative paradigm according to Creswell (2014:9), ‘holds that research inquiry needs to be intertwined with politics and a political change agenda to confront social oppression at whatever levels it occurs’. This paradigm aims to redress the needs of marginalised groups of people in a society that are often neglected due to their inability to meet certain requirements as set by legal institutions.

Lastly, the pragmatic paradigm ‘arises out of actions, situations, and consequences rather than antecedent conditions’ (Creswell, 2014:10). The pragmatic paradigm is interested in the feasible action of what works and practical solutions to identified problems. Pragmatism is closely linked to mixed methods of inquiry as it uses multiple methods of research primarily to gather more detailed data of the problem under study (Creswell, 2014). In the light of the complexity of the problem in this study, the pragmatic paradigm was chosen as being suitable for this particular research because it enabled the researcher to employ multiple methods of research to gather in-depth data of quality education in the Zambezi region of Namibia.

The research approach that the researcher employed in this study was that of mixed methods or mixed research, rather than the qualitative or the quantitative approaches to research alone. Caruth (2013:113) defines mixed methods research as 'a method of both quantitative and qualitative designs in the same research study, evolved in response to the observed limitations of both quantitative and qualitative designs'. Similarly, Creswell (2014:4) defines mixed methods research as 'an approach to inquiry that entails collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks'. The underlying principle behind the mixed research approach is that the combination of the two traditional research methods stated above provides a more complete understanding of a research problem than either approach alone (Creswell, 2014). The researcher used the mixed methods approach in this study because it has the potential of producing a more complete picture of what is being researched by combining information from complementary kinds of data sources (Denscombe, 2008).

Despite the fact that the qualitative and quantitative research approaches are distinct from each other, the two approaches are not perceived as being direct antonyms or *polar opposites* but are seen as representing different ends on a continuum (Newman & Benz, 1998). Thus, any given research will tend to lean towards either side of the continuum, thereby, making it more qualitative than quantitative or vice versa.

The goal of the mixed methods research approach is not a rejection of the qualitative or quantitative approaches, but rather draws the positive and negative aspects of both in single research studies (Johnson & Onwuegbuzie, 2004:14). By utilising both quantitative and qualitative research approaches, the researcher envisaged gaining an in-depth understanding of the problem that was being researched rather than using a mono-method research approach.

The disadvantages of the mixed research methods are that it requires the researcher to have certain skills, time, and resources for extensive data collection and analysis (Creswell & Plano Clark, 2011). The researcher should be familiar with the major characteristics of traditional qualitative research, which include: 'induction, discovery, exploration, theory/hypothesis generation; and, quantitative research: deduction,

confirmation, theory/hypothesis testing, explanation prediction, standardised data collection, and statistical analysis' (Johnson & Onwuegbuzie, 2004:14). Hence, in this study, the researcher used skills gained from online short courses and seminars on common methods of collecting quantitative data such as using measurement instruments and closed-ended attitudinal scales (Creswell & Plano Clark, 2011). One other disadvantage of the mixed methods approach is that it is time-consuming because qualitative data collection and analysis often require more time than that needed for quantitative data (Creswell & Plano Clark, 2011). However, the researcher was privileged that his job description required him to conduct educational research. This was an added advantage to him in terms of his research outputs. Due to the increased demands associated with mixed methods design, the researcher teamed-up with two or more colleagues from the same institution who had the methodological and content expertise of qualitative and quantitative methods of research.

Due to the complex nature of this study at hand, the researcher used the pragmatic research paradigm which, according to Creswell (2014:10), 'emanates from actions, situations and consequences rather than from antecedent conditions (as in post-positivism)'. Thus, much focus of the study was placed on the research problem of enhancing quality education in the Zambezi region using teacher self-assessment strategies. As a philosophical underpinning of the mixed methods studies, Morgan (2007), Patton (1988), Tashakkori and Teddlie (2010) convey its importance for focusing attention on the research problem in social science research and then using pluralistic approaches to derive knowledge about the problem (Creswell, 2014). An in-depth discussion of the research paradigms will be discussed in more detail in Chapter three.

1.7 HYPOTHESES FOR THE STUDY

Longman, (2010:226) defines a hypothesis as 'a speculation concerning either observed or expected relationships among phenomena'. However, in quantitative research, hypotheses are formulated in advance of the research, based on theory and previous research, while in qualitative research hypotheses emerge gradually in the course of the research itself (Longman, 2010). In this mixed methods, the hypotheses were formulated in response to the four sub-problems of the study (cf. par. 1.4) and

where placed in the discussion between the qualitative and quantitate phases in Chapter five.

1.8 RESEARCH METHODS

1.8.1 Introduction

The researcher envisaged conducting an in-depth study of traditional and contemporary literature on quality education including but not limited to the following sources: ministerial documents, circulars, journals, conference proceedings, internet, forum presentations, books, dissertations and theses. The rationale for consulting such valuable sources of literature was to assess and determine the 'knowledge gap' pertaining to literature on quality education from a national and international context. After establishing the 'knowledge gap' pertaining to quality education, the next task was for the researcher to add value to the research/knowledge base by developing feasible teacher self-assessment strategies that can enhance quality education in the Zambezi region. The researcher's past experience of co-ordinating School Improvement Program activities for the Academy for Educational Development (AED) served as an additional advantage to enable him to strategise how schools can develop effective self-assessment strategies that can enhance quality education in the Zambezi region of Namibia.

Thus, the researcher intended to search for reality and knowledge on quality of education that would benefit remote schools. This valuable knowledge of literature could also benefit the knowledge base of the academia that is passionate about quality education. However, it is worth noting that a solution to quality education cannot be over-generalised to become the solution to all problems pertaining to quality education. This is so because the solutions in existing literature on quality education are divergent due to different unique contexts in which the notion of quality education is being perceived and implemented. Gorard and Taylor (2004:9), conclude that 'it is very much a matter of … fitting the method or technique to what is being investigated'.

1.8.2 Population and sampling

The population of the study comprised forty-three (43) combined schools which are state schools in the Zambezi region of Namibia. The schools are classified as

‘combined schools’ because they combine four different phases, i.e. pre-primary – Grade 0; lower primary – Grades 1 to 4; upper primary – Grades 5 to 7; and junior secondary – Grades 8 to 10. More than two-thirds of learners in the Zambezi region are in the primary phase totalling 20 515 (Ministry of Education, 2012). The researcher decided to target combined schools because of his past work experience at combined schools while working under the Ministry of Education as head of department (HoD) and deputy school principal. Additionally, the researcher worked closely with school principals and teachers of combined schools as a Teacher Professional Development Coordinator for AED / USAID Namibia in the Zambezi region from 2002 to 2009.

Schools in the Zambezi region are divided into five educational circuits, namely, Bukalo Chinchimane, Katima Mulilo, Ngoma and Sibbinda. These circuits comprise of 12 to more than 20 groups of schools each. The circuits are further divided into clusters of schools ‘that are geographically as close and accessible to each other as possible’ (Ward, Mendelsohn & Dittmar, 2002:4). In this study, five (5) out of 43 (12%) of the total population of combined schools were sampled for the study. The sample comprised of five school principals who participated in face-to-face interviews, four heads of departments who partook in a focus group interview, and fifty-four teachers who completed a Likert-scale questionnaire. A stratified random sampling approach was used to ensure that all five circuits were equally represented, rather than an ordinary sampling approach where there is no guarantee that the schools would come from each of the five circuits (Fowler, 2009). Creswell (2014:158), states that stratification means ‘that specific characters of individuals are represented in the sample and the sample reflects the true proportion in the population of individuals with certain characteristics’. In this case, school principals, heads of departments, and teachers were a representative sample of the combined schools.

1.8.3 Research design, data collection instruments, and data analysis/ presentation

In this study, the researcher attempted to integrate qualitative and quantitative research approaches to collect qualitative and quantitative data. An exploratory sequential mixed methods design was adopted to collect both qualitative and

quantitative data sequentially during two different phases of the data collection process.

During the first phase, the researcher collected qualitative data from the sample of school principals and heads of departments by using face-to-face and focus group interviews, respectively. The face-to-face or one-to-one interview method was used to collect qualitative data on school principals' views on the four sub-problems of the study (cf. par. 1.4). The interviews probed school principals on how self-assessment strategies can be developed to enhance the quality of education in the Zambezi region and also to establish what recourses are available to ensure that quality education is realised in the Zambezi region. Discursive data gathered during this phase was analysed primarily to deduce common themes and patterns of how self-assessment can be utilised to enhance quality education in schools. In Mouton's words (2001:108),

> The aim of the analysis is to understand the various constitutive elements of one's data through an inspection of the relationships between concept constructs or variables, and to see whether there are patterns or trends that can be identified or isolated, or to establish themes in the data.

According to Patton (1988:335), a focus group interview 'is an interview with a small group of people on a specific topic'. Morgan (1988) suggests that a focus group should have between four and twelve people. In this study, a minimum number of four HoDs formed a quorum for the focus group. Zemke and Kramlinger (1982:85) state that 'the objective of a focus group interview is to acquire a set of responses from a group of people familiar with the topic, service, experience, or product being discussed'. In this case, a group of heads of departments were engaged in a focus group interview primarily to gather a wide range of information on self-assessment strategies to enhance quality education in the Zambezi region. The focus group interview was used to solicit HoDs' opinions of what entails quality education in general. It also sought to find out if self-assessment strategies were applied in schools and, if so, how? Additionally, the focus group interview also attempted to find out the school principals' roles in ensuring that quality of education is enhanced using self-assessment strategies at their respective schools.

The aforementioned methods of inquiry are called ‘qualitative research’ because their measurement procedures usually involve verbal descriptions and interpretations rather than statistical analysis of numerical data (Borg, Gall, & Gall, 1993). The qualitative research methods are methods that are primarily concerned with stories and accounts including subjective understandings, feelings, opinions and beliefs. As Creswell (2014:226) puts it, ‘the intent of the strategy is to develop better measurements with specific samples of populations and to see if data from a few individuals (in qualitative phase) can be generalized to a large sample of a population (in quantitative phase)’.

Furthermore, during the first stage of the research, the researcher provided verbal descriptions, including quotations and excerpts from Ministerial documents, to justify certain trends of how self-assessment enhances quality education in the Zambezi region (Borg et al., 1993). Thereafter, the researcher analysed and interpreted qualitative data collected during focus group interviews to inform the design of a Likert-scale questionnaire that was used during the second phase of the data collection process.

During the second phase of the exploratory sequential mixed methods study, quantitative research methods were used to gather structured data that could be interpreted numerically (Matthews & Ross, 2010). The respondents, namely, teachers were given Likert-scale questionnaires to complete that emanated from the school principals’ opinions during the first phase of the research. Structured questionnaires were designed to enable respondents to score and rate their own understanding of practices that enhance or inhibit quality education in schools. The questionnaires sought to find out the teachers’ perceptions on the four sub-problems of the study (cf. par. 1.4). The quantitative data obtained during the second phase was analysed using an analytic software programme called the Statistical Package for Social Sciences (SPSS) and Excel. This enabled the researcher to analyse and interpret quantitative data in tabular form and spread sheets according to variables and values of at least agree or disagree with statements in the Likert-scale questionnaires (Babbie & Mouton, 2010).

1.9 CONTRIBUTIONS OF THE STUDY TOWARDS THEORY AND PRACTICE

This mixed methods approach sought to establish school-based initiatives that schools in the Zambezi region of Namibia can use to enhance the quality of education in schools. The study contributes to the existing body of knowledge pertaining to the complex notions of quality and quality education in general. It further advances the use of viable self-assessment strategies that school principals and teachers can explore to enhance quality education in schools.

The participants' perceptions signal a need for the Ministry of Education to accord teachers the freedom to explore the use of alternative teacher self-assessment strategies to supplement the current use of teacher self-evaluation (TSE). Therefore, this study is significant in contributing to school policy changes that can allow school principals and teachers to explore and adapt feasible self-assessment strategies to improve the quality of education in the Zambezi region (cf. par. 6.6.1).

1.10 RELIABILITY, VALIDITY AND TRUSTWORTHINESS OF THE RESEARCH

In this study, the researcher employed a mixed-method of research to collect both quantitative and qualitative data. By using the qualitative research method, the researcher aimed at giving an explanation and identifying a relationship between variables. The quantitative research, on the other hand, enabled the researcher to understand the phenomenon under study in its natural context prior to extrapolating the findings to similar situations (Sithole, Higson-Smith, & Bless, 2013).

Thus, the quality of quantitative research was assessed through measures of reliability, validity and objectivity, whereas, the quality of the qualitative research was evaluated through measures of trustworthiness, credibility, transferability, dependability, triangulation and confirmability (Sithole et al., 2013).

Van der Stoep and Johnston (2009:62) describe reliability as, 'the extent to which a measure yields the same scores across different times, groups of people, or versions of the instrument'. As was pointed out in the preceding section, the researcher used individual interviews, focus group interviews and questionnaires primarily to increase the reliability of the research. The researcher intended to adopt a holistic approach to

the entire study to gather accurate data from different informants on specific themes of quality and quality education.

According to Creswell (2014:201), ‘qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures’. In this study, the researcher employed a combination of various strategies or data collection techniques to check the accuracy of collected data through extensive ministerial literature reviews, focus group interviews, and Likert-scale questionnaires.

This study based its reliability mainly on Guba’s model of trustworthiness, which centres on four criteria: ‘truth – value, applicability, consistency and neutrality’ (Krefting, 1991:215). The researcher used this model as a mechanism to double-check the methodological strategies and findings as to whether they were consistent, stable over time, and whether they was consistency in administration of the research instruments (Creswell, 2014).

The first criterion of ‘truth value’ according to Krefting (1991:4), ‘establishes how confident the researcher is with the truth of the findings based on the study design, informants, and context’. Sithole et al. (2013:237) perceive ‘true value’ as being similar to ‘credibility’ since it seeks to convince that the findings depict the truth of the reality under study, or, in other words, that they make sense. In this study, the researcher tapped into the personal experiences of school principals and heads of departments to gather their personal opinions and beliefs about quality and quality education in general.

The second criterion of ‘applicability’ (Krefting, 1991:216) or ‘transferability’ (Sithole et al., 2013:237) refers to the degree to which the findings of the study can be applied to other contexts and settings or with other groups. In this study, the researcher provides demographic data detailing the description of the context in which the data was collected to allow other researchers to compare and contrast the similarities and dissimilarities of themes and patterns prevalent in remote schools.

The third criterion of trustworthiness is that of ‘consistency’ or ‘confirmability’ (Sithole et al., 2013:237). This aspect considers the consistency of the data, that is, whether the findings would be consistent if the enquiry were replicated with the same subjects

or in a similar context (Krefting, 1991). The researcher ensured that repeated administration of designed instruments was piloted at one mainstream school and reviewed to produce similar results.

The fourth criterion of trustworthiness, which is a measure of reliability, is that of neutrality of the qualitative research section of the study. Neutrality refers to the 'degree to which the findings are only the functions of informants and conditions of the study' (Krefting, 1991:216). In other words, 'neutrality' is the degree to which the findings are a function solely of the informants and conditions of the research and not of other influences or self-prejudice. Therefore, in this study, the researcher was cautious and prudent in administering the research procedures to ensure that the results were not biased. That was done through triangulation, which is one strategy that enhances credibility. According to Krefting, (1991:219), 'triangulation ensures that the researcher investigates all aspects of the phenomenon under study and also ensures that data remain as it is, because it is cross-checked'. Triangulation enabled the researcher to get a better understanding of the research problem under investigation from different positions (Denscombe, 2008). In other words, a single method could not adequately gain in-depth knowledge on the phenomenon of qualify education enhancement in schools. Hence, the researcher ensured that knowledge gained on quality education was comprehensively developed for credibility.

In addition to Guba's model of trustworthiness, the researcher used validity strategies in the first phase of the study (e.g. member checking, triangulating data sources) to demonstrate the accuracy of the researcher's findings. During the second phase, the researcher drew meaningful and useful inferences from the interview transcripts and Likert-scale scores (Creswell, 2014). This was to ensure that collected data from both qualitative and quantitative methods inform and supplement each other.

This study was limited to teachers, HoDs and school principals who are currently employed by the Ministry of Education in the Zambezi region of Namibia. The study focused on a selection of specific quality features, including the following: Relationships; Communication; Support for teaching and learning; School principal roles; Time; and Recourses for quality education enhancement.

From a variety of qualitative and quantitative data that was collected from the respondents stated above, the researcher intended to gather data that was based on inputs from similar contexts that were necessary for triangulation purposes. The next section will expound on how this thesis was planned.

1.11 PLANNING OF THE STUDY

The thesis is divided into six chapters, excluding preliminary sections: abstract and other background information.

1.11.1 Chapter 1: Introduction and orientation to the study

Chapter one presents a comprehensive contextual background of the study at hand by briefly highlighting various interventions undertaken by the Ministry of Education to improve the quality of education in the Zambezi region of Namibia. The chapter identifies the research problem from which sub-problems of the study are drawn. It also presents aim and objectives of the study followed by hypotheses. Additionally, Chapter one presents the motivation, orientation and background to the study regarding the role of the self-assessment strategies in enhancing quality education in the Zambezi region. The research paradigm and the research approach used in the study - that serve as the basis to determine suitable data collection methods of the study - are also covered in Chapter one. Furthermore, it addresses and justifies the reliability, validity and trustworthiness of this study and how it contributes towards education literature on self-assessment as a strategy to enhance quality education with special reference to the Zambezi region. Lastly, a chronological sequence of the chapters is presented prior to the presentation of definitions of key concepts that are embedded in the study.

1.11.2 Chapter 2: Theoretical framework for the study

Chapter two presents a brief discourse on the notion of quality and what the concept of ‘quality education’ entails. The chapter also presents a detailed analysis of the quality theories and practices that originally emanate from ‘quality sages’ despite being business oriented. The latest quality education strategy of teacher effectiveness research, which is currently gaining momentum globally in enhancing quality education in schools, is also presented in this chapter. The chapter also compares and contrasts literature on the viability of self-assessment as a strategy to enhance quality education

in schools. Literature on successes and caveats/challenges in the use of self-assessment as a mechanism for school improvement in the Zambezi region and other local and international contexts are explored in Chapter two. The consequences of the use of self-assessment to ensure quality education in the Zambezi region are also presented in light of contemporary theories on quality education enhancement.

1.11.3 Chapter 3: The link between self-assessment strategies and quality education

Chapter three outlines the link between self-assessment strategies and quality education. The chapter presents an analysis of internationally recognised frameworks, including the Dakar framework for action on quality education; UNESCO's conception of quality; and the Convention on the Rights of the Child, which advocates elements of quality: cognitive development, social and emotional development (UNESCO, 2005). Other quality models that are in congruence with the education sector, such as, the Deming's Prize, European Excellence and Malcolm Baldridge Education Quality Awards, are also be presented in the chapter. The chapter concludes by presenting effective self-assessment strategies that schools in the Zambezi region can adapt to enhance their morale, personal and professional development and consequently enhance quality education in schools (UNESCO, 2015).

1.11.4 Chapter 4: Research design

Chapter four addresses the philosophical underpinnings and the research approach of the study with regard to qualitative, quantitative and mixed research methodologies in great detail. In this chapter, the researcher highlights the importance of the chosen research strategy, i.e. the mixed research design, and discusses and justifies the chosen research method and the tools used thereof to collect both qualitative and quantitative data. The chapter also focuses on the topics that are vital to the mixed research approach, vis-à-vis: the research problem, research sub-problem, population and sampling, instrumentation, data collection procedures, data analysis procedures, reliability, validity and trustworthiness of the research project.

1.11.5 Chapter 5: Presentation, analysis, and discussion of research findings

This chapter presents and analyses both qualitative and quantitative data results collected by various instruments during the study. An analysis of graphic presentations of the data and analysis of the participants' biographical data such as gender, marital status, age and experience in education, is presented in Chapter five. Finally, in-depth analysis and discussion of research findings from face-to-face interviews, focus group interviews, and structured questionnaires are presented.

1.11.6 Chapter 6: Summary, conclusions, findings, and recommendations

In Chapter six, research findings are discussed in light of relevant contemporary literature with recommendations on how to successfully implement the teacher self-assessment strategies to enhance quality education in the Zambezi region. The empirical section of this study, which is an assessment and development of a model self-assessment strategy, is presented in this chapter. Furthermore, the chapter also presents the main outcome of this study, that is, the development and implementation of self-assessment strategies that can enhance quality education in the Zambezi region. The caveats and findings of the study are also presented in Chapter five. Conclusions and recommendations regarding self-assessment as viable strategies to enhance quality education are posited in this chapter prior to recommendations for further research.

1.12 DEFINITIONS OF KEY TERMS

- **Education**

Education in this study is defined as the process by which learners in combined schools acquire knowledge and skills with support from teachers.

- **Quality**

Quality refers to the degree to which teachers and school principals satisfy the needs of learners in combined schools.

- **Quality education**

Quality education is the continuous provision of effective teaching and learning processes that meet and exceed the needs and expectations of learners in combined schools.

- **Quality enhancement**

The practices of teachers and school principals to continuously improve the quality of education in teaching and learning in combined schools.

- **Recourses**

Resources and/or opportunities that are available for exploration by teachers to improve the quality of education in teaching and learning in combined schools.

- **Self-assessment**

Self-assessment is an integral and on-going internal quality assurance mechanism in which teachers reflect on their own strengths and weaknesses to enhance quality education in combined schools.

- **Self-assessment strategies**

Self-assessment strategies are quality assurance techniques that teachers use to improve the quality of education in teaching and learning in combined schools.

- **Teacher comptence**

Teacher competence refers to teachers who are professionally competent in designing and implementing self-assesment strategies to enhance the quality of education in teaching and learning in combined schools.

1.13 CHAPTER SUMMARY

The concept of ‘self-assessment’ is relatively new in the Zambezi region and is not amenable to its imposition in schools. However, self-assessment could be used differently in different school contexts according to local conditions and professional needs of schools. Self-assessment has great potential in empowering schools, especially teachers, to continuously improve their pedagogical and professional skills. By critically reflecting on their strengths and weaknesses, teachers can sytematically plan and implement school and national policies that are geared towards the realisation of quality education in schools. In the next chapter, a theoretical framework for the study will be examined and explored from an international and local perspective.

CHAPTER 2: THEORETICAL FRAMEWORK FOR THE STUDY

2.1 INTRODUCTION

In this theoretical framework, the sub-problem of what entails quality and quality education in general (cf. par. 1.4 and 1.5) will be discussed. An exposition of international perspectives of ISO 9000 will be presented in the chapter. The African and Namibian perspectives of quality will also be covered in Chapter two. Theories of quality gurus, such as Edward W. Deming (1988), Joseph M. Juran (1979), Kaoru Ishikawa (1976), as well as modern and contemporary advocates of quality in education, such as Daniel Muijs and David Reynolds (2011), will be discussed. One of these theories that best suits the problem at hand will be chosen to form the theoretical framework for the study.

2.2 AN EXPOSITION OF THE CONCEPT OF QUALITY

2.2.1 Introduction

The notion of quality although emanating from manufacturing and production industry is being gradually embraced by the education sector worldwide. However, many education stakeholders strongly believe that education is not meeting their expectations in the competitive global village (Sohel-Uz-Zaman & Anjalin, 2016). In this study, quality is regarded as focusing on services rather than products or material goods. As this thesis focuses on quality enhancement in education in teaching and learning, it is imperative that an explanation of the notion of quality be made explicit from the onset, as different scholars and schools of thought have posited several different and often contrasting definitions of ‘quality’. The next section will elaborate on what quality is.

2.2.2 Defining quality

The term quality manifests itself as a multi-dimensional concept that has many meanings. In other words, there is no single universally accepted definition of quality. However, there are common inherent characteristics that can be used as indexes of quality. The International Organization for Standardization (ISO) 9000 provides an

international perspective of quality standards in which quality is defined as, 'the degree to which a set of inherent characteristics fulfils a need or expectation that is stated, generally implied or obligatory' (Cited in Hoyle, 2001:654). The ISO 9000 uses seven quality management principles to define quality. Quality management principles are defined as 'a set of fundamental beliefs, norms, rules and values that are accepted as true and can be used a basis for quality management' (ISO, 2015:1):

- Customer focus: (The focus is for teachers to meet and exceed learners' needs).
- Engagement of people: (To engage and respect teachers as individuals).
- Leadership: (The focus is to establish unity of purpose and direction for teachers in meeting the school's quality goals).
- Process approach: (The focus is for teachers to understand the school system and activities for improvement)
- Improvement: (The focus is on continuous improvement of teaching, learning and curriculum in schools).
- Evidence-based decision making: (The focus is on the use of analysed data to inform decision-making processes).
- Relationship management: (The focus is on guiding school principals to manage relationships among teachers).

The African Charter on Values and Principles of Public Service and Administration (2011:6) views quality as the provision of services that are 'most effective, efficient and economical manner, consistent with the highest possible standards … to meet the evolving needs of users'. Similarly, the Government of the Republic of Namibia (GRN, 2012:1) perceives quality as a provision of 'professional, efficient, effective, and economic public services' to meet the needs of customers. The two above-stated definitions refer to quality as high standards of services that satisfy the needs of customers.

Some prominent and prolific scholars well known as the 'quality gurus' have also attempted to define the notion of quality from various ideological perspectives. Philip B. Crosby (1979), probably the most significant and influential writer in the commercial or industrial field in the USA and Europe, defines quality as conformance to customer

requirements and not necessarily intrinsic goodness. Edward W. Deming (1988) defines quality with reference to quality management in which he advocates the use of statistical methods to reduce variability and so improve production through precision, performance and attention to customers' requirements. Joseph M. Juran (1979), generally recognised as the most intellectually profound of the management theorists, defines quality as 'fitness for use' (Juran and Godfrey, 1979:113).

James (1996) identifies three quality views, which are psychological, process, and product-based. The first view of quality, which is psychologically based, is dependent mainly on the individual defining quality. This is also common in the education sector where quality is defined differently by different stakeholders. The root cause for the differences in defining quality derives from the interests that stakeholders want to achieve in education. In this particular study, the psychological view of quality is regarded as being personal and dependent on the individual defining it. However, it needs to be pointed out that, despite varied psychologically based definitions of quality education, educational institutions such as schools are expected to incorporate all the different views of quality from all the stakeholders in order to meet their needs and expectations. Teachers who use self-assessment strategies to critically identify their strengths and weaknesses intrinsically use the psychological quality view to enhance quality education in schools.

The second view of quality is process-based. This view is based on the manufacturing processes of industry in which quality is determined by a precise and measurable variable, and differences in quality thus reflect differences in the quantity of some ingredient or attribute seen to be possessed by a product (Garvin, 1988; James, 1996). In an educational context, the process-based quality view is determined by the processes and systems that educational institutions use to meet the national goals of education. In this study, a process-based quality view entails how schools are resourced with human, physical and financial resources. Schools that have well-qualified teachers and are well-resourced with physical facilities (e.g. textbooks, internet services, library, classrooms, laboratories, etc.) are thus perceived as providing quality education. Teachers who are willing to partake in innovative ways of continuous improvement such as the use of self-assessment can be regarded as using the process-based model quality view to bring about improvement in schools.

The third view of quality is product-based. Thus, finished products provide the basis for quality assurance. Quality is vested in the product and not with the individual. In an educational context, this view perceives quality as based on the output of an institution. Quality is seen from students who graduate from an educational institution in terms of employability, skills, competency, efficiency, effectiveness, independence and innovative thinking. In this study, the product-based view is regarded as the graduates' skills and competency in the marketplace. Teachers who are involved in using self-assessment strategies determine whether they are quality products by the manner in which they contribute to the continuous improvement of quality education in schools.

In an effort to establish a common understanding of the notion of quality, Garvin (1988) categorised the above-stated views of quality into five bases, namely:

- Transcendent;
- Product-based;
- User-based;
- Manufacturing-based; and
- Value-based.

The aforementioned quality views, though distinct from one another, are valid and comprehensible perceptions of the complex notion of quality.

2.2.2.1 The transcendent quality view

Garvin (1988) suggests that a transcendental view of quality is subjective and personal to one's own experience. This definition 'focuses on customers' needs and highlights the importance of knowing who customers are, what their needs are and how to satisfy them' (Elassy, 2015:252). James (1996:81) expounds on Garvin's transcendental view of quality that 'quality is something we cannot touch, but know instantly and can differ, over time, in relation to the same thing'. However, it is contended that a consumer who receives a service does so because the quality is reinforced positively by that service and consequent use of it. In an educational context, schools are expected to render quality education by various stakeholders. The moment when the stakeholders' educational service needs are not satisfied, the quality view of education becomes

problematic. The definition of quality as meeting customers' needs in the education sector is questionable. For an example, how can learners in pre-primary and lower primary phases be capable of determining what their needs are and whether their needs are being met? (Green, 1994). However, teachers as the stakeholders of schools are capable of identifying their needs and ascertain the degree to which their professional needs are met through self-assessment.

2.2.2.2 The product-based quality view

Garvin's product-based quality view contends that quality is dependent on the product and not with the customer. In an educational context, quality is seen to rest solely with the attributes of quality educational services provided by schools and not with the individual teachers. This approach provides objective measures of quality but has a disadvantage of assuming that the presence of an attribute implies quality education services (Rao et al, 1996). Thus, the quality attributes that teachers are expected to possess (e.g. high educational qualifications and vast teaching experiences) do not make teachers become effective. However, it is the teachers' innovative skills of teamwork and collaboration that can lead teachers to become effective in realising quality education in schools.

2.2.2.3 The user-based quality view

The user-based quality view by Garvin (1988) is defined on the premise that the user is regarded as the sole determiner of quality and that quality has no meaning except in relation to the purpose of the product or service (Garvin, 1988; Elassy, 2015). Juran refers to the user-based approach as 'fitness for use' (cf. par. 2.2.2) which implies that services that meet the customers' needs are regarded as quality (Juran & Godfrey, 1979:113). Despite the fact that customers possess different needs, they are inclined to perceive quality in terms of services or products that satisfy their different needs in a specific context. This, therefore, reflects a highly personalised and subjective view of quality, which is equated with customer satisfaction (James, 1996). Furthermore, the problem with the fitness for purpose approach is that it is not easy to define what the purpose of educational institutions should be as their purposes differ greatly depending on who defines the purpose (Elassy, 2015).

2.2.2.4 The manufacturing-based quality view

The manufacturing-based quality view by Garvin (1988) is closely linked to Crosby's conformance to requirements. It is usually used in the public sector and has its origins in the notions of quality control in the manufacturing industry (Elassy, 2015). Under this quality view, the quality of a product is determined by its conformance to pre-determined sets of standards. In education, for example, examination results are often used to measure the extent to which schools conform to academic standards as prescribed in the syllabi and curricula. Schools that perform exceptionally well in examinations are regarded to have conformed to the set academic standards and are perceived to be quality schools. Hence, non-performing schools are often urged to emulate such schools. But, the disadvantage with this view is that the quality of a service is defined in terms of standards without taking into cognition other important factors that can lead schools to perform very well. These factors often include the availability or non-availability of human resources (effective teachers) in schools. In practice, examination results cannot be perceived as the only indicator of quality as they are subject to examination irregularities at times and to teaching methods that encourage rote learning without understanding.

2.2.2.5 The value-based view

Finally, the value-based view of quality, which is founded on the psychological understanding of the meaning of 'value', is an independent determination that reflects an individual's bias of the price being invested in the service being sought. Industry has influenced consumers to perceive that products or services that are of high price are automatically of high quality and that a low price implies low quality (James, 1996). In an educational context, stakeholders (government, parents / guardians) invest physical and human resources in schools with high expectations for high investment returns in the form of high examination pass rates, for example. The private schools, which in most cases are expensive, are perceived by stakeholders as fulfilling the value-based view of quality. This is a common definition that education stakeholders use to determine their value for money. However, there is no direct correlation that schools which levy high fees perform exceptionally well. Some schools that levy low

fees, as is typical with rural schools in the Zambezi region, for example, outshine private schools that charge learners high school fees.

Unfortunately, most of Garvin's views are subjective with the exception of the manufacturing and product-based approaches, which have elements of objectivity. However, both approaches fail to account sufficiently for customer preferences. According to Rao et al. (1996), 'the user-based approach relies solely on the consumer's input, but methods for obtaining this input are unreliable and unable to predict changes in preferences'.

Despite the fact that quality is an abstract and complex concept, various definitions of quality have been posited by various information sources and scholars. Collins Dictionary (2011:839) defines the concept of quality as 'the degree of standard of excellence, [or] a distinguishing characteristic or attribute [of an entity]'. Hoyle (2001:21) defines quality 'as the degree to which a set of inherent characteristics fulfils a need or expectation that is stated, generally implied or obligatory'. Despite the above-definitions being simple and concise, the question is, how can we conceptualise such definitions in an educational context?

2.2.3 Approaches to the definition of quality

Green (1994:15-16) also outlines five approaches to the definition of quality as follows:

- Quality as the conformance to standards;
- Quality as fitness for purpose;
- Quality as effectiveness in achieving institutional goals;
- Quality as meeting customers' stated needs;
- The traditional concept of quality.

2.2.3.1 Quality as the conformance to standards

The quality view of conformance to standards applies to the education sector as educational services can be measured in terms of conformance to the national standards of education. According to Green, (1994:13), 'the quality of a [product or] service is measured in terms of its conformance to the specifications, to see if it meets the standards set'. In education, the concept of 'standards' means the level of

conditions that educational institutions such as schools must meet. In the educational context of the Zambezi region, this implies that schools are expected to conform to the national education standards by rating themselves against a four-point scale. The conformance to national standards is usually followed by an external audit to ascertain whether quality is being realised in schools with regard to conformance. This quality view is subject to criticism, as the ratings of conformance to set standards can be questionable as there is room for subjectivity in ratings by schools and external auditors.

2.2.3.2 Quality as fitness for use

The definition of quality by Juran and Godfrey (1979:113) as 'fitness for use' (cf. par. 2.2.2) is well embraced in the education sector. Green (1994) contends that most education policymakers embrace this quality view, as it argues that quality has no meaning except in relation to the purpose of the product or service. Just like other quality views, the 'fitness for use' view is not free from criticism. The main criticism of this quality view is that it is not easy to define the purpose of educational institutions, including schools, as their purposes differ greatly and also that their purposes are diverse depending on who defines the purpose.

2.2.3.3 Quality as effectiveness in achieving institutional goals

This quality view is centred on school evaluation processes. This view contends that schools that have clear mission statements are most likely to meet the goals of the school. A high-quality institution, therefore, is seen as one that has a clear mission and knows how to meet its goals (Juran & Godfrey, 1979). However, this quality view is limited by the fact that it is difficult to determine whether all set goals can ever be achieved as most goals range from medium to long-term goals, which require long periods of time to be realised. In this particular study, schools are required by the national standards to set five-year goals in their SDPs. It is difficult for schools in the Zambezi region that are generally rated as low performers to achieve their institutional goals within five-year periods. Furthermore, an attempt by schools to achieve institutional visions and goals is compounded by the fact that set goals are not static but rather change with time.

2.2.3.4 Quality as meeting customers' stated needs

Many educationists generally accept the quality view of meeting customers' needs and expectations as being legitimate in the education sector. It is important, therefore, for any educational institutions, including schools, to know who the customers are, what their needs are and how to satisfy these needs. In education, customers include but are not limited to learners, parents, school board members, ministerial agencies, etc., whose needs and expectations need to be satisfied. In this particular study, teachers are regarded as the major clients of schools. However, this definition is liable to criticism because it is not clear as to whether teachers can be rightly regarded as customers, product or both (Elassy, 2015).

2.2.3.5 The traditional concept of quality

The traditional quality view has its main focus on the notion of excellence as a distinctive feature of a product or service. In an educational context, the excellence quality view might be equated to elite schools that were established before independence that are renowned for producing outstanding examination results. However, reputation can easily become a proxy for excellence, which inherently gives an added advantage to the old and rich schools. This study critiques this traditional view of quality in which quality is linked to well-resourced schools only and not to remote schools as found in the Zambezi region.

Generally, all the aforementioned definitions emanate basically from customers' satisfaction or dissatisfaction with a product or service. The definitions regard the final arbitrators of quality as customers who use a product or service. In a contemporary sense, the notion has evolved to what is generally regarded today as, 'meeting or exceeding the expectations of the customer' (Wilson, Morris, & Everard, 2004:193). In other words, the customer is regarded as the main determiner of quality. The satisfaction or dissatisfaction that a customer receives from a product or service rendered will determine whether a product or service received meets the expected outcomes or not. If it is in the affirmative, then the product or service will be regarded as quality, whereas, a product or service received that does not meet the expectations of a client will be perceived as having no quality. As Bradley (1993:65) puts it, 'quality is accomplished by continually meeting and exceeding client needs'. Quality is not

static but is rather dynamic. Quality is a continuous phenomenon that often improves in satisfying the end users of products or services. Johnson (1993:15) concludes that 'quality, therefore, is the ability of any product or service to meet the needs of the user of that product or service'.

In education, quality is seen to be geared towards the fulfilment of the needs and expectations of various stakeholders, e.g. learners/students, parents, guardians, employers, higher institutions of learning, non-governmental organisations, governments, etc. In practice, an attempt by any educational institution to satisfy the needs of varied and numerous stakeholders requires identification of all stakeholders' needs, first. Consequently, such an educational institution will be better placed to define quality in a multi-faceted way to meet the needs and expectations of the various stakeholders.

In summary, quality is a multifaceted term for which any attempt to holistically define it is not possible. The complexity of defining quality is brought about by many factors that include the diversity of organisations, private/public sectors, expectations of the service provider/supplier and the client/consumer; the client context in which the term is used; and also the person(s) or agencies defining it. Hence, a universal definition of quality is problematic and difficult to define due to the dynamic nature of the concept.

However, in this particular study, quality will be regarded as the continuous satisfaction of learners' needs and expectations by teachers in schools. Quality education can be realised by teachers that continuously aim to satisfy the educational needs of their learners in a systematic and sustainable manner. This study posits to empower teachers as professionals to reflect critically on their strengths and weaknesses by using systematic mechanisms, such as self-assessment strategies. The study further propagates the key roles that school principals can play in supporting teachers to engage in continuous professional development activities with the aim of enhancing quality education in schools in the Zambezi region.

2.2.4 Quality assurance and quality enhancement

As this study aims to enhance quality education in the Zambezi region (cf. par.1.), it is necessary that a clarity of key concepts that are closely related to one another be made clear: quality control (QC), quality assurance (QA), and quality enhancement (QE). Juran and Godfrey (1979:95) define quality control as 'a universal managerial process for conducting operations so as to provide stability – to prevent adverse change and to maintain the status quo'. The ISO 9000 defines quality control as 'a process for maintaining standards of quality that prevents and corrects in such standards so that the resultant output meets customer needs and expectations' (cited in Hoyle, 2001:654). Both definitions of quality control are skewed towards the production of goods in industry which is not relevant to the education sector that provides educational services.

Quality assurance is also defined differently. Hoyle, (2001:654) defines quality assurance as 'part of quality management focused on providing confidence that quality requirements will be fulfilled. UNAM (2010:16) defines quality assurance as 'an all-embracing term referring to an on-going, continuous process of evaluating the quality of an education system'. Similarly, the Polytechnic of Namibia (2014:7) defines quality assurance as 'a process that ensures, implements, maintains and develops the quality of provision through continuous evaluation and improvement'. The Ministry of Education does not give a precise definition of quality assurance but rather centres the notion of quality assurance in standard practices for schools that are guided by school-self-evaluation instruments. Quality assurance can thus be defined as a continuous and systematic approach to evaluation by educational institutions such as schools to determine the extent to which the institutional goals are being realised.

Elassy (2015) defines quality enhancement in medical terms. According to Elassy (2015:256), quality enhancement is 'a subsequent "treatment" process to develop the limitations that QA discovered'. QE is an aftermath of the quality assurance systems that are often put in place by institutional and national agencies. Quality enhancement can be regarded as a deliberate and systematic process of innovation that leads to improvement of the systems that have been quality assured.

Elassy (2015) uses medical terms ‘diagnosis’ and ‘treatment’ in Figure 1 below to illustrate the difference that exists between the two concepts of quality assurance (QA) and quality enhancement (QE) despite them being interrelated and dependent on one another.

The continuum of quality QA – QE (Elassy, 2015:256)

Figure 1: The continuum of quality QA - QE

From the illustration in Figure 1, QA is perceived as a process having two functions: of assessment and diagnostic purposes of an organisation’s system such as schools, whereas QE is perceived as a “treatment” process that aims to improve or address the weaknesses identified by the QA processes of an organisation (Elassy, 2015). The two concepts are closely related and dependent on one another. In education, quality assurance mechanisms are put in place by education authorities to ensure that schools implement what the ministerial policies stipulate. In turn, schools are expected to use information obtained from quality assurance instruments to make necessary changes for improvement purposes. In this study, the use of self-assessment strategies by school principals, heads of departments and teachers can be regarded as an innovative way of continuous professional development to enhance quality education in the Zambezi region.

Table 1 presents the differences that exist between QA and QE processes. In education systems, the QA process is seen as focusing mainly on formative assessment and accountability of the teaching and learning processes, whereas QE is seen as focusing mainly on the formative process geared towards the improvement and development of the teaching and learning processes of an educational system. Thus, any teaching and learning defects that are identified by the QA processes are addressed by the QE processes in order to improve and sustain the strengths of the teaching and learning processes in education (Elassy, 2015).

The two concepts, though having some differences in scope, as shown in Table 1 below, illustrate that the quality processes are interrelated to one another, in the sense that QA processes assure quality, whereas, the QE processes serve as the mechanism for improvement purposes.

The relevance of Table 1 to this study is manifold. The quality assurance system that schools in the Zambezi region use is a “top-down” model to enhance quality education in schools. Thus, education experts from the Programme Quality Assurance (PQA) unit as well as relevant education bodies such as the National Institute for Educational Development (NIED) design quality assurance systems that schools are expected to implement and adhere to. This study, however, advocates for a “bottom-up” strategy in which teachers, through teamwork and support from school principals, can initiate self-assessment strategies that can enhance the quality of education in schools in the Zambezi region.

Table 1: The differences between quality assurance and quality enhancement (Biggs, 2003)

Quality Assurance	**Quality Enhancement**
Gives insufficient weight to the teaching / learning processes	Gives considerable weight to the teaching / learning processes
Tends to be associated more with assessment and accountability	Tends to be associated more with improvement and development
Meets external standards	Meets internal standards
Moves from top to lower level	Moves from lower to top level
A summative process	A formative process
A quantitative performance	A qualitative performance
Focuses on the past	Focuses on the present and the future
Less freedom (follows absolute rules)	More freedom (uses flexible and negotiated ways)
Gives a greater space to administrators	Gives a greater space to academics

The current quality assurance systems that schools use in the Zambezi region are susceptible to abuse by some school principals who can manoeuvre the data to appease the external quality assurance agencies without consulting school staff. This study, however, encourages teachers in school settings the flexibility to work in departmental teams to enhance quality education in schools.

Finally, the prevailing quality assurance systems in the Zambezi region tend to be generic in nature by virtue of applying the whole-school improvement initiatives as attested by the implementation of the National Standards and Performance Indicators for Namibia Schools in Namibia. However, this study puts more emphasis on improving the teaching and learning processes that are meant to satisfy the needs and expectations of teachers.

Wong (2012) gives an alternative view of quality assurance and quality enhancement by positing an ecological perspective to address quality assurance and enhancement issues in an educational context as depicted in Figure 2.

The ecology of quality assurance and enhancement (Wong, 2012:38-42)

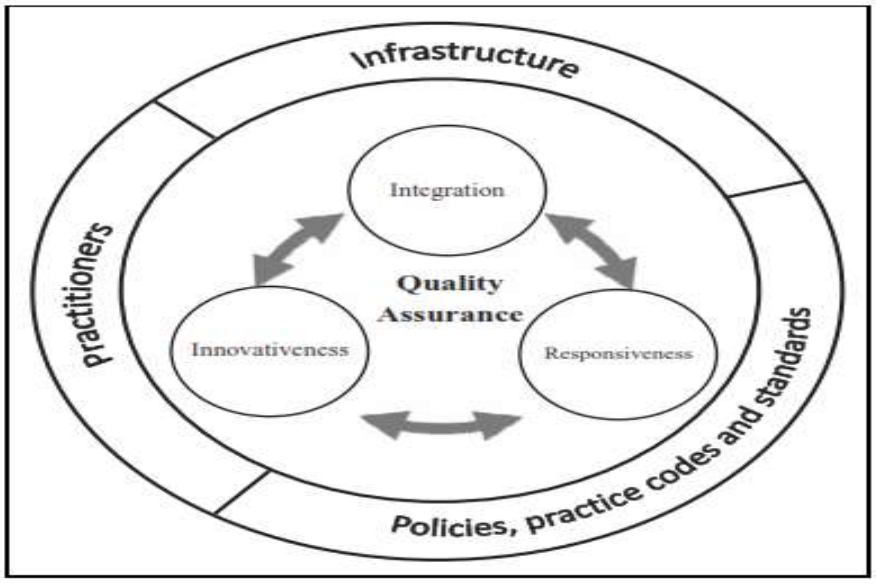

Figure 2: The ecology of quality assurance and enhancement

The ecology of quality assurance and enhancement consists of three major themes: integration, responsiveness and innovativeness. The interrelatedness and interdependence of the three sub-systems: practitioners or teachers, the infrastructure,

and policies and practice, which constitute the larger system of quality assurance in an education context depicts an integration process of an organisation's system. The three themes of the practitioner, infrastructure, as well as policies and practice, can each be viewed as having a sub-ecosystem of their own in the larger ecosystem of quality assurance at a macro-level of the school (Wong, 2012). The ecosystem enables teachers and school principals to have a general overview of external and internal factors that affect the school and to respond to these factors using innovative strategies of quality enhancement that will be discussed in Chapter three.

In a school setting, the concept of ecology can help support school systems to focus on both internal and external factors that enhance the quality of education provision. The concepts of quality assurance and enhancement can be regarded to be in a continuum state (as illustrated in Figure 2), which according to Wong (2012:42):

> Requires constant redefinition or refinement of performance measurements, the alignment of modified or new practices and standards with environmental variables, and facilitation of the work process to increase efficiency and enhance effectiveness of the service.

In other words, schools that apply this concept can create a more enabling teaching and learning environment that can help to develop and implement quality assurance and enhancement mechanisms. In this study, the ecology concept can help teachers to work collaboratively in departmental teams to identify and address inadequacies of their department's workflow (Wong, 2012).

2.2.5 Quality in the school context

There is no single universally agreed upon definition of quality in education as stated above. However, despite the vagueness of the meaning of quality in education, some scholars and authorities posit that quality education is best perceived from the contextual environment from which one is defining it such as teaching, learning and curriculum which are the three major elements that determine quality education (Dimmock, 1990). A change in one of the three major elements affects the other two elements. In other words, the three elements of quality in education are interdependent

on one another. Dimmock (1990:201) perceives quality education in schools as entailing one or more of the following:

- Improving the standards of teaching and teachers' performance.
- Improving the standards of learning and learners' performance.
- Providing a curriculum more relevant to learners' needs.

This assumption of viewing quality in education indicates a strong link between continuous professional development and quality [education enhancement)] – especially in the areas of teaching and learning (Van Graan & Leu, 2006). This thesis focuses mainly on the first segment where teachers are regarded as pivotal in enhancing quality education in schools. The researcher, therefore, assumes that schools that lack competent teachers who are equipped with the necessary teaching skills and knowledge compromise effective implementation of the designed syllabi and curricula to meet the needs, interests of education stakeholders including learners (Ministry of Education, 1993).

West-Burnham (1992:32-33) views quality in schools using four key components of: principles, people, prevention and processes:

Principles: the core purpose, vision and values of the school expressed through its leadership and articulated in its mission statement.

People: the school is designed around people; it is flat, uses a team-based approach, places enormous emphasis on learning and development and stresses the importance of human relationships.

Prevention: the school works to minimise if not eliminate failure; prevention is a shared philosophy applied to all activities.

Processes: Every organisational process is seen in terms of the extent to which it meets customer needs.

He stresses that what is distinctive about these four elements is that they are interdependent. Hence, quality schools are those that have all the four components and are actively committed to improving each respectively.

The Ministry of education singles out teachers as being pivotal in ensuring that quality is realised in schools. According to the Ministry of Education (1993:37):

> The most important challenge in improving the quality of our education system is to ensure that our teachers are well prepared for the major responsibilities they carry … It is essential, therefore, that we help our teachers develop the expertise and skills that will enable them to stimulate learning.

The Ministry of Education (2010) further identifies three sets of preconditions to help school principals and teachers improve the quality of education in schools. Firstly, the provision of quality education is dependent on the successful implementation of the curriculum by teachers. Secondly, conditions in and around the school which promote teaching and learning, including the teachers themselves; and thirdly, conditions in society that enable learners to use knowledge and skills gained.

According to the Ministry of Education (2010:5), the curriculum itself should be 'coherent and consistent, well-articulated, meaningful and relevant to the learner, manageable by the teacher, and reflects the demands of society'. Teachers are thus urged as the curriculum implementers to take ownership and implement it with commitment. A set of preconditions for the successful implementation of the curriculum by teachers and school principals as outlined by the Ministry of Education (2010:11) is that:

- Teachers are appropriately and fully qualified to teach the phases and subjects which they are entrusted with, and they are well-informed, committed and competent.
- Teachers are equipped with all the necessary teaching aids, technology and other relevant materials to support effective learning and have the

skills to develop and adapt materials themselves to suit multi-ability groups of learners.

- Teachers effectively teach so that learners progress evenly through each phase, and only a few need to repeat to achieve the basic competencies. Such learners need to receive learning support.
- Teachers apply the mechanisms in place to ensure early identification of learning difficulties so that these may be addressed.
- Teachers adhere to the code of conduct.
- Teachers' 40-hour working week is clearly set out and fully utilised between 26 hours classroom contact time, and 14 hours distributed between preparation and marking, co-curricular activities, contact with parents/guardians, administrative work and continuous professional development.
- The school principal is an effective instructional leader.
- The school board is active and supports the whole curriculum and co-curricular activities.
- The home and community actively support the holistic development of the learner.

The quality attributes of: curriculum, teaching and learning environment with special reference to teachers, and the support that teachers receive from the school principals served as the main basis for this study. Teachers, in particular, are singled out as being one of the most important factors in helping schools improve as espoused by the Ministry of Education (2010); Dimmock (1990); and West-Burnham (1992). This study, therefore, sought to explore effective self-assessment strategies that can help and support teachers to continually enhance quality education in schools.

2.2.6 Application of total quality management (TQM) in schools

Total quality management (TQM) in an education can be regarded as a school management philosophy that seeks to continuously improve teaching, learning and curriculum to satisfy the needs of learners. Sohel-Uz-Zaman and Anjalin (2016:2) define TQM as 'an effective management philosophy for continuous improvement, customer satisfaction, and organisational excellence'. Ishikawa (1985) accentuates that TQM is an effective strategy to enhance the performance of a school. Crosby (1985) regards TQM as a systematic process that ensures that planned activities are carried out as planned. Deming (1988) perceives TQM as a management philosophy that strives for excellence in an organisation's performance. Deming postulated fourteen TQM principles that organisations such as schools could use to enhance the provision excellent services.

TQM principles have been used in schools in South Africa. A study conducted by Sibeko (2014) in uThungulu District of Kwazulu-Natal, South Africa found out that schools that apply the TQM principles continuously improve the quality of education in schools. Mt Edgecumbe Secondary school in the USA adapted the TQM principles to continuously improve the quality of education as follows:

Point 1: Human relations are the foundation for all quality improvement.

Point 2: All components in our organisation can be improved.

Point 3: Removing the causes of problems in the system inevitably leads to improvement.

Point 4: The person doing the job is most knowledgeable about the job.

Point 5: People want to be involved and to do their jobs well.

Point 6: Every person wants to feel like a valued contributor.

Point 7: More can be accomplished by working together to improve the system than by working individually around the system.

Point 8: A structured problem-solving process using statistical graphic problem-solving techniques lets you know where you are, where the variations lie, the relative importance of the problems to be solved and whether the changes have had the desired impact.

Point 9: Adversarial relationships are counterproductive and outmoded.

Point 10: Every organisation has undiscovered gems waiting to be developed.

Point 11: Removing the barriers to pride of workmanship and joy of learning unlocks the true untapped potential of the organisation.

Point 12: Ongoing training, learning and experimentation is a priority for continuous improvement.

The decision to adapt TQM theoretical framework in this study derived from the impact that TQM has in continuous improvement of educational services in schools. TQM encourage teachers and school principals to adapt quality management principles espoused by quality *gurus* to focus on satisfying the needs and expectations of learning-outcomes by learners. TQM is a mechanism that enables school principals and teachers to actively engage in innovative ways to continuously improve teaching and learning in schools.

2.2.7 Conclusion

In conclusion, quality manifests itself as a multi-dimensional concept that is perceived differently by education stakeholders. However, despite numerous definitions of the term ‘quality’, an intriguing and implicit feature, that permeates all the definitions is - the ‘user’ or ‘customer’ whose needs or expectations ought to be met and satisfied. In this study, teachers are expected to satisfy the needs and expectations of learners in schools. TQM principles can be adapted to guide school principals and teachers to enhance quality education in teaching and learning in schools.

2.3 EXPOSITION OF A FEW SELECTED QUALITY THEORIES

2.3.1 Introduction

The following sub-section will discuss a few theories that have been proven internationally to be effective in enhancing quality in both private and public service sectors. One theory will be selected primarily to guide this particular study in examining the notion of quality and quality education in general. The question of what entails quality and quality education as stated in the sub-problem of the envisaged research is discussed in the light of quality theories. Furthermore, this sub-section will introduce one effective way of how quality education can be enhanced in schools based on the quality theories. The chosen theory will thus serve as the basis for the theoretical framework of this study.

The concept of quality has undergone an evolution over the past years from quality control, total quality management to quality assurance and enhancement. The early theories of quality originated from industry and proved successful in different companies that applied the theories. Today, the notion of quality is embraced not only by industry but also by the public sector including that of education.

2.3.2 Theories of quality

Three scholars, Edward W. Deming (1988), Philip B. Crosby (1979) and Joseph Juran (1979), have developed and explored distinct theories of quality from industrial or business perspectives. The quality sages mentioned-above are regarded as the pioneers of 'quality' because their theories on quality and, more specifically, on Total Quality Management (TQM), have influenced both industry and non-industry sectors including the education sector worldwide. Juran and Godfrey define TQM as 'a management approach that strives … to continuously realize corporate objectives in the form of achieving an organization's mission of satisfying customers (Juran & Godfrey, 1979. TQM has its origins in the aftermath of World War II when companies were striving to improve production. In education, TQM can be considered as a strategic management tool that schools can use to continuously improve and enhance quality education by satisfying and exceeding the needs and expectations of education stakeholders.

The theories that have been posited by the scholars mentioned above embrace the fact that quality, though difficult to define, is non-accidental. It is a notion that can be perceived and planned to maximise investment returns in an enterprise or institution. This is precisely what Deming (1988), Crosby (1979) and Juran (1979) did in making the notion of quality manageable. As quality cannot be realised by an act of coincidence or accident (Botha & Hite, 2000), it is imperative that organisations put in place strategies that will guarantee quality. The following are different approaches and theories by the quality sages of how quality can be achieved in an organisation. Each of them will be briefly discussed.

2.3.2.1 Edward Deming's TQM theory

W. Edward Deming (1988) is a prolific writer and pioneer of quality theories and constructs. His approach to quality management derives from statistical methodologies in which he advocates the use of statistical methods to reduce variability and to improve production. Deming (1988) proposes an emphasis on precision, performance and attention to customers' requirements through statistical methods designed to reduce variation. Table 2 describes Deming's fourteen principles that form the main basis of his TQM theory.

Deming's theory of quality management advocates for a paradigm shift in organisations to embrace a quality culture of continuous improvement (Deming, 1994). In general, businesses are established to maximise production and profits amidst rivalry competition. Hence, for companies or organisations to remain and sustain their business activities, it is essential that they continually produce goods and services that satisfy and exceed customers' needs and expectations. Deming's theory was suitable in this study because it advocates for the use of effective management principles to improve the quality of educational services in schools. For schools to remain and sustain their educational activities, it is important that they continually provide educational services that meet and exceed the teaching and learning needs of learners. This requires teachers to constantly self-assess their teaching repertoires by using suitable self-assessment strategies that incorporate Deming's theory of continuous improvement.

Table 2: Deming's fourteen principles of total quality management (Deming, 1988)

TQM principles	**Explanation of the principles**
Principle 1	Create constancy of purpose for continual improvement of services.
Principle 2	Adopt the new philosophy and abandon traditional ways of working.
Principle 3	Move from inspection to building quality into every process.
Principle 4	Stop awarding contracts on the basis of the lowest bid – specify and buy quality.
Principle 5	Engage in the process of continually improving every aspect of company activity.
Principle 6	Use work-based training techniques.
Principle 7	The emphasis for leaders and managers must be on quality, not quantity.
Principle 8	Drive out fear by improving communication.
Principle 9	Break down organisation barriers.
Principle 10	Eliminate slogans and exhortations.
Principle 11	Eliminate arbitrary numerical targets.
Principle 12	Allow for pride of workmanship by locating responsibility with the worker.
Principle 13	Encourage education and self-development.
Principle 14	Create a management structure and culture that will drive the preceding 13 principles.

The following section briefly analyses Deming's 14 principles of quality management in an educational context, which school principals can adapt to enhance quality education in teaching and learning in schools (Deming, 1988).

(i) Principle 1: Create constancy of purpose to enhance quality education

The principle of 'constancy of purpose' (Deming, 1994:51) is crucial in enhancing quality education in schools. It calls for key education stakeholders: teachers, heads of departments, school principals and other interested stakeholders to be actively engaged in the formulation of the mission and vision of the school.

It is essential that the mission, goals and vision of the school be formulated in simple and clear language to avoid ambiguity and misinterpretation by the school community members. This will also enable each school member including teachers to be consistently aware of their role in contributing towards the provision of quality education in schools.

(ii) Principle 2: Adopt a new school philosophy of quality education

Deming's second principle is ideal for resolving the negative perceptions that the public and private sectors have with regard to quality education provision in schools. In the light of repeated concerns of poor quality education by both the public and public sector, it is imperative that schools listen and take heed of such concerns that compromise quality education. This requires that schools must re-strategise their goals and vision towards quality education enhancement in line with stakeholders' expectations and needs. In Bradleys' words, 'schools must begin listening more to [their stakeholders] who, in the end, will determine the meaning of quality for their school' (Bradley 1993:174). School principals need to take heed of teachers' professional needs to adopt the use of self-assessment strategies to enhance quality education in schools.

(iii) Principle 3: Cease dependence on inspection to achieve quality education

Deming's third principle calls for the termination of dependence on supervision to achieve quality education (Deming, 1988). In a school context, supervision by senior officials such as inspectors of education and school principals can be a cumbersome and daunting exercise for teachers, as it undermines their professionalism in many aspects. Teachers as professionals need to be empowered to determine what is best for their learners and what works best in their classroom settings. For example, inspecting teachers' work by checking if lesson plans have been written to a certain standard; whether teachers have provided adequate class or homework; and if learners' work has been meticulously marked with meaningful feedback given. Also if teaching materials supplement and support teaching and learning processes; etc., can contribute towards low teacher morale. The process of monitoring teachers through inspections or supervision alone cannot suffice to improve the quality of education but from improving teaching and learning processes in schools. Instead of reprimanding

teachers who are labelled as ineffective by inspectors of education, schools need to build quality into the current teaching and learning strategies. School principals need to provide professional support to teachers who are regarded as non-performers and not to replace them with teachers from other schools or institutions.

Another fundamental tenet of quality states that it is always cheaper to do things right the first time (Deming, 1988). Schools, therefore, need to orientate novice teachers to be innovative and continuously contribute towards quality education in meeting and exceeding learners' expectations. Novice teachers are not 'finished products that require no further development' (UNAM, 2013:2) but rather require induction to be able to cope with the ever-changing dynamics of the classroom and school at large. Experienced teachers in the system can make use of the self-assessment strategies to work closely with novice teachers to enhance quality education in schools.

(iv) Principle 4: End the practice of awarding business on the basis of price alone

Industry has succeeded in making society believe that paying more for certain brands is cost-effective in the long run (cf. par. 2.2.2.5). This perception is also true for school systems as the choice of human and physical resources must be based on their ability to meet the needs of users who are the main arbitrators of quality. Schools that depend on one another on students' influx or intake by virtue of their physical proximity such as in school clusters can support one another. For example, junior secondary schools can enhance quality education of primary schools that prepare learners to enrol at their schools within a cluster. In a school setting, pre-primary teachers are supposed to be knowledgeable of the expectations of consequent school phases, e.g. upper primary, junior secondary and senior secondary requirements. Mt Edgecumbe High School, for example, reduced school costs by supporting neighbouring schools to improve the quality of prospective students coming into their school system (Johnson, 1993).

Schools that support one another through the cluster system are likely to excel in providing quality education. In cases where a school fails to meet the needs of its students and other stakeholders, neighbouring schools can intervene and support such a school. However, this principle can only be sustained if schools develop long-term relationships of loyalty and trust with one another that are based on quality education initiatives (Deming, 1988).

(v) Principle 5: Improve constantly and forever every activity in the organisation to improve quality of education

The core function of schools is teaching and learning. The teaching and learning processes constantly change in education due to changes in the curriculum, for example. Deming's fifth principle advocates for individual teachers to become actively involved in acquiring new skills, techniques and knowledge to effect meaningful changes in the teaching and learning processes. Jayakumaran and Manoharan (2011:50) further point out that 'today it is in our best interest to encourage everyone's potential by dedicating ourselves to the continual improvement of our own abilities and those of the people with whom we work and live'. In many education systems, teachers are encouraged to pursue professional development programmes that are usually designed by central agencies comprising of experts or consultants to equip them with the necessary skills and knowledge to continuously improve the teaching and learning processes. Bradley (1993:175) advises school principals that, 'improvement is not a one-time effort. Everyone and every department must subscribe to the ethic of constant improvement, and management must lead the way'.

(vi) Principle 6: Institute training on the job

Education is a life-long learning process, which has no satiation point. Teachers need to be equipped with the necessary expertise to analyse and find solutions through continuous professional development training activities in order to meet the needs and expectations of the stakeholders. According to Johnson (1993:29):

> Developing this expertise requires an understanding of how the system design affects the quality of the results, the criteria on which judgements about quality are made, the statistical tools needed to assess how well the system is functioning, and the identification of areas for improvement.

In a school setting, competent teachers can be utilised by school principals to support teachers who lack skills and knowledge in certain subject areas through teamwork. The use of the self-assessment strategies in schools should aim to address the immediate professional needs of teachers in real classroom situations to supplement

external professional support often administered by external agencies, such as inspectors of education.

(vii) Principle 7: Institute leadership

Deming's seventh principle regards school principals as playing a pivotal role in ensuring that teachers focus on quality enhancement initiatives through their leadership skills. This can be achieved when the school principals allow effective teachers to take the lead in instituting the use of self-assessment strategies in schools. Effective teachers should take on the role of facilitator rather than supervisor to motivate other teachers to acquire the skills and knowledge needed to improve the quality education in schools (Deming, 1988).

(viii) Principle 8: Drive out fear

Due to the relatively low socio-economic positions of many employees in an organisation, employees often perceive the need to support themselves and their families as the more important priority than work itself. In a school setting, teachers, for example, can perceive teaching as a means of living rather than a career. Such teachers easily develop an element of fear by refraining from interrogating management on certain school processes that can inhibit or contribute towards enhancing quality at the school. Siu-Runyan and Heart (1992) point out that professional development cannot take place in an atmosphere of fear and anxiety. Oduwaiye et al., (2012:144) state that, 'fear creates an insurmountable barrier to improvement of any system and should thus be eliminated for organisations to improve'.

Teachers as educators are expected to do their best in educating learners in line with national standards. School principals should take advantage of this principle and extrinsically motivate teachers to ask questions and make suggestions that can improve the school. 'Suggestion boxes' can be introduced in schools as a way to demonstrate how teachers' suggestions are valued by school management. Additionally, teachers should be accorded time to register their needs and concerns pertaining quality education in schools.

(ix) Principle 9: Break down departmental barriers

Deming's ninth principle of quality management is the elimination of the barriers between departments in organisations. The barriers in schools, as organisations, are both horizontal and vertical. Teachers in various departments tend to think within the confines of subject disciplines or departments. For example, teachers in the upper primary phase might prefer to work more closely with teachers at this level than with those teaching at pre-primary or lower-primary phases, and vice versa. Similarly, teachers within a certain department who teach a particular subject can develop a tendency of working more closely with teachers handling the same subject of specialisation, e.g. English, Math, Science, etc., and not otherwise. If uncontrolled, such practices can become the main cause for lack of collegiality among teachers. School principals should encourage teachers to work and seek professional support across all the departments. Therefore, teachers should not regard themselves as belonging to isolated working-groups within a school setup but should rather see themselves as a unit in which teamwork and collaboration is the norm for continuous improvement of education.

(x) Principle 10: Eliminate slogans, exhortations, and targets that demand zero defects and new levels of productivity

Deming's tenth principle of quality management calls for the elimination of slogans in organisations which are based on the belief that staff have potential to do better. In education, such assumptions can create adversarial relationships among teachers by creating a situation in which they can find themselves competing against each other to achieve national standards. Teachers who are perceived to be outperforming others in terms of learning outputs, for example, are often rewarded with salary increments and medals. This practice, though good, has a negative effect of creating animosity among others through this external motivation. It is, therefore, necessary that the school motivation system may need to be changed to be inclusive by acknowledging each staff member's contribution to the continual improvement of the school. In short, adversarial relations need to be discouraged by school principals. Teamwork and collegiality through self-assessment strategies have great potential of creating an

enabling working environment that can boost the teachers' working morale rather than having teachers competing against one another.

(xi) Principle 11: Eliminate numerical quotas for the staff and goals for management

Organisations, in designing their strategic management plans, often include goals and quotas to be achieved. However, such practices of goal setting and quota determination by management can create a system that focuses on achievements rather than satisfying customer needs (achieving quality). In education, such practices include performance appraisal systems that are linked to financial remuneration as a means to extrinsically motivate teachers to excel in their performances. Deming (1988) regards these practices as forces of destruction. The practices of goal setting in an organisation can have adverse effects on staff relationships if not carefully monitored. Therefore, the researcher agrees with Deming's perspective of eliminating numerical quotas for teachers because such educational practices can lead teachers to work in isolation instead of working in teams. Teachers cannot support one another while competing against one another. School principals should, therefore, strive to support teachers to improve and enhance quality education in teaching, learning and curriculum by encouraging collaboration with one another in accomplishing self-assessment strategies that call for teamwork.

(xii) Principle 12: Remove barriers that decrease pride in work

Deming's twelfth principle of quality management focuses on the value that every member of an institution brings to an organisation. Managers should therefore not undermine staff members but value their presence and their efforts in contributing to the improvement of the organisation. In education, school principals need to capacitate teachers with more authority and trust to enable them to experience job satisfaction for achieving high levels of performances in their quest to enhance quality education in schools (Deming, 1988).

In support of Deming's twelfth principle, Bradley (1993:186-187) identifies inherent biases within schools that school principals need to take heed of for teachers to experience satisfaction for their efforts of improving school activities, namely:

- An atmosphere of blame: If present, it always inhibits the free flow of communications.
- The supervisor / subordinate relationship: The fact that the boss asks the question tends to influence the answer the subordinate gives.
- Conflict in loyalties: Teachers may be wary of communicating information that might create problems for their colleagues, the union, or someone else.

In school settings, every member of the community is expected to contribute towards the continuous improvement of the school. School principals should, therefore, create an enabling environment that encourages teachers to contribute fully in enhancing quality education in schools. The school principals should avoid situations that might cause conflict and mistrust such as blaming teachers, reinforcing the supervisor / subordinate relationships, and conflict of loyalties as mentioned above.

(xiii) Principle 13: Institute a vigorous programme of education and retraining

Principle 13, just as principle 6, advocates for continuous training of members of an organisation. In the education sector, life-long learning and continuous professional development programmes for teachers are examples of how schools can support teachers in meeting their professional needs. School principals are supposed to be exemplary in pursuing programmes that aim to contribute towards the continuous improvement of the school in order to meet and exceed the needs of the customers. However, school principals are cautioned not to rely heavily on professional development activities that do not meet the immediate needs of teachers but should rather focus on those that can be sustainable at the school such as use of the self-assessment strategies that are teacher-initiated and school-based.

(xiv) Principle 14: Put everyone in the organisation to work to accomplish the transformation

An organisation's management alone cannot accomplish the successful transformation of an organisation without the support of all its members. In education, it is necessary that school principals develop a shared vision of the school's ambition of continuous improvement of which all staff members acquaint themselves. It is only then that a school can improve the quality of education in schools.

Deming's fourteen principles of quality management are the backbone of total quality management (TQM) which has made industrial companies meet and exceed the needs of the customers. The principles, despite being industry oriented, can be adapted by the service sectors such as in educational institutions including schools to improve teaching and learning continuously, thereby enhancing quality education in schools.

Deming's principles give clear guidelines of how school principals can improve their schools with little or no external intervention by education experts such as inspectors of education. The applicability of Deming's theory with this particular study cannot be over-emphasised. It serves as the underlying philosophy for this particular study to help school principals improve the quality of education in schools.

The applicability of Deming's theory to this study is astounding despite being industry-driven. The principles outlined above can easily be adapted by educational organisations to enhance quality education in schools. Deming's theory can be used as a basis for schools that embed quality as a culture. For quality to be realised in an organisation, it necessitates that such an organisation puts in place mechanisms to constantly assess and review its operations. The Deming principles if well adapted can serve as basic guidelines for schools to continuously review their operations in order to provide quality education. Therefore, it is essential that schools contextualise the principles relevant to their needs. In this particular study, the principles will guide the researcher to explore self-assessment strategies of how quality education can be enhanced with special reference to schools in the Zambezi region.

The following are other quality gurus who have contributed to the advancement of quality in both private and public sectors worldwide.

2.3.2.2 Philip B. Crosby's theory

Crosby's quality theory states that the centrality of increased profitability is through quality improvements based on four fundamentals of quality management: quality, system, standard and measurement (Crosby, 1979). His quality view was based on the four absolutes of quality management:

- Quality means conformance to requirements. Requirements need to be clearly specified so that everyone knows what is expected of them.
- Quality comes from prevention. And prevention is a result of training, discipline, example, leadership, and more.
- Quality performance standard is zero defects. Errors should be corrected.
- Quality measurement is the price of non-conformance (Crosby, in Rao et al. 1996:43).

This means that the system used by any business entity should aim to prevent, rather than to detect faults if the standard of zero defects is to be realised. In education, the principle of zero-defects as a performance standard is difficult to comprehend. This is so because education deals with rational beings who are different and unique from one another, unlike in industry which deals with goods that can be designed to specific requirements. As in industry, non-conformance to customer requirements and needs can negatively affect schools that do not conform to customers' expectations. For schools to be competitive, they must continuously improve their service delivery by focusing and implementing processes and strategies that contribute to mitigating the needs of customers.

Crosby's theory applies to this study as it advocates for senior management of organisations to increase productivity through quality improvement mechanisms. In this study, Crosby's theory is applicable because it calls for school principals to be vigilant in ensuring that teachers comply with regulatory requirements of education which is to offer quality education in teaching and learning. Quality education can be realised if school principals strictly monitor the education systems. In this study, school

principals are thus expected to motivate teachers to conform to practices that can enhance quality education. Practices that fail to contribute towards quality education should be identified, and corrective measures be taken to ensure that quality education is not compromised. The fact that the Zambezi region is performing poorly in comparison to other educational regions countrywide (cf. par. 1.2), it is necessary that school principals be equipped with the necessary quality management strategies that can help the schools identify areas that need improvement.

2.3.2.3 Joseph M. Juran's theory (1979)

The third pioneer of quality theories and constructs is Joseph M. Juran. He is generally renowned for his definition of quality as 'fitness for use'. He perceives the principal outcome of quality management as based on cost reduction and increasing conformance to customer requirements and expectations. For Juran, two aspects of management, namely, leadership and teamwork, are key strategies to quality realisation in an organisation.

Juran's 85/15 rule maintains that a minute fraction of 15 per cent can be linked to workers' efficacy, while a bigger fraction of 85 per cent can be attributed to management inefficiency. Juran's theory emphasises that quality is 'fitness for use and the potential to eliminate mistakes and errors lies mostly in improving the systems through which work is done, not in changing the workers' (Juran and Godfrey, 1979:181). In an educational context, school principals are expected to efficiently and effectively manage day-to-day activities of schools. School principals should thus refrain from blaming teachers for what goes wrong at their schools but should rather take full responsibility for what is going on at the school.

Juran's theory of quality is applicable and relevant to this particular study as it specifically focuses on the aspect of 'fitness for use' of schools. The theory enables school principals to critically assess the main aim of their school establishments in relation to the intended purposes. In this study, school principals are thus expected to capacitate staff to work in teams to jointly identify the strengths and weaknesses of the school. In concerted efforts, staff can sustain the strengths of the school system while improving the weaknesses of the school system. Instead of school principals blaming teachers for the poor performance of their schools as compared to other schools in

other regions, they can use this theory to help teachers to critically evaluate their professional services within a school with help from the school principals. For example, teachers can be encouraged and supported by school principals to use self-assessment strategies to improve the quality of education in schools. By using this theory in schools, school principals can be discouraged from accusing teachers of the poor provision of quality but rather to support teachers acquire skills and competencies that are based on their professional and departmental needs.

2.3.3 Other notable quality scholars

The three 'quality sages', namely, Crosby (1979), Deming (1988) and Juran (1979), despite having significant differences in their approaches to quality constructs, are the co-founders of the current total quality management theory. However, apart from the three scholars mentioned above, some more prominent scholars are renowned for advancing the concept of quality over the past years. The following are brief contributions to the quality discourse.

2.3.3.1 David Garvin

Garvin (1988) has developed a number of contributions that have greatly influenced quality management theory. Garvin introduced the notion of the five quality bases – transcendent, product, user, manufacturing and value to help clarify and define quality, (cf. par. 2.2.2.). He further developed what has become known as the eight dimensions of quality: performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality (Garvin, 1988). These dimensions are indicative signals of how complex the concept of quality is. The multi-dimensional approach to quality is embraced by many educational institutions, including tertiary institutions such as universities that define quality from the perspectives and expectations of different stakeholders (e.g. students, parents/guardians, universities, colleges, employers, government, non-governmental organisations, etc.).

In this research, Garvin's theory is important for schools as it acknowledges that quality is a transcendental concept, which is liable to different interpretations. By virtue of schools trying to satisfy the different needs of different stakeholders, requires that all

interested stakeholders pronounce their different forms of quality, which the schools are expected to meet.

2.3.3.2 Kairo Ishikawa (1985)

Ishikawa translated, integrated and expanded the principles of total quality management into the Japanese system through statistical quality control. He adopted a people-oriented, rather than a statistically-oriented approach to quality management. He advocated for everyone's involvement in quality management and problem-solving. He further maintained that organisations should regard customers' grievances as an opportunity for quality readjustment and development. Ishikawa (1985) thus encourages organisations to take into cognisance their customers' complaints to ensure that the products or services satisfy and delight the needs of customers. This principle is relevant and applicable to the education sector, as schools are expected to meet the needs of their stakeholders, thereby, enhancing quality education in schools.

2.3.3.3 Armand Vallin Feigenbaum (1991)

Feigenbaum (1991) perceives quality as an integrated system of an institution that focus on three aspects, namely, quality development, maintenance and improvement initiatives. The three aspects used to ensure efficiency of an organisation at minimal economic levels while satisfying the needs and expectations of customers.

Thus, all teaching and non-teaching staff in a school setting have a pivotal role to ensure that quality is achieved by contributing towards satisfying clients' needs and expectations. In schools, teachers should not be undermined due to their performance as they all have important roles to play in ensuring that schools continuously improve the quality of educational services. In this study, this approach is significant because it encourages teachers to respect and work together in using the self-assessment strategies for continuous improvement of quality education in schools.

2.3.3.4 Muijs and Reynolds (2011)

The most recent theoretical quality paradigm gaining global momentum in teacher practicum is 'teacher effectiveness research' (Muijs & Reynolds, 2011). The proponents of teacher effectiveness research, such as Muijs and Reynolds (2011), have shifted their focus from traditional perspectives of quality, which are based on the 'process-product' paradigm.

A conclusion by McKinsey (2007:44) in Finland that 'the quality of an education system cannot exceed the quality of its teachers and that the only way to improve outcomes is to improve instruction' has brought about a paradigm shift in education. This paradigm has shifted the focus of policymakers and education specialists from schools to teachers. For some time, education policymakers strongly believed that the school was the main agent for change and improvement and not the teacher. However, this belief has been disputed by researchers in Finland and Singapore. These researchers view teaching and curriculum as central to quality education and enhancement.

The researcher regards the teacher-effectiveness perspective as essential for continuous professional development of teachers. In schools, un-qualified, under-qualified and novice teachers usually do not possess the necessary pedagogical skills and subject knowledge to meet the required national teaching standards. It is incumbent that school principals use the self-assessment strategies for teachers to support one another in their professional development. The school principals can incorporate TQM principles to ensure the successful implementation of CPDs in schools. This developmental trend has an added-value advantage to the teaching profession as teachers develop into reflective researchers in their own classrooms by providing quality education in schools.

This theorem has a direct effect on teachers who were engaged in this study. The theory empowers teachers to be responsible for their own professional development through collegiality. It enables teachers to be self-initiative and pro-active in developing ways to develop their skills and competencies further in a concerted effort in school settings without necessarily resorting to outside support from national or regional education offices. Teachers, who regularly work in teams and reflect on their practicum, have great potential to contribute immensely to the continuous improvement of the

school's operations. The benefits that teachers gain from supporting one another in a collaborative environment can have a major impact on changing the daily operations of schools by having in-depth understandings of the environmental factors that enhance or inhibit quality education in schools.

2.4 SUMMARY

This sub-section presented quality theories that have formed a basis for continuous improvement in production and service delivery. Though the quality theories seem to be far-fetched from one another, all of them are interlinked as they all strive to contribute towards quality improvement. From all the quality views presented above, the researcher chose Deming's theory as being the most suitable for this particular study. The reasons for selecting Deming's theory are as follows:

2.4.1 Holistic approach

Deming's theory is relevant not only to the manufacturing industries but also to the service providers such as educational institutions like combined schools. The theory aims to involve every member of the organisation to play an active role in achieving the vision and goals of the organisation. In an education context, the theory encourages school principals to utilise and harmonise all the human resources that are at their disposal to achieve the school vision, mission and objectives. The theory further gives guidance to optimise the use of physical resources systematically and coherently through teamwork. However, it should be noted that the theory, though it seeks improvement through a whole-school improvement programme, it can also be applied by individual departments or sections within an organisation such as a school.

In this study, teachers in particular departments are encouraged to form work groups according to their fields of specialisation, e.g. Upper Primary Mathematics, English Language, Social Sciences, etc. With the support of school principals, the work groups can work in teams to improve the quality of education. The respective departments can identify areas that can be sustained and those that can be improved upon. By conducting self-assessment strategies, teachers have the potential to improve the quality of education provision at departmental level.

2.4.2 Adaptability of principles

Deming's principles although simple and self-explanatory should not be followed slavishly by schools. As mentioned above, Deming's theory originated from industry as a mechanism to increase productivity. It is, therefore, essential that service providers such as schools should adapt the theory to suit the context in which it is being applied.

The principles can easily be adapted by schools, for example, school principals can convene staff meetings to explain their vision and mission statements pertaining to the future of the school. By involving the school's key stakeholders (teachers) in the process of formulating vision and mission statements, empowers teachers to take ownership of the school vision and mission statements. In this particular study, school principals were encouraged to help teachers form work groups to improve the quality of education in schools.

2.4.3 Feasibility of principles

The Deming's theory presents simple and logical principles that can be adapted by schools to improve quality education. The principles provide guidelines on how quality education can be enhanced in schools. In total, there are fourteen principles that can be followed by schools to improve the quality of education continuously. If well planned, all the fourteen principles can be adapted for use by school principals.

The quality theories espoused by other sages supplement Deming's theory in many different ways. For example, Juran's quality theory of 'fitness of use' supplements Deming's first principle of 'creating constancy of purpose' in a school in which school principals harness physical and human resources to achieve the school's vision and mission.

Cosby's principle of zero defects emphasises Deming's fifth principle of continually improving every aspect of a school's activity. By constantly reviewing the school's activities, school principals in collaboration with teachers can identify areas that contribute towards the poor performance of the school and take necessary measures to rectify or eliminate inhibiting factors. Juran (1979), on the other hand, cautions

school principals to desist from changing teachers due to poor performance but insists on taking corrective measures to improve school management systems.

Ishikawa's advocacy for a shift of mindset from a statistical-oriented to a people-oriented approach to quality management espouses Deming's ninth principle of driving out fear in order to create constructive dialogue with stakeholders. Ishikawa's theory encourages school principals to take into account teachers' complaints in order to satisfy their professional needs. Feigenbaum's quality theory of acknowledging groups' efforts in an economical way that allows customer satisfaction supports Deming's third principle of building quality into every process of the school system to satisfy the needs of teachers. Lastly, the quality theory by Muijs and Reynolds (2011) which advocates for continuous professional development of teachers is congruent with Deming's 13th principle which urges school principals to encourage teachers to continuously pursue further education and professional self-development.

In summary, Deming's quality theory can be regarded as the main basis for other quality theories as propagated by renowned quality gurus stated above. In fact, the other quality theories focus and expound on one or more principles enshrined in Deming's quality theory, which is comprehensive and elaborate for schools to follow and implement.

2.5 CONCLUSION

The early quality sages mentioned above, including W. Edwards Deming's fourteen principles, have contributed immensely to contemporary quality tenets that are currently at work in private and public sectors worldwide. The notion of total quality management though originating from an industry perspective has proved to be an effective strategy for continuously improving and sustaining organisations' production and service delivery in many successful organisations.

The education sector has borrowed the notion of total quality management from industry to bring about quality in the provision of educational services. Despite the fact that TQM is largely based on the production of goods, school principals can adapt some of the quality features to enhance quality education in their respective schools. This can be done by focusing on new trends of teacher effectiveness that are crucial

for quality enhancement. As was stated earlier on, no educational system can surpass the quality of its implementers, namely, teachers. Hence, teachers with the support of school principals can contribute immensely to the provision of quality education by schools.

The researcher posits that the introduction of self-assessment strategies can be integrated into continuous professional development programmes to enhance quality education in schools. Teachers as education practitioners are responsible for their own personal and professional development. They need to determine their professional needs if they are to be effective in their service delivery. The traditional cascade models of teacher professional development can be supplemented by professional development activities that aim to address the immediate needs of teachers in teaching environments, rather than generic workshops that are tailor-made to fit all the needs of teachers. Hence, self-assessment strategies have the potential to develop teachers' skills and knowledge. For self-assessment to be effective, it is necessary that schools adapt the TQM principles to achieve quality education in schools. The next chapter will address the research objectives of investigating how self-assessment strategies are linked to quality and quality education in general.

CHAPTER 3: SELF-ASSESSMENT STRATEGIES AND QUALITY EDUCATION

3.1 INTRODUCTION

Chapter three outlines the link between self-assessment strategies and quality education in general (cf. par. 1.4 and 1.11.3). The chapter, based on a literature study, also presents an exposition of self-assessment and various self-assessment strategies that are linked to quality and quality education in general (cf. par. 1.5). Additionally, the chapter presents general and specific advantages, disadvantages and quality cycles for self-assessment processes. Furthermore, the chapter presents the notions of self-assessment and quality education from a Namibian perspective. Finally, it examines the context in which self-assessment is conducted to enhance quality education in the Zambezi region of Namibia.

3.2 EXPOSITION OF SELF-ASSESSMENT

3.2.1 Introduction

Organisations are established to achieve goals and visions often outlined in strategic management plans. The goals and objectives of an organisation's strategic plan are usually measured using internal or external mechanisms of assessment. Despite the fact that both external and internal evaluation and monitoring processes are valid, organisations are expected to be innovative in designing internal quality assurance mechanisms to determine whether goals are met before receiving input from external agencies (Smylie, 2014). The internal processes of monitoring and evaluation of an organisation by its staff are regarded in this research as 'self-assessment'. Adams, Strong, Mattick, MacManus, Matthews, & Foster, (2008) point out that the scope of self-assessment may range from the whole-of-institution to individual departmental units depending on the organisation or department undertaking self-assessment. Kadhila (2012) asserts that there is no one formal pattern of self-assessment processes. Self-assessment can take different forms according to the frequency and depth of the self-assessment process being undertaken by an institution or a department within an organisation. This process enables staff in an organisation to

interrogate and determine what they are currently doing, why they are doing it, and how they can improve on what they are doing.

3.2.2 Definitions of self-assessment

In this study, 'self-review', 'self-evaluation', and 'self-reflection' processes, though different in ideological underpinnings, will be regarded as 'self-assessment' as they all have one common feature of the centrality of the 'self' improvement. All these processes focus on the individual or professional in critically reviewing one's own performance and provision in an organisation (Adams et al., 2008).

Watson & Maddison (2005:6) define self-assessment in an educational context as the:

> Collective reflective practice carried out by [an] education institution with the intention of understanding better and improving its own progress towards its objectives, enhancing its institutional effectiveness, and both responding to and influencing positively the context in which it is operating … it is directly undertaken to influence action.

Watson and Maddison (2005) regard self-assessment as an instrument that an educational institution can use to bring about meaningful change through concerted effort. It is different from external assessment which is criticised for not giving teachers the time, activities and the content to improve their own knowledge and skills (Birman, Desimone, Porter, & Garet, 2000). Therefore, there is a need for schools to devise school-based teacher professional initiatives such as the self-assessment strategies that seek to address teachers' personal and professional needs (Lee, 2005).

Powell (2000:42) defines self-assessment as 'an internal evaluation of an organisation by its members'. Powell's definition is based on the premises that organisations produce results by harnessing and releasing the talents of its workforce. In a school setting, school principals can encourage teachers to be innovative in exploring viable and sustainable self-assessment strategies to improve the quality of education in schools.

Powell (2000:41) gives three 'grammars' (S1, S2, and S3) of internal evaluation: 'self-review', 'self-evaluation' and 'self-assessment' to illustrate the differences between the processes (See Figure 3). Powell (2000) states that the first grammar (S1) of internal evaluation is that of self-review processes which focus on controlling day-to-day routines and outcomes of an organisation. Staff in an organisation are regarded as the main source of information provision with regard to evaluation processes. This type of internal evaluation process is summative but not developmental because it focuses on the traditional method of product control. The second grammar (S2) of internal evaluation is self-evaluation.

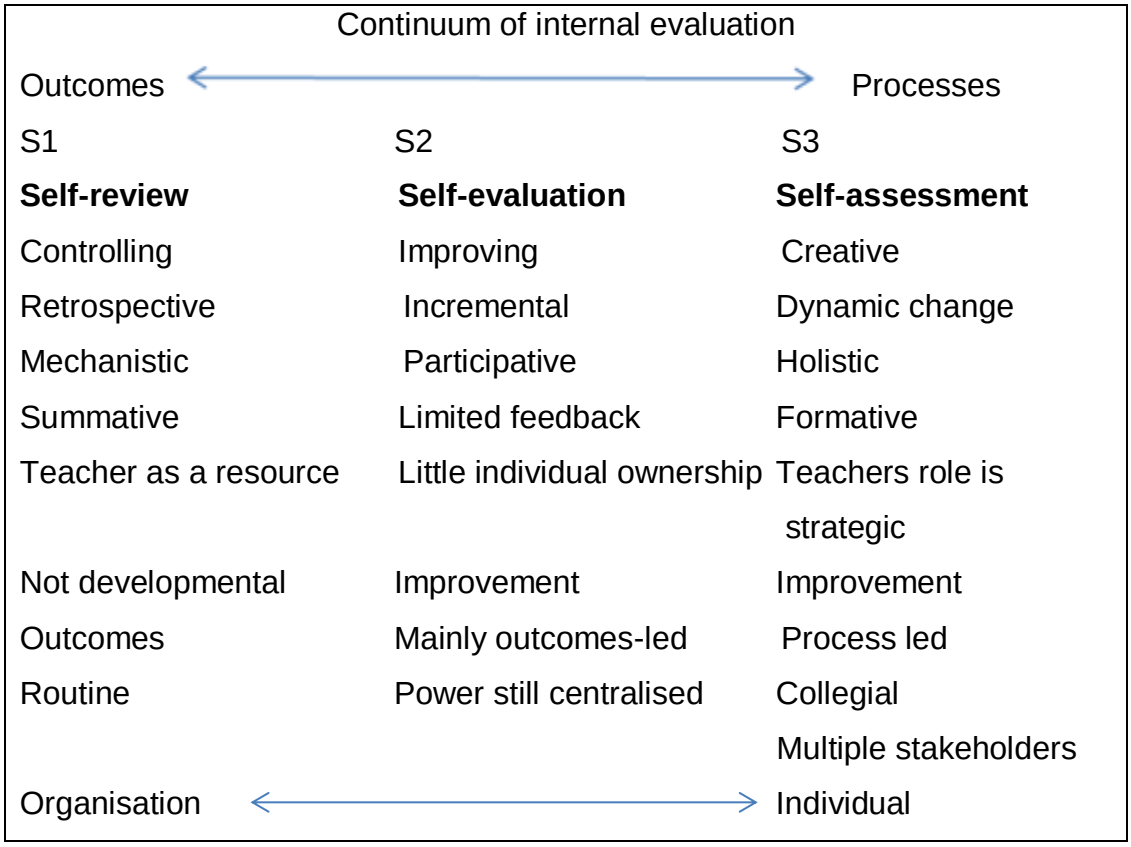

Figure 3: Powell's three 'grammars' of internal evaluation (Powell, 2000:40)

This is mainly an outcomes-led process that aims to improve an organisation's performance with little individual ownership. It also aims to improve an organisation's performance through a participatory process incrementally. The last grammar (S3) of internal evaluation is self-assessment which is formative and process-led. It aims to encourage collegiality among an organisation's workforce through a dynamic and holistic manner of self-critiquing existing processes of an organisation. In schools,

teachers are encouraged to be creative and innovative in promoting continuous improvement of quality education.

USAID (2006:1) define self-assessment as 'a system that provides tools for teachers to reflect on their classroom practice and participate in their own professional development'. In school settings, teachers can form groups that work together to improve performances against the schools' goals and visions.

In this study, self-assessment is regarded as an integral and on-going internal mechanism of evaluating and monitoring teachers' performances in enhancing quality education in schools. Teachers are expected to use self-assessment strategies as an effective mechanism of continuous professional development. The researcher posits self-assessment as a suitable and relevant internal evaluation process for this particular study as it seeks to encourage teachers to work in a concerted effort towards the continuous improvement of quality education.

3.2.3 Advantages and disadvantages of self-assessment

Self-assessment processes can be incorporated into the education sector to support continuous professional development activities for teachers, which, in turn, can contribute towards quality education and enhancement in teaching and learning in schools. If well planned, self-assessment processes can benefit the educational system, those that are practising and implementing it, and learners who are the primary beneficiaries of quality education. USAID (2006:5) identified the following advantages and disadvantages of using self-assessment in schools:

Advantages:

- The system simultaneously helps develop leadership at local levels among teachers and their school [principals].
- It brings professional development activities to the school level rather than taking teachers away from class to attend large cascade seminars and workshops that are often not directly related to the immediate needs of their own classroom situation.

- It provides an opportunity for collaborative problem-solving.
- Participating teachers gain a powerful voice in terms of the character and quality of the professional development.
- Reflecting on learner-centricity and how to implement it in their classrooms is by its very nature enhancing and internalising their understanding of those concepts.
- Teachers become more articulate, adept and analytical about their own teaching practice.
- Teachers' professional development needs are determined.

Disadvantages:

- Implementing self-assessment mechanisms is labour intensive and demands the commitment and cooperation of a cadre of already overstretched teacher support providers.
- It requires teachers to participate in professional development activities outside of class time.
- It requires record keeping.
- It requires teachers to collect, analyse and synthesise data [from learners].

However, specific advantages and disadvantages of self-assessment depend largely on the mode or strategy that a school chooses to use. Adams et al. (2008) affirm that schools that identify suitable and appropriate self-assessment strategies which address the immediate needs of learners have potential to enhance quality education through collaboration and teamwork among teachers.

3.2.4 Self-assessment and the quality cycles

Staff engaged in self-assessment processes can find quality cycles useful in developing and managing quality education in teaching and learning at classroom levels. Figure 4 illustrates one of Deming's most popular quality improvement techniques that organisations use to generate improvements. Deming (1994:132) states that the Plan–Do–Study–Act (PDSA) cycle is 'a flow diagram for learning and for improvement of … a process'.

PDSA Model (Taylor et al., 2013)

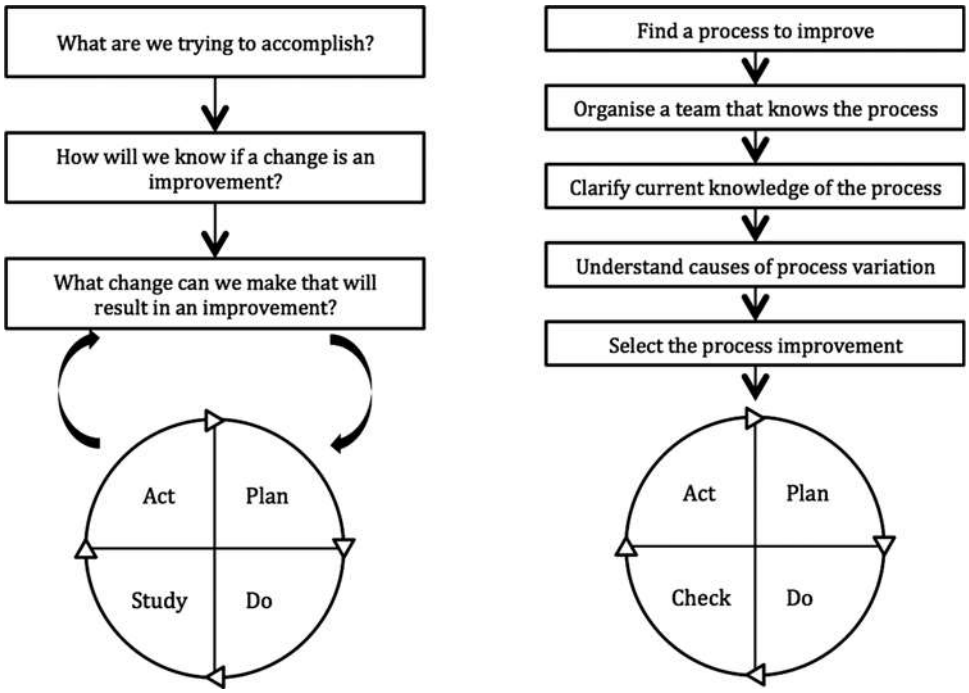

Figure 4: The model for improvement

Taylor et al. (2013) state that *the four stage quality cycle mirror the scientific experiment method of formulating a hypothesis, collecting data to test the hypothesis, analysing and interpreting the results and making inferences to iterate the hypothesis.* The PDSA model can be an effective quality improvement mechanism in schools. According to Taylor et al. (2013:1) 'delivering improvements … requires the alteration of processes within complex social systems that change over time in predictable and unpredictable ways'. Schools as social institutions are subject to change over time. For an example, changes in ministerial policies often require curriculum reviews that schools ought to implement. Therefore, schools require multifaceted improvement

interventions such as the PDSA cycle that can be adapted to redress changes that are affecting the schools. Within schools, teachers can form quality circles to implement continuous improvement initiatives (Juran, 1979). Hutchins (2008:188) defines a quality circle as:

> A small group of between three and 12 people who do the same or similar work, voluntarily meeting together regularly for about an hour per week in paid time, usually under the leadership of their own supervisor, and trained to identify, analyse and solve some of the problems in their workplace, presenting solutions to management, and where possible, implementing the solutions themselves.

Teachers can use the guiding questions above the Deming cycle (See Figure 4) during the self-assessment processes. In the 'Plan' stage, teachers clearly state their personal and professional development goals that aim to meet and satisfy stakeholders' needs and expectations. Teachers should identify and clearly indicate how the intervention is going to be conducted. The questions: 'Who? What? Where? When?' need to be spelt out clearly during this stage. In the 'Do' stage, the desired changes are put into practice. Thus, teachers implement the designed plan as outlined in stage 1 and document any observable effects of their interventions. In the 'Study' stage, teachers collect and analyse data to extract common trends and practices that enhance or hinder improvement initiatives. In the 'Act' stage, teachers identify and prioritise the changes that need to be addressed to enhance quality education. The next steps to guide the next cycle are carried out during this stage.

Deming's PDSA cycle is recognised as a sound method for checking quality assurance because it considers and evaluates the conditions and methods currently in place. The objective is to ensure that quality is inculcated and integrated into every step of the process (Svensson, 2004). Schools can enhance quality education by adapting the PDSA cycle as an effective strategy for change. This requires that teachers and school principals respond to the following key questions:

- What is it that we do? – (i.e. the areas).
- How do we do it? – (i.e. the methods).

- What support do we provide to the institution to ensure our understanding of our … support systems?
- How do we know that we are doing well? – (i.e. monitoring and evaluation tools).
- How do we ensure improvement? – (i.e. reports and improvement plans).

The PDSA cycle is a useful tool for continuous improvement in schools. It allows teachers to reflect on broad questions such as: What are the school's mission statement, vision, goals and objectives? How were they formulated? How well disseminated are they? How does the school plan to achieve its objectives? Is the staff adequately trained to implement the desired goals? Are the desired changes sustainable? Teachers involved in 'quality circles' need to critically examine some of these questions for continuous quality education improvement in schools. Teachers' needs and expectations need to be permeated in every step of the PDSA cycle. Hutchins (2008:108) urges school principals to focus on the perception of customers who in this case are the learners as follows:

> It is the customers' [learners'] perception of our performance which is important not our actual performance. If the customer perceives that we are poor when we are good there is no point in making improvements. We need to change the perception!

School principals and teachers involved in the self-assessment processes need to take into account learners' needs and expectations. The school principals and teachers can devise tools such as questionnaires and suggestion boxes to help find out what learners expect from the schools. Once learners' needs are identified, an analysis of these should be conducted and prioritised for redress during every step of the PDSA cycle. Once a full-cycle of self-assessment is completed, schools can analyse the results and prioritise intervention strategies to mitigate identified shortfalls that hinder quality education in teaching and learning, as well as identify strong areas that the schools need to uphold and sustain in the consecutive improvement cycles as illustrated in Figure 4. In this study, schools are expected to assess the 'quality' of teachers in teaching and learning against quality assurance mechanisms such as the national performance standards for teachers in Namibia (Ministry of Education, Arts

and Culture, 2006); Deming Prize Awards (Deming Prize Committee, 2015); Malcolm Baldridge National Quality Award (2005) to determine customer satisfaction levels.

3.2.5 Summary

In this section, the researcher gave an exposition of what self-assessment entails in education. To avoid ambiguity, the terms 'self-evaluation', 'self-reflection' and 'self-review' are regarded as being synonymous in this study because all the three notions emphasise the centrality of the 'self'. Teachers are regarded as playing a pivotal role in contributing towards quality education in schools. However, enhancement of quality education in schools cannot be an act of accidence. Teachers should carefully plan and strategise how quality education in teaching and learning can be enhanced in schools. The researcher posits that the Deming's PDSA cycle, despite being business oriented, can be used to guide teachers to continuously improve the quality of education by asking pertinent questions in teaching, learning and curriculum such as: Where am I? What do I want to do? How am I going to do it? How will I know that improvement has occurred? By engaging in self-assessment practices, teachers can gradually and consistently satisfy the needs and expectations of learners in schools.

3.3 EXPOSITION OF SELF-ASSESSMENT STRATEGIES

3.3.1 Introduction

There exist several self-assessment strategies that school principals and teachers can adapt for use in schools to supplement the current use of TSE strategy which uses lower order thinking skills for teachers to self-assess and critique their teaching and learning styles. However, in this study, seven self-assessment strategies are discussed: surveys, guided assessment workshops, questionnaires, reflective journals, matrix, award simulation, and self-reviews. (Adams et al., 2008; Solms, 2006; UNAM, 2014; UNAM, 2015). Teachers and school principals can decide on the most suitable self-assessment mode which best fits their personal and professional needs to enhance quality education in schools. In practice, teachers' needs determine suitable self-assessment strategies that can be employed to improve the quality of education in schools. The seven self-assessment strategies mentioned above have proved to be effective in organisations that engage in self-assessment activities. The

self-assessment strategies are not prescriptive *per se* but rather outline general guidelines of what self-assessment processes entail.

3.3.2 Survey mode

The survey mode of self-assessment can be in different forms including but not limited to the following: telephones, cellular phones and mails using social media (e.g. Facebook, WhatsApp, YouTube, and Twitter); online surveys (e.g. ZohoSurvey, SmartSurvey, FluidSurvey and SurveyMonkey); and questionnaires that can be dispatched to teachers and school principals to complete. Surveys are cost effective and less strenuous to administer in a school setting. Adams et al. (2008:6) state that, 'surveys can provide quantitative and qualitative data that is readily analysable and can be tabulated to reflect currency of opinions'. Schools that conduct survey modes of self-assessment have an advantage of achieving high response rates. School principals can continuously remind teachers to complete the surveys until an acceptable response rate is achieved. However, some disadvantages of survey modes of assessment include 'possible evasive answers, central tendencies in scoring, and difficulties in interpretation of responses' (Adams et al., 2008:6).

3.3.3 Guided self-assessment workshop mode

The guided self-assessment workshop mode is normally spearheaded by the head of the school, namely the school principal. The school principal is expected to collaborate with teachers in analysing gathered data to determine the strengths and weaknesses of the teachers conducting self-assessment. A departmental head of the unit conducting self-assessment can facilitate the envisaged workshops. Adams et al. (2008:7) point out that the 'success depends ultimately on the skills of the facilitator(s) [school principals] to ensure that there is active listening, objectivity in judgements and a range of viewpoints sought'.

The guided self-assessment workshop mode, though it usually entails drawing teachers from out of their classrooms, can be conducted at school level. However, it requires commitment from school principals as it comes with a series of logistical issues, such as gathering, collating, analysing and synthesising data. Teachers and

school principals are expected to identify and prioritise their professional needs emanating from the self-assessment processes.

However, this approach of enhancing quality education in schools requires that teachers wait for relatively long periods of time to get professional support from the educational experts and external evaluators who often are very few and have limited resources to support schools regularly. Furthermore, the guided self-assessment workshop mode tends to address the general rather than specific, day-to-day professional needs of teachers.

3.3.4 Questionnaire mode

The questionnaire mode is another self-assessment strategy that school principals can use in schools. The self-assessment mode aims to solicit information from teachers involved in conducting self-assessment. The questionnaires are designed to gather teachers' perceptions of teaching and learning processes. They can comprise of Yes/No response answers with space to justify their responses. Furthermore, the questionnaires can probe teachers to critically reflect on their teaching experience to identify the root causes of their problems that need to be addressed with the aid of, for example, school principals and fellow teachers within the school. The questionnaires can be simple but thought-provoking for teachers. The results of questionnaires should be easy to compute into numerical outcomes that aim to address the identified needs of teachers. However, the accuracy, reliability and validity of the responses gathered from the questionnaire mode of self-assessment are dependant on how honest the respondents are to questions asked (Solms, 2006).

3.3.5 Reflection journal mode

The reflection journal mode of self-assessment is another viable self-assessment strategy for schools. In the Zambezi region, teachers are normally urged by school principals to use and keep reflection journals of their lesson presentations at the end of each lesson. By reflecting on the lesson presentations, teachers can write-up narratives of what they think about the lessons in terms of strengths and weaknesses. Reflection journals of self-assessment afford teachers to immediately identify strengths that need to be sustained and areas for improvement, which can be addressed during

continuous professional development workshops. Reflections can serve as good, valuable and genuine sources of data on what areas the teachers might need to improve upon and to sustain positive areas of their teaching and learning processes (UNAM, 2014). However, the teacher self-reflection journal mode has some limitations particularly when teachers identify areas that might need improvement but are compelled to wait for such needs to be addressed during workshops that might not address the identified needs.

Furthermore, teacher self-reflection journals require school principals to conscientiously read and study the self-reflection journals of every teacher in the school and provide the necessary support. However, in practice, school principals are required to monitor teachers' preparations and not necessarily their reflection journals. Some school principals can consider teacher-self-reflection journals as another managerial burden which consequently can discourage them from providing meaningful feedback to teachers in need of help. In general, teacher self-reflective journals if properly conducted can help teachers identify strengths and challenges they encounter while enhancing quality education in schools. This practice allows teachers to prioritise their professional needs based on their reflections rather than needs that are imposed on them by external experts, such as national and regional education officers.

3.3.6 Matrix mode

The matrix mode is another self-assessment strategy that schools can employ to enhance quality education. A matrix can be a tool where teachers indicate areas that need redress at school level according to their professional needs. Juran and Godfrey (1978) provide different quality management tools, for an example, a Cause-effect ("Fishbone") diagram which is tool that can help schools organise and identify the root cause of a problem; and, flow diagrams which are graphic representations of sequential phases aimed to attain predetermined goals and objectives of schools. The latter tool was adapted to guide teachers to conduct self-assessment processes to enhance quality education in teaching and learning in schools in the Zambezi region (cf. par. 6.7.1).

In a normal situation, schools can adapt existing matrix diagrams to meet the schools' visions and goals. The ratings obtained from the matrix charts can be statistically analysed to determine common problematic trends and themes that need redress during continuous professional development activities.

The method is less resource intensive and time-consuming especially if a school decides to use existing and well-known matrix charts to identify teachers' professional needs. Hutchins (2008:43) state that the Selection Matrix, for example, can enable school principals and teachers to identify 'key performance indicators (KPIs) which are relatively easy to tackle, do not require huge resources and which will make a difference when solved'. Hutchins (2008:43), however, cautions that school principals and teachers should not be discouraged 'by the fact that there are literally hundreds of issues and that it will take a huge amount of effort to deal with them'. Therefore, the matrix mode of self-assessment requires active involvement of school principals and teachers to discuss and reach consensus on issues enhancing quality education in schools.

3.3.7 Award simulation mode

The award simulation mode of self-assessment is one feasible strategy that schools can explore to enhance quality education. In departments, teachers can take the initiative to carefully choose and use an award simulation mode of self-assessment: Deming Prize Awards (Deming Prize Committee, 2015); Malcolm Baldridge National Quality Award, (2005); European Quality Award (Tang & Tummala, 1996). An internal process similar to that of the chosen award organisation can be simulated by schools. This process systematically guides teachers to reflect on the prevailing quality education culture by capturing valuable knowledge in specific domains of quality enhancement in schools. The gathered information can be used to identify and prioritise areas that schools can improve upon. The main advantage of the simulation award mode of self-assessment is 'the fact that it provides a learning opportunity for organisations that are intending to apply for Excellence Awards, Prizes, and Certificates' (Solms, 2006:59).

However, the award simulation self-assessment mode demands that the school principal should identify competent teachers who can be tasked to collect and document gathered information that should culminate in a comprehensive summative self-assessment report. The summative report should outline good practices that need to be sustained and possible solutions for practices that are wanting. Finally, the school principal can then adopt the award simulation report for implementation and regular monitoring purposes.

3.3.8 Departmental self-review mode

Lastly, the self-review mode of self-assessment can also be employed by departments in schools to improve quality education continuously. In this mode, teachers from specific departmental phases, for instance, upper primary math or pre-primary or junior secondary social sciences are afforded time to self-assess their specific departmental needs using a SWOT analysis to identify strengths, weaknesses, opportunities, and threats. In departmental groups, teachers discuss and agree on best practices and trends that the department needs to sustain, and also, identify areas that need improvement for quality education enhancement.

The self-review mode serves as a reliable means through which the department under review conveys information about itself. It is also a starting point for critical reflection by the department in the manner in which it is managed and how it handles the quality of its activities and operations. It is an evidence-based reflection of what the division believes to be working well and what seems not to be working well. Since the goal of departmental self-reviews is to promote on-going quality and strategic development, being honest, self-reflective, self-analytic and self-critical is the best way to identify areas that need sustaining and improvement (UNAM, 2015). This mode of self-assessment has an added advantage in that it fosters collaboration among teachers while at the same time, it generates a consensus-based report that school principals can use to enhance quality education in schools.

The self-review mode of self-assessment is recommended by the researcher as being suitable for use by schools. However, successful implementation of the self-review mode of self-assessment process requires careful planning by teachers and school principals who intend using it.

At the school level, the purpose of a self-review mode of self-assessment is to support the schools' quality assurance and improvement processes. Schools can conduct self-reviews primarily to identify improvements and efficiencies in support of identified schools' goals and to validate strengths based on the formalised analysis (Adams et al., 2008). Kells (1995:30) states that 'the chief benefits to any institution in undertaking a self-review are staff members' meaningful participation in clarifying and solving problems, enhancement to institutional openness, and improving overall institutional effectiveness'.

However, apart from the self-assessment benefits that schools can experience, there are potential caveats that self-assessment can bring to an organisation. Adams et al. (2008:7-9) posit that in a school setting, the following can contribute towards a negative perception of self-assessment mainly by teachers:

- An unclear purpose for the self-review;
- Creating perceptions of a bureaucratic process;
- Perception of review 'fatigue', which can make engagement difficult;
- Potential (and perception) for outcomes to be used punitively;
- Inability to identify good evidence/information as a basis for self-review;
- Non-alignment to individual staff outcomes;
- Resistance to change.

Therefore, the selection of a suitable self-assessment mode depends largely on the personal, professional and contextual needs of the school. It requires that all school principals and teachers be sensitised to varied self-assessment modes before they can make an informed decision of their commitment towards using a chosen self-assessment strategy. The advantages and disadvantages of each self-assessment mode can serve as a starting point to help school principals and teachers choose the most suitable self-assessment mode to improve and enhance quality education in schools.

3.3.9 Design of self-assessment processes

The implementation of self-assessment strategies requires strategic planning. This is where total quality management (TQM) principles have a pivotal role to play in an organisation's goal to excel amidst competition. In an educational context, Deming's fourteen principles of quality management (cf. par. 2.3.2.1) can serve as feasible guidelines that school principals can adapt to ensure that self-assessment strategies become effective measures for continuous quality education enhancement in schools. Mt Edgecumbe in the USA is one school that is renowned for adapting and using Deming's principles of TQM in improving the school's performance.

School principals and teachers in their quest to enhance quality education can use Deming's principles as stated above to guide their chosen self-assessment strategies. The most significant and challenging part of self-assessment is that of designing a suitable self-assessment strategy process itself.

In designing self-assessment processes, it is essential that schools establish first and foremost the guidelines and characteristics that will guide and inform the design of the chosen self-assessment process. Figure 5 can guide school principals and teachers in designing self-assessment processes.

Main stages of self-assessment processes

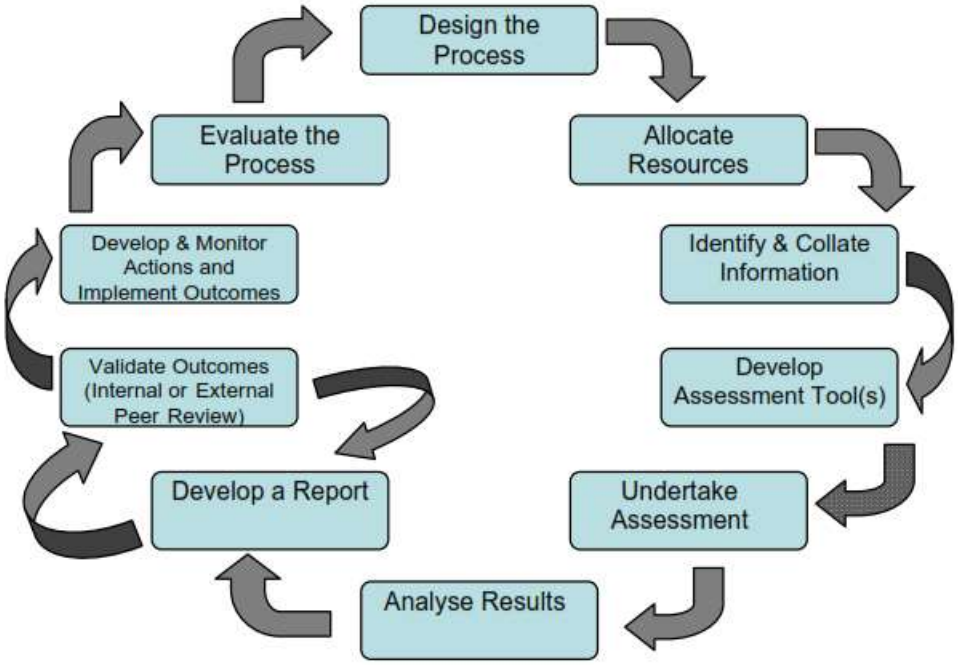

Figure 5: Designing the self-assessment process
(Adapted from Adams et al., 2008:9)

Stage 1: Designing the process

Designing the self-assessment process can be problematic, uninteresting and cumbersome to staff involved in designing it especially if the environment is not conducive. Deming's eighth principle encourages school principals to create an enabling environment that can make self-assessment designers (in this case, teachers) free from fear. Teachers should take full ownership of and responsibility for the entire design process without fear.

Stage 2: Allocate resources

The self-review process requires that school principals should allocate physical, financial and human resources for the self-assessment process to be conducted successfully. This requires funding of all activities such as paper procurement, collating of data and report compilation and publication where necessary.

Stage 3: Identify and collect information

The third stage can be problematic as it deals directly with educational processes that are often hard to measure in a school environment. This is often compounded by the fact that processes that are measured often take long periods of time to assess their impact (Schmitz & Whitworth, 2002). It is, therefore, important that performance measures, processes and outcomes of the self-review process be clearly identified from the onset.

Stage 4: Develop self-assessment strategies

Schools can develop self-assessment strategies (cf. par. 3.3.1) based on their professional needs, availability of resources, goals and scope of the self-review review process to be undertaken. The chosen self-assessment strategy often guides the types of questions that need to be formulated to solicit information from the teachers conducting the self-assessment process.

The formulated questions should provoke critical thinking pertaining to the school vision, mission, goals, and objectives. According to Adams et al. (2008:16) 'the questions should ensure that they stimulate thinking about important issues, and require evaluation and judgment (as opposed to purely descriptive responses)'. Low-level types of questions as expounded by the Bloom's taxonomy of Yes/No answer type of questions should be avoided because such questions do not meaningfully engage teachers in self-reviewing their day-to-day activities.

International Excellency frameworks such as the Deming's Excellence Award, Baldridge Criteria for Performance Excellence, and the European Quality Improvement System can provide vital information and guidelines that can inform the design and development of a chosen self-assessment process. Adams et al. (2008:18) assert that the Excellency models often provide standards/criteria which schools can use to conduct the self-assessment processes by focusing on key questions such as:

- What are our achievements against the standard/criterion? Are these likely to change in the foreseeable future?
- What evidence do we have?
- What processes and outcomes relate to this standard/criterion?
- How well are we performing across the main elements of these (and is there comparison or benchmarking data to compare this performance with that of others?)
- How could we improve – over the short-term and longer?

Formulated questions in the selected self-assessment strategy should directly link to the set criteria, strategic goals and objectives of the school. The questions should invoke respondents to provide evidence and outcomes to substantiate their opinions which is not possible in 'Yes' or 'No' question/answer types.

Stage 5: Undertake assessment

The self-assessment strategy that an organisation chooses to use determines the scope of questions and data that need to be captured during the self-assessment process. In a school context, school principals can form working groups such as quality circles (cf. par. 3.2.4) that focus on fields of teaching specialisation to carefully design tools that address specific issues within the self-assessment process. It is imperative for teachers to consider current activities and outcomes against those that are desired in line with Ministerial policy provisions and identified good practice in other schools (Adams et al., 2008).

Stage 6: Analyse results

Self-reviews can generate either qualitative or quantitative data or a combination of both. Whichever way, the data analysis process should eventually yield information that clearly shows major strengths and areas for improvement. Rating scales can be used by schools to analyse data across different aspects of the self-review (Adams et al., 2008). In schools, for example, teachers can rate their teaching practices against set standards and/or criteria that external agencies regard as best practices. However,

in cases where teachers underperform, such performance records should be used to enhance quality education and not to reprimand teachers in schools.

Stage 7: Develop a report

After self-review data is analysed for common trends and practices, the next step is to compile a report. Apparently, there is no one model for a self-review report as reports can be written using different styles of reporting. However, a self-review process report should broadly cover a wide spectrum of an organisation conducting the self-review. According to Adams et al. *(*2008:18):

> The goal of a self-review review process should be a report that fairly and honestly portrays the … program reviewed, avoids personal agendas, and warrants broad support amongst institutional stakeholders and be analytical, contain judgments with associated rationale, and be forward-looking.

Most important is that a self-review report should identify challenges that teachers encounter on a day-to-day basis and suggest possible solutions. Additionally, a self-review report should be used by school principals and teachers to identify opportunities that can be tapped into to enhance quality education in schools.

Stage 8: Validate outcomes

The validity, credibility and trustworthy of the self-review report outcomes will be influenced largely by the outcomes generated either by qualitative or quantitative methods of data analysis. It is incumbent upon the school principals to cross-check the outcomes by employing triangulation mechanisms to validate the self-review outcomes. Schools within geographical proximity such as circuits or clusters can invite cluster-head principals or effective teachers from neighbouring schools to help identify and confirm the self-review report outcomes. For acceptability and credibility of a self-review report, an outsider is required to confirm or disconfirm the report outcomes.

Stage 9: Develop departmental self-improvement plans

It is incumbent upon school principals to ensure teachers develop departmental self-improvement plans or action plans that emanate from the self-review report. The

departmental self-improvement plans should clearly show the responsibilities and accountabilities for actions to mitigate identified areas for improvement. The plans should clearly state how the mitigation process will be conducted. Table 3 illustrates how teachers can develop departmental self-improvement plans.

Table 3: Sample of a self-improvement plan (Kadhila, 2012)

Self-Improvement Action Plan							
Focus area	Action	Focal person	Team Leader	Means required	Time-line	Proof of work done	Monitoring plans
Teaching							

As pointed out earlier on, self-reviews can be cumbersome processes. It is important that actions that need implementation are regularly monitored to track progress to sustain staff morale and commitment. Otherwise, the process may discourage teachers from participation in future self-review activities.

Stage 10: Evaluate the self-review process

In line with Crosby's and Deming's 14th principles of quality improvement, it is advisable that schools should embed cultures of self-review to evaluate each cycle of the self-review process. The evaluation activity can either be formal (e.g. verbal reporting) or informal (e.g. questionnaires) depending on the needs and scope of the evaluation process. The information gathered from the evaluation process can be used to design and develop future self-review processes to enhance quality education in schools. School principals and teachers can agree to use appropriate self-assessment strategies that meet their contextual, cultural and social needs.

3.3.10 Conclusion

In this section, the researcher presented effective self-assessment strategies that are renowned worldwide for being instrumental in improving organisations that schools can adapt. The researcher perceives self-assessment as a strategic management tool that enables organisations to measure their performances against internally or externally set goals. Teachers engaged in self-assessment processes have the potential to

improve the quality of education in schools. Therefore, the researcher posits that teachers, once given the right opportunity, can be innovative and pro-active in using suitable self-assessment strategies to enhance quality education in schools.

Powell (2000:47) points out that 'through the use of self-assessment, teachers themselves become the originators of change and professional learning'. However, this can only be realised with the support and willingness of school principals. Teachers can be empowered by school principals to choose suitable and appropriate self-assessment strategies to identify the strengths and weaknesses of departmental units in schools. With adequate support from the school principals, teachers can contribute enormously towards the provision and enhancement of quality education in schools.

3.4 QUALITY EDUCATION IN THE NAMIBIAN CONTEXT

The notion of quality education in the Namibian context is yet to be explicit. Ninnes (2011:8) states that, 'the question of what constitutes a "quality" education is both important and difficult, yet some recent publications that purport to address quality education take the concept as a given and provide no substantive conceptualization'. It is difficult to define quality education if quality itself is difficult to define as stated in Chapter two, (cf. par. 2.2.2). The Government of the Republic of Namibia (GRN) does not give clear definitions of quality education but rather identifies features or attributes of quality education. GRN (2002:14) regards quality education as 'being characterized by many factors, among others, teachers' qualifications, resource allocation, teaching materials and equipment'. The Ministry of Education in Namibia which has over the years changed its ministerial name many times (i.e. Ministry of Education, Art and Culture; Ministry of Basic and Higher Education; Ministry of Education, Arts and Sports; etc.) perceives quality education in terms of shared national standards. This is evidenced by the introduction of national standards and performance indicators which are aligned to ISO 9000 standards that envisage satisfying and exceeding the needs and expectations of learners.

Schools are required to conduct self-evaluations on an annual basis against national teaching standards. The national standards and performance indicators use a four-point scale to determine the performance indicators of quality of education in schools (Ministry of Education, 2005:2):

Level 4: Excellent	Strong in all or almost all themes
Level 3: Good	More strengths than weaknesses
Level 2: Fair	More weaknesses than strengths
Level 1: Weak	Extensive weaknesses

Schools that perform at Level 4 are regarded as schools that offer quality education. The performance indicators are strong in all or almost all themes. All schools in Namibia are aspired to be at level 4 in the long run as the majority of schools are rated at level 2.

Teachers are also required to complete a teacher self-evaluation (TSE) instrument where they tick in the 'Yes' or 'No' columns against set standards and performance indicators: 'Subject administration', 'Preparing myself', 'Lesson presentation', and, 'Other issues I must attend to'. Thereafter, teachers summarise their self-assessments by indicating 'Yes' or 'No' under the sub-headings mentioned above. Finally, teachers compile personal development plans in which they indicate weaknesses to improve teaching in the classroom and to sustain what is good. Although the TSE instrument enables teachers to list and tally their strengths and weaknesses, it does not probe teachers to self-critique and justify their ratings of performance indicators.

The Ministry of Education (2005:2) acknowledges that 'one of the problems in quantifying aspects of the work of schools is that much of what is most important does not show up in the more obvious "hard" statistics like attendance or promotion rates, or examination results'. This concept of quality leaves a quality loop in that quality is based on subjective judgments of those observing the work of the school despite the fact that performance indicators are designed to reduce this element of subjectivity (Ministry of Education, 2005).

Like in many educational systems, there exists no agreed definition of quality in education in the Namibian education sector. Despite the vagueness of the meaning of quality in education, some scholars and authorities posit that quality in education is best perceived from the contextual environment from which one is defining it such as

'teaching, learning and curriculum' (Dimmock, 1990:201). According to the Ministry of Education (1993:37):

> The most important challenge in improving the quality of our education system is to ensure that our teachers are well prepared for the major responsibilities they carry … It is essential, therefore, that we help our teachers develop the expertise and skills that will enable them to stimulate learning.

This assumption of viewing quality in education indicates a strong link between continuous professional development and quality education enhancement – especially in the areas of teachers' beliefs, practices and professionalism (Van Graan & Leu, 2006). Furthermore, quality education is also seen in the light of teachers' competency to implement the syllabus and curriculum materials for which they are responsible for meeting the needs, interests and abilities of students in their classes (Ministry of Education, 1993).

Another view of quality of education in Namibia - in which teachers play a pivotal role - is that of national examinations, which are normally written at the end of each school calendar year. This view of quality education perceives quality of education as vested in the output of an education system based on learner achievement in external examinations. In the Zambezi region, Grades 10 and 12 national examination results are often regarded as the main indicators of quality. Thus, teachers and schools that attain the highest number of passes are reported in the public media and rewarded in monetary terms and in kind by the Ministry of Education. This practice of viewing quality education in terms of examination results is indeed one effective strategy for motivating non-performing schools to emulate the so-called quality schools.

However, this notion of quality has its limitations and might be misleading. This quality view is contrary to Deming's 10th and 11th principles which discourage the use of external factors such as examinations to motivate teachers to work harder. This is also firmly asserted by the Ministry of Education (1993:39) that, '[examinations] will never be sufficient as sole indicators of the quality of education'. The focus on examinations as a quality indicator is in sharp contrast with the philosophy underpinning the education system in Namibia, which advocates for acquisition of skills rather than memorising knowledge for examination purposes (Ministry of Education, 1993). As

Botha & Hite (2000:7) state, 'while this practice may seem to be motivating, teaching for examinations (i.e. teaching the syllabus content only) may deny learners the opportunity to access the breadth of knowledge associated with education'.

Another perception of quality is found in ministerial strategic management plans of government such as in the Education Training Sector Improvement Program (ETSIP), the National Development Program (NDP 4), and Vision 2030. According to Namibia's Vision 2030 (2006:1), 'Namibia should join the ranks of high income countries and afford all its citizens a quality of life that is comparable to that of the developed world'. Thus, by the year 2030, all Namibian citizens should be comparable to the living standards of their counterparts in developed countries in the world through education. ETSIP in its effort to support the realisation of the ultimate goal of Vision 2030 aims to 'substantially enhance the [education] sector's contribution to the attainment of strategic national development goals, and to facilitate the transition to a knowledge based economy' (ETSIP 2007:8). GRN (2012) aims to produce 'well-educated people with a high quality of life. These people are thus competent, competitive, creative, and can solve problems and come out with solutions of the current development challenges' (GRN, 2012; Mlyakado, 2012:3).

The notion of quality education as espoused by Dunga (2013) is applicable to Namibia quality education and perceived to be determined by the resources invested in schools by public or private sectors. However, despite significant investments and numerous efforts by the government to strengthen education and skills, Namibia's education system is still perceived as performing below its potential and, therefore, remains a strategic area under NDP 4. Education is acknowledged to be the single most important aspect of human development, and a critical success factor for economic advancement and increased equality.

According to GRN (2007:7), some components that constitute quality education, include:

- Skills and competencies that learners must acquire at each level, ensuring consistency with competencies proven to be critical for effective functioning in a knowledge based Economy (KBE);
- Strengthening of educators to ensure that they can effectively facilitate the acquisition of set skills and competencies; and,
- Strengthening managers and teachers' accountability for system effectiveness and learner acquisition of set skills and competencies.

It is anticipated that if the above-outlined quality improvement tenets are to be fulfilled, it will require the active engagement of teachers and school principals. This will consequently lead Namibia to yield much better returns for its considerable investment in education. It is, however, noted that the current system of general education is inadequate to effectively support development goals, including a transition to a knowledge-based economy (GRN, 2006).

To encourage Namibians to embrace Vision 2030, the former Minister of Education, Nangolo Mbumba, urged the nation to seriously take heed of the various strategic objectives including that of quality education. According to Mbumba (in GRN, 2006:5:

> It is therefore very important that all of us go about this historic change in education with clarity, determination and unity of purpose. After all, how successful we are in the education system will largely determine how successful we are in creating that better future that we long for.

In other words, for any educational system to be efficient and effective, quality measures will need to be implemented, as they serve as a prerequisite to guarantee a smooth transition of the current education system to a knowledge-based economy. All the definitions of quality education mentioned above stem from different perspectives, inter alia: education, politics, culture and the socio-economic context of Namibia. The definitions aim to capture various elements that are essential in moulding citizens who

are healthy, knowledgeable and willing to support and sustain the envisaged knowledge-based economy by 2030.

However, as stated in Chapter two above, quality is a difficult concept to comprehend in education because it depends on who is defining it. Stakeholders who have an interest in education define quality based on their predetermined interests and priorities in education. According to Iipinge (2001:3): 'quality depends on what one thinks is (sic) the priority issues that deserve attention to making it quality education'. The same principle applies to the Namibian education system. Despite having a narrow focus on quality in the education sector, there still exists no single operational definition of quality in education from both a practical and theoretical perspective in Namibia.

From the aforementioned discourse of quality education in the Namibian context, the researcher identifies one central feature of quality education, which is, 'teacher effectiveness'. Teachers who are effective are innovative in designing and implementing continuous professional development activities that sharpen teachers' pedagogical competencies can contribute immensely towards quality education enhancement in schools. As pointed out by authorities and renowned scholars, improving teacher effectiveness guarantees the realisation of quality education in educational institutions, including schools. However, teacher professional development should not only focus on skills development or the acquisition of new knowledge of a practical nature, especially if such knowledge is acquired in a context of mandatory training or for appraisal purposes. Teacher professional development should rather be based on the awakening awareness of one's inability or incompetence to perform according to one's own expectations or laid-down criteria (Steyn, 2013), such as contained in the national professional standards for teachers in Namibia.

Hence, self-assessment is thus posited as being suitable to support teachers in contributing towards quality education in schools as it allows teachers to assess their strengths and weakness in the school environment without necessarily being reprimanded by their supervisors.

3.5 SELF-ASSESSMENT IN THE NAMIBIAN CONTEXT

In Namibia, all state-schools are required to develop SDPs that have clear visions and goals (Ministry of Education, 2013a). The SDPs serve as the basis for self-assessment for both external and internal evaluation processes.

The Ministry of Education has two quality assurance mechanisms in schools: internal and external assessments. Internal assessment comprise of two segments of which the first requires teachers to self-assess their personal and professional needs while the second assessment is often done by school principals to assess teachers' performance through classroom observations. External self-assessment is done mainly by experts from PQA, such as NIED officials, advisory teachers and other education professionals through class visits and one-on-one discussions for quality assurance.

The Ministry of Education (2006) realises that there is a need for reflection to create a culture of continuous improvement and professionalism that eventually can contribute towards enhancing quality education in schools. Currently, advisory teachers often visit schools with poor examination results. However, regular professional support is hindered by lack of human and financial resources. According to GTZ (2002:3), 'road conditions, are often bad, vehicles are in short supply, budgets for travel are depleted, there are too few inspectors and advisory teachers, and they are often too busy or pre-occupied with other matters'.

Due to the limited human resources of external evaluators, the Ministry of Education encourages schools to conduct school self-evaluations based on seven key areas (Ministry of Education, 2013a:1):

- Provision of resources for the school;
- Curriculum and attainment;
- Teaching and learning processes;
- School as a social unit;
- Management and leadership of school and hostel;

- Links with parents and community; and,
- Links with other schools and the region.

The school self-evaluation (SSE) instrument consists of standards set in the National Standards and Performance Indicators to determine the overall performance improvement over a period of one year. This practice is done annually before the 15th October.

The Ministry of Education (2013b) also requires teachers to complete an additional teacher self-evaluation (TSE) instrument that culminates in a plan of action for academic improvement (PAAI). The Ministry of Education (2007) further urges teachers to honestly evaluate themselves and develop personal development plans to sustain their strengths and improve on the identified weaknesses in subject administration, i.e. preparation, lesson presentation, teaching strategies, learner engagement, teaching/learning aids, learners' work, lesson assessment and evaluation.

A summary of teachers' self-assessment ratings is analysed in terms of strengths and weaknesses (cf. par.3.4). Areas of weakness are identified and given a time frame for the teachers to accomplish while sustaining the strengths. Once done, teachers and the school principals finally endorse their signatures on the completed PAAI templates for use and future reference by both parties (Ministry of Education, 2007).

Furthermore, the once-off self-assessment exercise that teachers are expected to adhere to is not congruent with the notion of continuous professional development. It is more of compliance with policy rather than helping teachers to inculcate a culture of continuous professional development. Some teachers complete the instruments as a formal requirement and do not critically question or value the significance of such an exercise as it is a statutory requirement. The 'Yes' or 'No' type of questions that teachers are asked to answer do not provoke teachers to examine their personal and professional needs critically. According to Mainali (2012) the 'Yes' or 'No' question types belong to the low levels of the Bloom's taxonomy which are knowledge, comprehension and application. The Bloom's taxonomy is a hierarchy of thinking levels at which at the bottom are low levels of thinking while at the top of the hierarchy lies

higher levels of thinking skills. This thesis advocates for effective self-assessment strategies that can challenge teachers to use higher order thinking skills to critically reflect on how quality education in teaching and learning can be enhanced in schools. Mainali (2012:6) defines higher thinking as 'thinking that happens in analysis, synthesis and evaluation levels of Bloom's taxonomy [and] includes critical, logical, reflective, metacognitive and creative thinking'.

The National Professional Standards for Teachers in Namibia (Ministry of Education, 2006) have been developed in line with ISO 9000 standards (cf. par. 2.2.4) to encourage teachers to assess their own performances, engage in own professional development and participate in the professional community, and contribute to developing and/or enhancing the professional expertise and practice of other teachers. However, there are no explicit procedures of how this can be done. The aforesaid self-assessment strategies can guide teachers to develop suitable strategies that can help to enhance quality education in schools. Therefore, the school principals have a critical role to play in ensuring that the selected self-assessments strategies achieve the ultimate goal of enhancing quality education in schools.

In this section, the researcher presented a brief discourse of how quality education is perceived in Namibia. From the Namibian literature: ministerial documents (e.g. circulars, manuals, etc.); policy books; ETSIP document; NDPs'; white paper document; Vision 2030; there is no agreement on a single definition of what quality education is and what it entails. Generally, quality education is perceived in terms of features or characteristics, such as teacher effectiveness, infrastructure, and physical, human and financial resources that schools are supposed to possess. Additionally, quality education is defined by different stakeholders based on their needs and interests in education.

Deducing from the discourse above, the notion of quality, which is central to this thesis, manifests itself as a multifaceted concept that is difficult to define. Some sceptics use the ambiguity of the term 'quality' as evidence to discard its appropriateness and suitability in education. On the contrary, despite the fact that there exists no universally agreed upon definition of quality education, the notion of quality is gaining momentum of acceptance in the Namibian education sector and beyond.

3.6 CONCLUSION

Chapter three presented the link between self-assessment strategies and quality education based on a literature study of diverse materials: Ministry of Education documents; national and international conference papers; peer-reviewed articles; national documents, such as Vision 2030, ETSIP, and NDPs, which focus on the role that teachers can play towards enhancing quality education in schools. From the discourse, the researcher advocates the self-assessment strategies: surveys, guided assessment workshops, questionnaires, reflective journals, matrix, award simulation, and self-reviews as suitable quality modes of enhancing quality education in schools. The advantages and disadvantages of each strategy were outlined to help teachers make informed decisions when selecting suitable and appropriate self-assessment strategies for use at their respective schools. General guidelines for designing self-assessment strategies were also presented for teachers to adapt and adopt according to their personal and professional needs.

In conclusion, the researcher posits that teacher effectiveness is central to ensuring that schools realise the desired goal of enhancing quality education in schools. Therefore, school principals have an important role to play in creating conducive environments in which teachers are encouraged to be innovative in enhancing quality education through the use of self-assessment strategies in schools.

The next chapter presents the research methodology used in this study.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 INTRODUCTION

Chapter four provides an outline of the selected research design and rationale for using the sequential exploratory mixed methods approach in this study. The chapter also highlights the study population and sampling methods, followed by a presentation of the instrumentation employed during the study and how the collected data was analysed. Additionally, the chapter addresses ethical research issues of trustworthiness, reflexivity, objectivity, validity and reliability of the study.

4.2 RESEARCH DESIGN

A research design is a type of inquiry that provides specific direction for procedures in a quantitative, qualitative, and mixed methods research study (Creswell, 2014). A mixed methods research design was used to address the complex nature of the research problem which could not be addressed from the unique perspectives of a qualitative or quantitative study (Ponce & Pagán-Maldonado, 2015). However, despite mixing the two approaches of qualitative and quantitative methods, the researcher advanced the qualitative [QUAL] research design to be the most predominant research method in this particular study. Therefore, a sequential mixed methods design was used to address the research problem of how quality education in teaching and learning can be enhanced in the Zambezi region.

4.2.1 Research paradigm

A research paradigm is a method of knowledge generation in a research study (McMillan & Schumacher, 2014). The research paradigm that guided the mixed-methods study approach of this study was that of pragmatism. The pragmatic paradigm is a worldview that 'arises out of actions, situations, and consequences rather than antecedent conditions' (Creswell, 2014:10). It is interested with feasible action of what works and practical solutions to identified problems. In this case, the researcher was interested in exploring feasible self-assessment strategies that can enhance quality education in the Zambezi region. Pragmatism is closely linked to mixed methods of inquiry as it uses multiple methods of research primarily to gather more detailed data of the problem under study (Creswell, 2014). In the light of the complexity of the

problem under study, the pragmatic paradigm was chosen as being suitable for this particular research because it enabled the researcher to employ multiple methods of research to gather in-depth data on quality education in the Zambezi region of Namibia.

4.2.2 Mixed methods approach

In this study, the researcher employed a mixed methods research approach that integrated and combined both qualitative and quantitative forms of inquiry. According to Schumacher and McMillan (2014:4), mixed method refers to 'a study that combines qualitative and quantitative techniques and/or data analysis within different phases of the research process'. Similarly, Ponce and Pagán-Maldonado (2015:113) define a mixed methods study as 'research intentionally combining or integrating quantitative and qualitative approaches as components of the research'. The qualitative and quantitative components can be used at different stages or phases of the study.

There are two mixed methods of design, namely: explanatory and exploratory mixed designs. Both methods involve two-phase projects in which the explanatory mixed design first collects quantitative data which is analysed and used to inform the second, qualitative phase. Creswell (2014:243) defines the explanatory mixed method design as 'a mixed methods strategy that involves a two-phase project in which the researcher collects quantitative data in the first phase, analyzes the results, and then uses the results to plan (or build) the second, qualitative phase'. The second design, starts with collecting qualitative data to inform the second phase of the study (quantitative). For this study, the later design was used, and therefore, the first design will not be substantively discussed any further.

Creswell (2014:243) defines the exploratory sequential mixed method design (See Figure 6 below) as 'a mixed methods strategy that involves a two-phase project in which the researcher first collects qualitative data and then follows up or builds on this database with a second quantitative data collection and analysis'. The explorative sequential mixed methods approach allowed the researcher first to collect and analyse primary qualitative data which was used to design an in-depth quantitative phase. This enabled the researcher to generate results and findings on the research problem of enhancing quality education in teaching and learning in the Zambezi region.

Exploratory mixed methods design

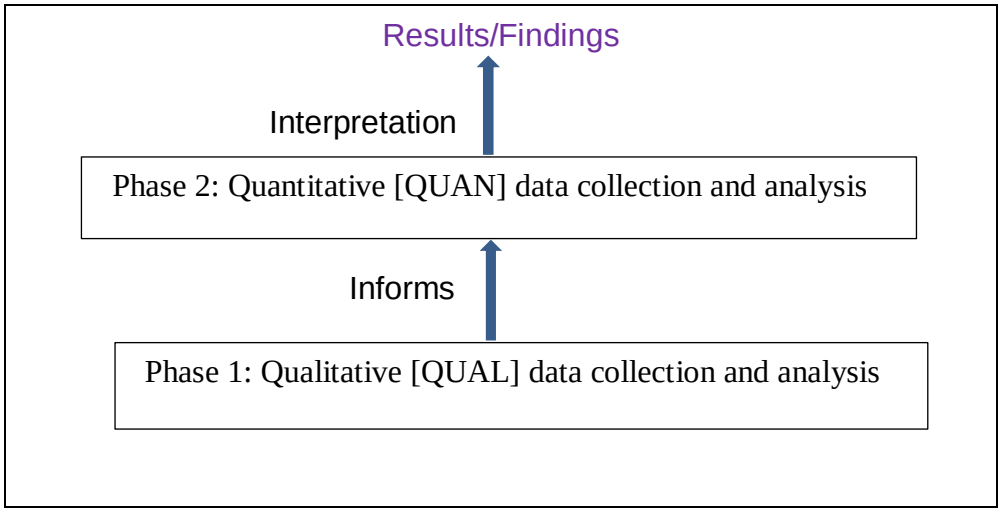

Figure 6: Exploratory sequential mixed methods design

Denscombe (2008:272-273) argues that '[qualitative and quantitative] methods are mixed to produce a more complete picture, to avoid the biases intrinsic to the use of monomethods design, and as a way of building on, and developing, initial findings'. By combining both the qualitative and quantitative approaches, the researcher envisaged gathering in-depth data on the research problem of how quality education in teaching and learning can be enhanced in the Zambezi region of Namibia. Schumacher and McMillan (2014:426) state that:

> The best approach to answering research questions is to use both quantitative and qualitative methods in the same study or when using solely a quantitative or qualitative method would be insufficient to provide complete answers that meet the goal or purpose of the study.

The mixed methods approach combines both approaches in a research as illustrated in the middle column of Table 4 below. Sithole et al. (2013) provide a set of criteria to compare and contrast the differences that exist between quantitative and qualitative research (See Table 5 below).

Table 4: Quantitative, mixed, and qualitative methods

(Creswell, 2014:17)

Quantitative Methods	**Mixed Methods**	**Qualitative Methods**
Pre-determined	Both predetermined and emerging methods	Emerging methods
Instrument based questions	Both open- and closed-ended questions	Open-ended questions
Performance data, attitude data, observational data, and census data	Multiple forms of data drawing on all possibilities	Interview data, observation data, document data, and audio-visual data
Statistical analysis	Statistical and text analysis	Text and image analysis
Statistical interpretation	Across databases interpretation	Themes, patterns interpretation

Table 5: Comparison of quantitative and qualitative research

(Sithole et al., 2013:17)

Criterion	Quantitative	Qualitative
Structure/design	Rigid	Flexible
Size of the study	Often big	Likely to be small in size
Personal involvement of the researcher	Objective/neutral	Subjective
Reasoning	Seeks to generate findings and generalise from sample population (deductive)	Seeks to understand the phenomenon under study from the sample (inductive)
Sample/s	Representative of the population	Not representative of the population
Type of collected data	Measurements; scores; counts	Oral and written expressions of opinions, feeling, etc.
Theory	Tests a theory	Theory emerges as the study continues or as a product of the study
Hypothesis	Tests whether a statement of relationships between variables can be confirmed	May generate more theories and hypotheses
Data analysis	Statistics	Coding, text analysis
Analysis	Uses numbers and statistics	Uses recurrence of themes
Variables	Seeks to find relationship between variables (independent and dependent variables)	Seeks to understand the variables
Literature study	Extensive literature study is done at the beginning of the study	Literature study is sometimes delayed until data has been collected

From several mixed research designs advanced by Tashakkori and Teddlie (2010), the sequential mixed design was adopted from which both qualitative and quantitative major findings were subsequently synthesised for interpretation. During the first phase of this study, the researcher explored how the school principals and HoDs understood quality and quality education in teaching and learning using the National Performance Standards for Teachers in Namibia which is in line with ISO 9000 standards. This was helpful to determine the extent to which teaching and learning met and exceeded the needs of learners in the light of poor learner outcomes in the national examinations.

The information gathered from school principals and HoDs provided the researcher with an opportunity to learn from the good practice of selected combined schools located in the remote areas in the Zambezi region. An analysis of the best trends and practices of self-assessment strategies were streamlined to inform the second phase of the study to seek more factual information pertaining quality education enhancement in teaching and learning.

Additionally, during the first phase of the study, it emerged that the use of TSE as a quality assurance mechanism in schools was wanting and fell-short of enhancing the quality of education in teaching and learning in the Zambezi region. It also emerged that there was need for school principals and HoDs to explore alternative quality assurance mechanisms that can complement the current TSE to enhance quality education in teaching and learning in the Zambezi region.

During the study, there emerged patterns from the first phase of the research (qualitative phase) which informed the second phase of the research (quantitative). The researcher collected data according to a very specific set of steps to remain as objective and neutral as possible. Quantitative data was statistically analysed so that findings can be generalised from a relatively small sample to the bigger population.

4.2.3 Aim of the research

The main aim of this particular study was to establish how self-assessment strategies can be used to enhance the quality of education in teaching and learning in the Zambezi region of Namibia (cf. par. 1.5).

4.2.4 Research problem

The research problem for this particular study was to improve the quality of education in teaching and learning in combined schools in the remote areas in the Zambezi region. The remote schools seldom receive adequate professional support to improve teaching and learning processes. Hence, the researcher explored how teachers can improve teaching and learning processes in the Zambezi region. The problem statement read as:

> **How can the quality of education in teaching and learning be improved in schools in the Zambezi region?**

The following sub-problems guided the study (cf. par. 1.4):

- What entails quality and quality education?
- How can self-assessment strategies be linked to quality and quality education in general terms?
- What recourses are available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region?
- How can a self-assessment strategy model be developed to enhance the quality of education in the Zambezi region?

4.3 STUDY POPULATION AND SAMPLING

4.3.1 Study population

The study participants were drawn from a total number of forty-three (43) combined schools in the Zambezi region. The study population comprised forty-three (43) school principals, forty-eight (48) HoDs, and six-hundred and seven (607) teachers in combined schools in Zambezi region (Ministry of Education, Arts, and Culture, 2017).

4.3.2 Sample for the qualitative phase

Five school principals and five HoDs from the five educational circuits were purposefully sampled to form the population sample for the qualitative phase. McMillan and Schumacher (2014:5) define purposeful sampling as ‘a type of sampling that allows choosing small groups or individuals who are likely to be knowledgeable and informative about the phenomenon of interest’. In this study, five school principals and five HoDs were purposively selected from the remotest schools in the Zambezi region. The selected school principals and HoDs often receive minimal professional support from external agencies to enhance quality education in teaching and learning.

4.3.3 Sample for the quantitative phase

From a total of 607 teachers, 70 teachers from the five aforementioned schools were randomly sampled to participate in the second phase of the exploratory sequential mixed methods study. McMillan and Schumacher (2014:5) define random sampling as ‘a procedure for selecting subjects from a population in such a way that every member

of the population has an equal chance of being selected'. The participating teachers were randomly sampled from the same five combined schools as those of the school principals and HoDs mentioned-above. At least three or four teachers in the four grade phases (lower primary, junior primary, upper primary, and junior secondary) were randomly selected by the school principals to complete the Likert-scale questionnaires.

In cases where teachers were less than three or four in a grade phase, all the teachers in such a grade phase were included in the sample population. In instances where the number of teachers exceeded four in a grade phase, systematic sampling methods were used to select teachers for the sample population. A systematic sampling method is a sampling method 'in which each individual in the population has an equal probability of being selected' (Creswell, 2014:158). In this case, the first two or three even and odd numbers in the teachers' registers were used to select three or four teachers for the sample population. However, despite using both random and structured sampling methods, only 54 out of 70 selected teachers from the five combined schools in the five educational circuits of the Zambezi region completed the questionnaires.

The first part of the Likert-scale questionnaire asked the participants to provide demographic data (gender, age, teaching experience, grade phases, highest educational qualifications, and current studies). The second part had thirty-eight questions for the participants to rate statements on a five-point scale (1.Totally disagree, 2. Disagree, 3. Not Sure, 4. Agree and 5. Totally agree). The question statements were grouped into specific categories according to the objectives of the study.

4.3.4 Informed consent

The researcher presented a research clearance certificate from the College of Education Research Ethics Review Committee (CEDU REC), UNISA, (See Appendix A) to the Regional Director of Education in the Zambezi region to seek permission to conduct research in five selected schools in the region. Thereafter, five circuit inspectors were served with copies of letters from the Regional Director that granted the researcher permission to conduct research in schools in the five circuits of the Zambezi region (See Appendix B). The five participating school principals were

informed about the purpose of the school visits which was to collect qualitative and quantitative data by means of face-to-face interviews, focus group interviews and Likert-scale questionnaires.

Face-to-face meetings with the school principals and HoDs were held in the afternoons to explain the purpose, benefits and outcomes of their participation prior to giving them consent letters for their signatures. All the participants: five (5) school principals, five (5) heads of departments and seventy (70) teachers were given consent letters to familiarise themselves with the purpose of the study before making decisions to participate or not. To avoid disrupting the scheduled school activities the research was conducted in the afternoons after normal school working hours.

4.3.5 Anonymity and confidentiality

The principles of anonymity and confidentiality are ethical requirements that researchers should respect. Sithole et al. *(*2013:33) caution that 'a participant's data must never be associated immediately and obviously with his or her name or any other identifier'. In this study, the researcher assigned numbers to participants' data to ensure that the data remained anonymous. Furthermore, the researcher informed the participants that information gathered from them will not be divulged to anyone other than the researcher. A letter of confidentiality was given and explained to participants before they signed the assent and consent letters.

4.3.6 Ethical issues and considerations

The researcher explained to the participants the ethical issues that would be adhered to and considered throughout the study. Sithole et al. (2013:37) state that, 'research ethics are designed to ensure that research takes place according to the highest moral standards, and that science does no harm to people or communities, either intentionally or inadvertently'. This research was, therefore, guided by ethical research guidelines that included informed consent, voluntary participation, the right to discontinue participation, the right to anonymity or confidentiality, as well as honesty in analysis and publication to avoid ethical research transgressions.

4.4 INSTRUMENTATION

4.4.1 Literature review

The researcher intended to acquire knowledge of current theory and research on the controversial topic of quality and quality education enhancement in schools. Boote and Beile, (2005:4) posit that literature review is 'the foundation of any research project … It sets the broad context of the study, clearly demarcates what is and what is not within the scope of the investigation, and justifies those decisions'.

The broad context of this study entailed a discourse on the controversial concept of quality and quality education from both local and international perspectives. Quality theories espoused by renowned quality gurus served as the basis for this study. This included studying literature reviews on: Edward W. Deming (1988); Philip B. Crosby, and Joseph M. Juran (1979). These quality theorists are regarded as the pioneers of total quality management (TQM) that is gaining global momentum in both the private and public sector. However, the relevance of the notion of quality in the education sector is not well-embraced by some educationists. These educationists argue that quality rightly belongs to the industry and manufacturing sectors of goods production. However, the demand for accountability of investments in educational institutions by stakeholders has necessitated schools to meet stakeholders' needs and expectations and has made the notions of 'quality' and 'quality education' to be relevant in the education sector. The onus is upon schools to adapt the notion of quality to continuously improve quality education in schools. Hence, the use of self-assessment which is based on TQM can help teachers to support one another to enhance quality education in schools.

The literature review was put into the study context by reviewing literature by contemporary educationists who perceive teachers as essential for quality education to be realised in schools. The scope of the study was to ascertain how teachers can contribute towards quality education enhancement in schools through self-assessment. The literature relevant to this aspect of the study included: Muijs and Reynolds (2011); MacBeath (1999); Weinbaum (2002), Deming's Prize, European Excellence, and Malcolm Baldridge Education Quality Awards.

For the local perceptions on the notions of quality and quality education in Namibia, the following literature was consulted: scholarly journals, journal articles, Ministry of Education documents, books, conference proceedings, electronic documents, dissertations and theses. Computerised databases such as ERIC and EBSCO were used to gather relevant and contemporary literature on the topic of interest. The rationale for consulting such valuable sources of literature was to assess and determine the 'knowledge gap' pertaining to quality education in the Zambezi region. By reviewing the literature, the researcher envisaged to learn first-hand what has been studied and practised on the topic of interest with the motive of increasing understanding of the concept under investigation.

4.4.2 Qualitative research phase of the exploratory sequential mixed methods approach

In this study, the researcher attempted to integrate qualitative and quantitative research approaches to collect qualitative and quantitative data on quality and quality education in general (See Figure 6). An exploratory sequential mixed methods design was adopted to collect both qualitative and quantitative data sequentially during two different phases of the data collection process.

During the first phase of the data collection process, the researcher collected data by using two types of interviews (cf. par.1.8.3): face-to-face (See Appendix C) and focus group interviews (See Appendix D). Sithole et al. (2013:392) define an interview as, 'a data collection technique based on a series of questions relating to the research topic to be answered by research participants'. Schumacher and McMillan (2014:383) state that 'qualitative interviewing requires asking truly open-ended questions'. The researcher's role was to probe the school principals to seek in-depth information during the discussions pertaining to the topic at hand. Similarly, during the focus group interview, the heads of departments interacted with each other on quality education enhancement in the Zambezi region (See Appendix D). The interviews (personal and focus groups) were audio-recorded for reliability checks by capturing the entire interactions between the interviewer (researcher) and the interviewees (school principals).

4.4.3 Quantitative research phase of the exploratory sequential mixed methods approach

During the second phase of the study, quantitative research methods were used to gather structured and numerical data (Matthews & Ross, 2010). The respondents, namely teachers, were given a Likert-scale questionnaire with numerical data and scoring sheets to complete. Structured questionnaires were designed to enable respondents to score and rate their understanding of certain practices that enhance or inhibit quality education in teaching and learning in schools. The questionnaires sought to find out teachers' perceptions of what recourses were available to improve quality education in teaching and learning at their respective schools. Through the questionnaire the respondents rated the school principals on how they encouraged or inhibited self-assessment strategies to enhance quality education in schools. In Mouton's (2001:109) view, 'this set of data relates to the researcher's results and findings to existing models, and showing whether these are supported or falsified by the new interpretation'. The quantitative data that was obtained during the second phase was analysed using the Statistical Package for Social Sciences (SPSS) and Microsoft Excel software programmes. This enabled the researcher to analyse and interpret quantitative data in tabular form and spreadsheets according to variables and values.

4.5 DATA COLLECTION PROCEDURES

The researcher used face-to-face open-ended interviews and focus group interviews to collect qualitative data during the first phase of the research. The face-to-face and focus group interview protocols were designed from an extensive literature review of documents including ministerial documents to gain a general understanding of the key concepts of quality and how quality education can be enhanced in schools (cf. par.4.4.1). The interviews were conducted after working hours to avoid disrupting school principals and HoDs in conducting their school managerial work. The personal and focus group interviews were audio-recorded and transcribed by the researcher. Data gathered from both types of interviews was analysed to identify common themes and patterns which were later used to inform the quantitative design of the study. A Likert-scale questionnaire (See Appendix E) which consisted of thirty-eight question

items was designed in the light of the data collected from the interviews preceding the quantitative or second phase of the study.

To avoid the use of the poor road infrastructure and risky river transport modes to the schools, the researcher relied heavily on the available communication channels in the Zambezi region. Thus, school principals and HoDs were informed and invited to partake in the envisaged study using pigeonhole systems at the regional education offices as there are no post offices in the areas where the schools are located. Furthermore, school telephone and cell phone numbers of school principals and HoDs were obtained from the regional and circuit offices for communication purposes. Hence, telephonic arrangements were made for the school principals and HODs to attend personal and focus group interviews during school holidays.

Before the schools reopened for the second term, school principals were given sealed envelopes containing information letters, consent letters and seventy (70) Likert-scale questionnaires for teachers to complete. The researcher requested the five school principals to help distribute the questionnaires to the participants of the study. The researcher later collected the completed questionnaires after a period of at least two weeks from the time when the questionnaires were left at the schools. The researcher drove to two schools to collect the completed questionnaires after being informed by the school principals that the questionnaires were ready for collection. The school principals from the remotest schools were requested to bring the questionnaires while on private or official business in Katima Mulilo.

4.6 DATA ANALYSIS AND PRESENTATION

4.6.1 Data analysis

This study used a mixed methods approach to analyse two separate databases. The qualitative database was used to build into quantitative measures. This required the researcher to pay careful attention to the steps of qualitative data analysis to determine what findings to build on during the second phase of the exploratory sequential mixed methods. The two phases of the study are discussed next.

Phase 1: Qualitative analysis of the exploratory sequential mixed methods approach

In this study, the researcher blended the general procedure of data analysis and the specific steps of data analysis of the exploratory sequential mixed methods. Creswell, (2014), advances seven interrelated steps (See Figure 7) that the researcher used to analyse qualitative data.

The steps entailed: organising and preparing data through transcribing data of the face-to-face interviews with school principals and focus group interviews with heads of departments manually; reading through the collected data; coding of information; identifying common trends and themes; presenting common themes, and making an interpretation of the findings. This process of data analysis enabled the researcher to generate questions in preparation for the second phase of the research to confirm or diverge past information on quality education aspects (Creswell, 2014).

Data analysis process

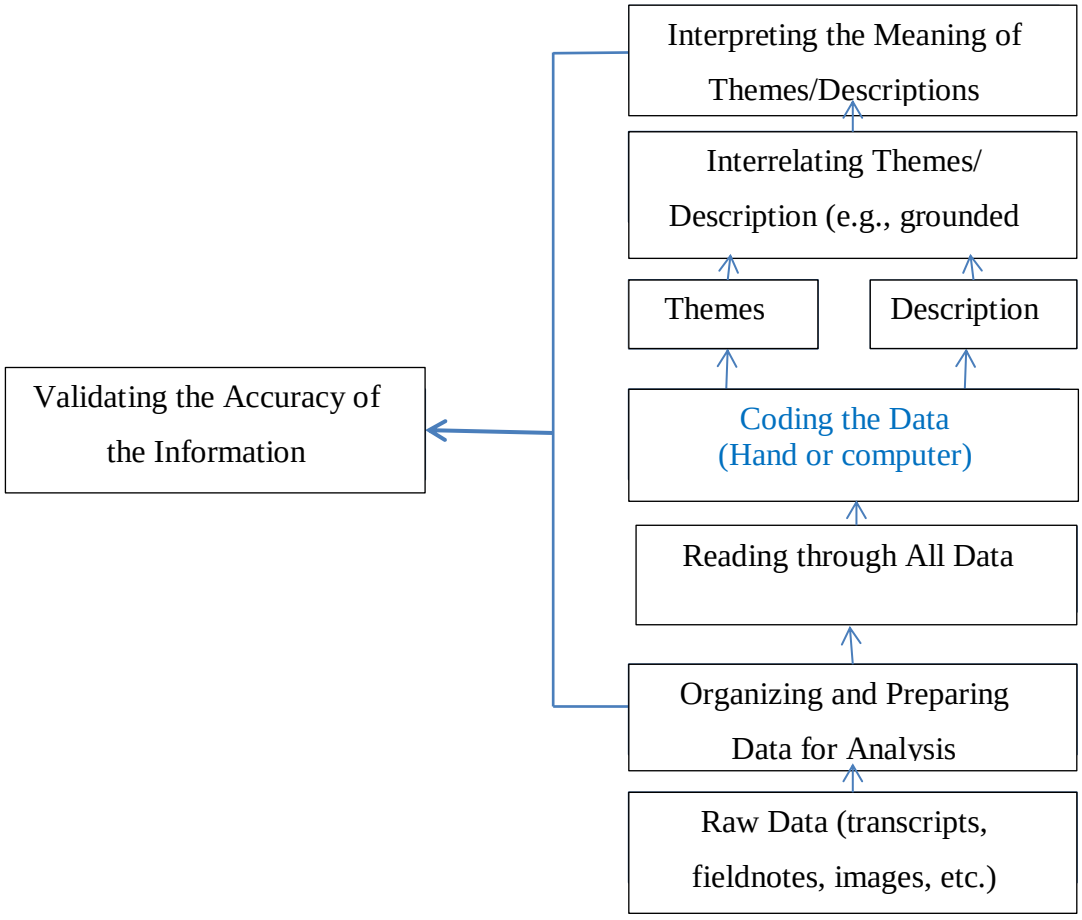

Figure 7: Data analysis in qualitative research (Creswell, 2014:197)

Phase 2: Quantitative analysis of the exploratory sequential mixed methods approach

The data collected during the second phase of the exploratory sequential mixed methods was analysed by means of descriptive statistics, which included frequencies and percentages to yield codes and themes. The quantitative data was subjected to reliability tests (cf. par. 4.7.1) to ensure objectivity of the study findings. This was a useful procedure as it enabled the researcher to develop new variables, identify the type of scales that might exist in current instruments or to form categories of information that will be explored further in future studies. The presentation of data will be discussed next.

4.6.2 Data presentation

Hard copies of original instruments used to gather data during the two different phases of the exploratory sequential mixed methods were kept in a secure place, in this case, in a lockable steel filing cabinet. Transcribed focus group and face-to-face interview notes were stored on a computer, memory stick, and on a digital tape-recorder as a backup mechanism for retrieving data. Completed open-ended questionnaires and Likert scale questionnaires were kept securely stored in sealed envelopes for easy access to the raw data for a minimum period of five years. The following sub-section presents the validity and reliability of the data collected.

4.7 VALIDITY AND RELIABILITY

4.7.1 Researcher role and competency

The mixed methods approach required the researcher to be versatile with the qualitative and quantitative methods of research to comprehend the topic on how self-assessment strategies can be used to enhance quality education in the Zambezi region. The researcher first explained the purpose of the study to ensure that the participants provided reliable and trustworthy data (cf. par. 1.10). This was done to convince and assure the participants that the information solicited from them will be kept confidential. By signing the consent forms, both the participants and the researcher were bound to heed to the norms of confidentiality and to allow for freedom of expression. The trustworthiness of qualitative data was largely based on the credibility and dependability of the informants who were well experienced school managers. The triangulation process of data gathered from the school principals and HoDs was done to confirm common themes and patterns of quality education in schools.

The quantitative data that was collected from the respondents on the Likert-scale questionnaires was analysed using software programmes to check for reliability. The Cronbach's tests were used to check the reliability of the quantitative data by use of Customs tables, Chi-square tests, One-sample t-tests, Kruskal-Wallis tests, Mann-Whitney tests, Inter-item correlation matrix, Item-total statistics, nonparametric correlations, and Anova tests. Some items were removed from the factor-groups to

improve Cronbach's alpha of reliability. The data was analysed to determine the extent to which the participants agreed or disagreed with the statements on the four sub-problems of the study (cf. par. 1.4).

4.7.2 Maintaining objectivity and interpersonal subjectivity

In this study, the researcher intended to be as objective as possible throughout the study by taking a neutral position in data handling and interpretation. According to Schumacher and McMillan (2014:16-17), objectivity refers to 'data collection and analysis procedures from which a simple reasonable interpretation can be made'.

The researcher undertook and maintained objectivity in this study by providing an explicit description of data collection and analysis procedures in the two different phases (qualitative and quantitative) of this exploratory sequential mixed methods study. In the first phase, data was presented verbatim without altering any words or sentences, while, software programmes were used to systematically analyse data for easy interpretation.

4.7.3 Reflexivity

According to Morrison, Manion, and Cohen (2011:19), 'reflexivity refers to the way in which all accounts of social settings – descriptions, analyses, criticisms, etc. – and the social settings occasioning them are mutually interdependent'. In this study, the researcher acknowledged his role as a researcher and sought to understand the participants' opinions and beliefs without his personal influence. This required the researcher as the "instrument" of data gathering and analysis to regularly monitor his own interactions with participants. Also, the researcher was vigilant of his own actions, and possible biases to be as interdependent and objective as possible (Luttrell, 2010; Morrison et al., 2011).

4.8 SUMMARY

Chapter four presented an outline of the selected research design and rationale for using the exploratory sequential mixed methods approach for this study. The chapter also focused on the topics that are vital to the mixed research approach, *vis-à-vis*: the research problem, research sub-problem, population and sampling, instrumentation,

data collection procedures, data analysis procedures, reliability, validity and trustworthiness of the study.

The next chapter interprets and presents the findings of the exploratory sequential mixed methods approach applied in this particular study.

CHAPTER 5: DATA PRESENTATION, ANALYSIS AND DISCUSSION

5.1 INTRODUCTION

Chapter four outlined the research design and methodology employed in this particular study of the sequential exploratory mixed methods approach. This chapter will present analysis of both qualitative and quantitative data collected during two different phases of the study in response to the four research sub-problems (cf. par. 1.4). The chapter is divided into three parts. The first part of the chapter presents an analysis and interpretation of data gathered during the first phase (qualitative) of the study. The second part presents an analysis of data collected during the second phase (quantitative) and, lastly, the third part triangulates both the qualitative and quantitative data collected during the two phases of this study.

Graphic presentations of the analysis of the demographic information of all participants are also provided in the first and second parts of the chapter. Additionally, in-depth analysis and discussion of the interviews (individual and focus group) and teacher questionnaire findings are presented both verbatim and in graphic illustrations to seek answers to the four sub-problems in Chapter one on how self-assessment strategies can enhance quality education in the Zambezi region.

5.2 PART A: QUALITATIVE DATA PRESENTATION AND ANALYSIS

5.2.1 Demographic data of participating school principals

Sub-section 5.2 presents the demographic data analysis of five school principals and four HoDs who participated in the qualitative phase of the study. During the qualitative phase of the study, participants were requested to complete demographic data templates before the interviews. This was done basically to establish the participants' age; gender; years of teaching experience; years of experience as HoDs; years of experience as school principals; highest academic qualifications; and current studies. The structured interviews were designed to gather the participating school principals' perceptions of quality and quality education in general with reference to the Zambezi region.

The school principals and HoDs were informed that the research was approved by the Research Ethics Clearance Committee from UNISA (See Appendix A) and the Zambezi Regional Directorate of Education (See Appendix B). Ethical issues pertaining to confidentiality, anonymity and the freedom to withdraw from partaking in the study were explained to the participants prior to the commencement of the interviews. Themes and categories that emerged from the interviews are substantiated verbatim in this chapter.

5.2.1.1 Gender distribution of participating school principals

Five of the forty-three school principals of combined schools in the Zambezi region participated in this study. One female and four male school principals participated in the study as shown in Figure 8 (cf. par. 4.3.2).

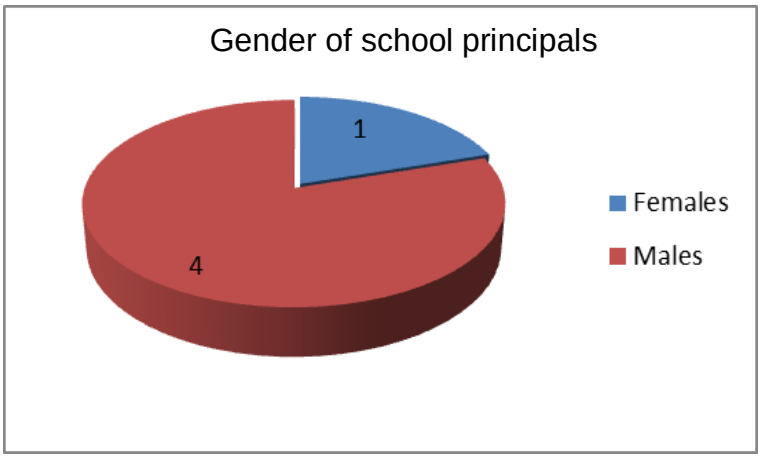

Figure 8: Gender of school principals

The five participating school principals represent 12% of the total number of forty-three combined school principals and 4.9% of the total number of schools in the Zambezi region. The school principals were drawn from the five educational circuits (cf. par.1.8.2) in the Zambezi region. The first phase of the study aimed to gather the school principals' perceptions of quality education in the Zambezi region regardless of gender as there is no Ministerial gender policy on the deployment of school principals.

5.2.1.2 Age profile of participating school principals

Figure 9 depicts the age profile of participating school principals in the first phase of this study. The five school principals are divided into three age groups: young, middle-

aged and old. Thus, one young school principal is in the age group of ≤34 years, (≤34 = 1); two are middle-aged (35-49 years), while the last two school principals are in the old-age range category (≥50 years) (≥50= 2). The youngest is a female school principal in the age-range of ≤34 years while the oldest principals fall into the last category of ≥50 years age-range. The two male school principals whose age range is ≥50 years are moving towards the retirement age-range of 60.

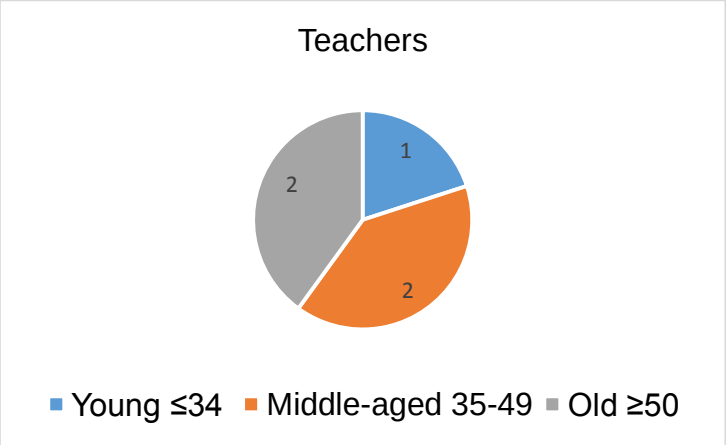

Figure 9: Age profile of participating school principals

Despite the fact that the majority of teachers in the Zambezi region are females (771) as opposed to 623 male teachers (Ministry of Education, 2012), most of the combined schools are managed by male school principals. With an increase of young female teachers enrolling for teaching at higher institutions of learning, the pattern is bound to change in the near to distant future in the Zambezi region. Therefore, there is a need for the ageing male school principals to share their rich experiences of school management with the newly appointed school principals to ensure that quality education is realised in the Zambezi region.

5.2.1.3 Highest academic qualifications of participating school principals

Figure 10 illustrates the highest academic qualifications of participating school principals. The highest educational qualifications that the school principals possess are B. Ed Honors degrees while the lowest qualification is a Basic Education Teacher Diploma (BETD).

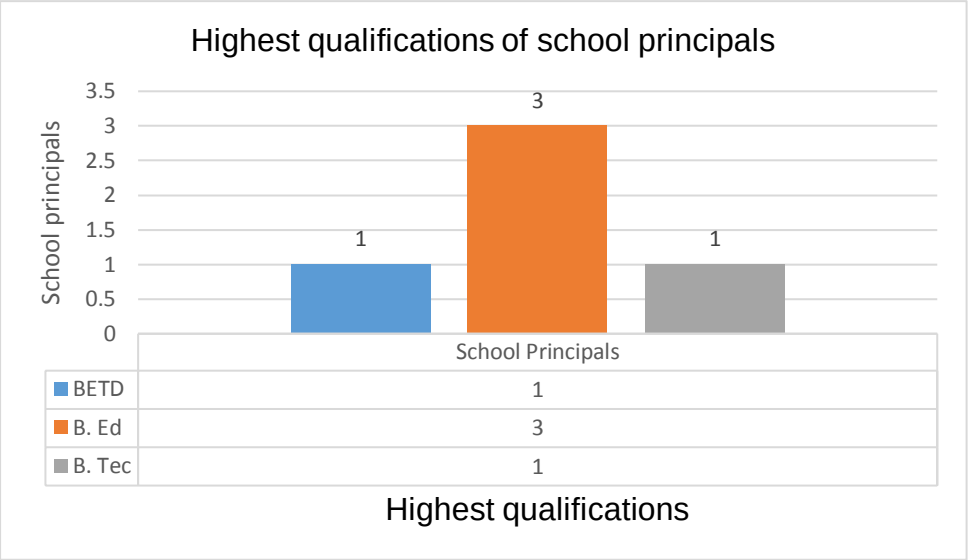

Figure 10: Highest qualifications of school principals

Three school principals are in possession of B. Ed Honours degrees; one is a holder of B. Technology degree; and the other is in possession of a BETD. In general, the participating school principals are professionally qualified to manage schools effectively. However, none of the school principals is pursuing post-graduate studies at Masters or Doctoral level. This is probably caused by the educational policy that regards teachers to be professionally qualified by Namibia Qualifications Authority (NQA) after obtaining National Qualifications Framework (NQF) level 7. Once a teacher is offered a school principal's post, the zeal to pursue further studies lessens or totally diminishes. The probability of promotion from the school principal to the inspector of education post is also very minimal and does not require a Masters or PhD degree. However, both the inexperienced and the more experienced school principals can use self-assessment strategies to enhance quality education in the Zambezi region.

5.2.1.4 School principals' years of experience

Figure 11 depicts two datasets of school principals' experience: (i) teaching experience, and, (ii) years of school principal-ship experience. The school principals are put into three categories of teaching experience: experienced teachers (≤ 19 years of teaching experience); well experienced teachers (21 to 29 years teaching experience); and very much experienced teachers (≥ 30 years teaching experience).

The school principals are also put into three groups of school principal-ship experience: novice school principals (≤ 5 years of school principal-ship); experienced school principals (6 to 10 years of school principal-ship); and experienced school principals (≥ 11 years of school principal-ship).

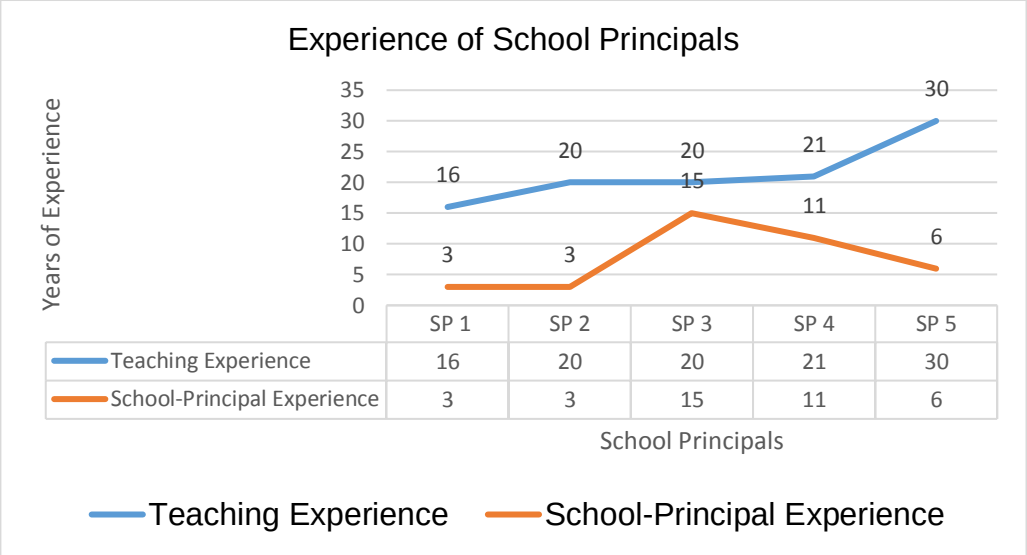

Figure 11: Teaching experience of school principals

Two school principals have ≤ 5 years of school principal-ship experience, one is moderately experienced with 6 years of school principal-ship experience, and two are well experienced school principals with ≥ 11 years of school principal-ship experience. All the five school principals have vast years of teaching experience. Thus, only one school principal has ≤ 19 years of teaching experience, three have teaching experience in the range of 20 to 21 years, while the fifth longest serving school principal has ≥ 30 years of teaching experience.

The five school principals have an average of 7.6 years of school principal experience and an average of 21 years of teaching experience. The school principals have vast years of teaching experience compared to their experience as school principals. In general, the school principals have sufficient management experience that can enhance quality education in schools in the Zambezi region.

5.2.2 Demographic data of participating heads of departments (HoDs)

5.2.2.1 Gender distribution of participating heads of departments (HoDs)

Figure 12 denotes four heads of departments (i.e. three males and one female) who participated in the focus group interview of this sequential explorative mixed method design. Initially, five HoDs from the same five combined schools as the participating school principals confirmed to attend and participate in the focus group interview, but one failed to do so.

However, the absentee HoD registered her apologies for health reasons at the last minute, thereby, making it difficult for the researcher to invite a substitute HoD at the brink of the interviews. The four HoDs had travelled long distances to attend the focus group interview in Katima Mulilo Town. To avoid despair and fatigue among the participating HoDs, the researcher found it necessary to conduct the focus group interview as scheduled rather than postponing it indefinitely.

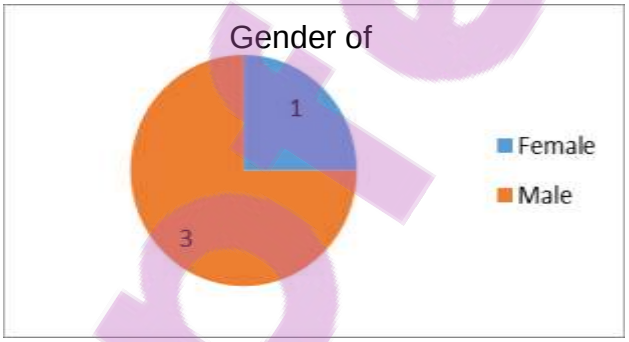

Figure 12: Participating heads of departments (HoDs)

The gender distribution of participating HoDs is dominated by male HoDs (cf. par. 5.2.1.1), probably because there is no Ministerial policy on the gender balance of HoD appointments. Furthermore, due to the remoteness of schools, perhaps, female teachers unlike their counterparts, were hesitant to apply for HoD posts because of the challenges of accessing remote schools due to poor road infrastructure and annual floods. In the Zambezi region, it is common traditional practice for men than women to paddle canoes in rivers or flood waters. Probably, female principals could be reluctant to apply for school principal posts in flood prone areas due to the traditional beliefs that bar women from canoeing in flood waters and rivers.

5.2.2.2 Age profile of participating HoDs

Figure 13 shows the age profile of HoDs who participated in the focus group interview that was conducted during the first phase of this sequential explorative mixed method study. The participating HoDs are in three age-ranges of young, middle-aged and old. Thus, one HoD is young with less than 29 years old (≤ 29 = 1), while another is middle aged (30-49 years). The remaining two HoDs are in the old age-range of ≥50 years (≥50 = 2).

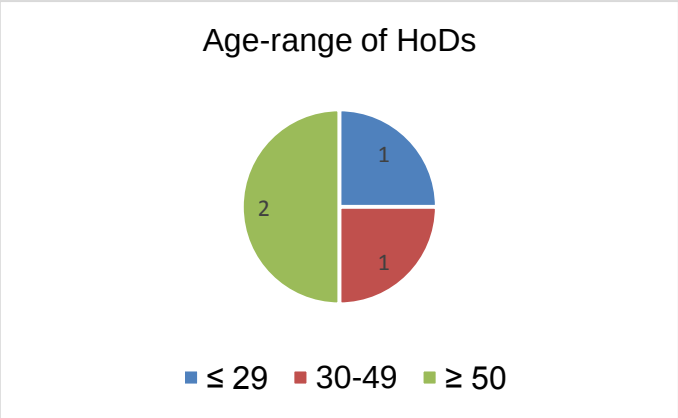

Figure 13: Age profile of participating HoDs

The age profile of HoDs is more or less similar to that of school principals (See Figure 9). Two male HoDs are towards the retirement age of 60, while the female HoD is in the middle age range. The young inexperienced female HoD has an added advantage of learning from the experienced male HoDs on how quality education can be enhanced in schools in the Zambezi region. Hence, the use of self-assessment strategies can help the HoDs share their expertise with one another to improve the quality of education in schools.

5.2.2.3 Highest academic qualifications of participating HoDs

Figure 14 illustrates the highest academic qualifications of participating HoDs. All the participating HoDs are in possession of a teaching qualification. The highest educational qualification of the HoDs who participated in the focus group interview is a Bachelor of Education Honours degree. The lowest educational qualification is an Advanced Certificate in Education (ACE) that was offered to teachers prior to the

independence era of Namibia. Teachers with the highest academic qualifications of ACE are classified as G12 plus two years of tertiary education and are professionally under-qualified.

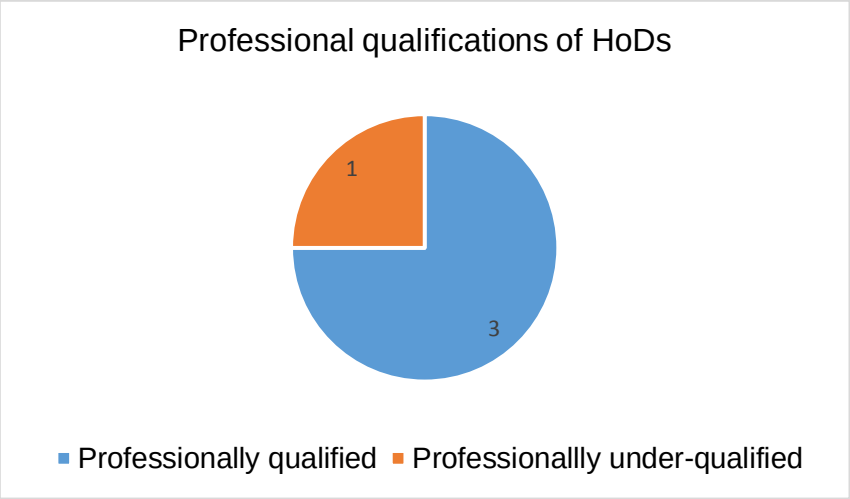

Figure 14: Professional qualifications of HoDs

Two heads of departments are in possession of the Basic Education Teacher Diploma (BETD) that was offered after the independence of Namibia by the former Colleges of Education. After the merger of former colleges of education with the University of Namibia in 2011, the BETD programme was phased out and replaced with a Bachelor of Education Honours degree. The participating HoDs possess minimum teacher professional qualifications that are necessary to help improve the quality of education in schools in the Zambezi region.

5.2.2.4 Experience of HoDs

Figure 15 illustrates the participating HoDs' teaching experience and years of experience in their designated positions as heads of departments. The total number of years of teaching experience ranges from 14 to 38 years. The average years of teaching experience among the HoDs is 28 years. The heads of departments have vast years of teaching experience compared to the median years of 5 years, thereby, making them eligible to effectively support teachers and school principals in improving the quality of education in the Zambezi region by using the self-assessment strategies.

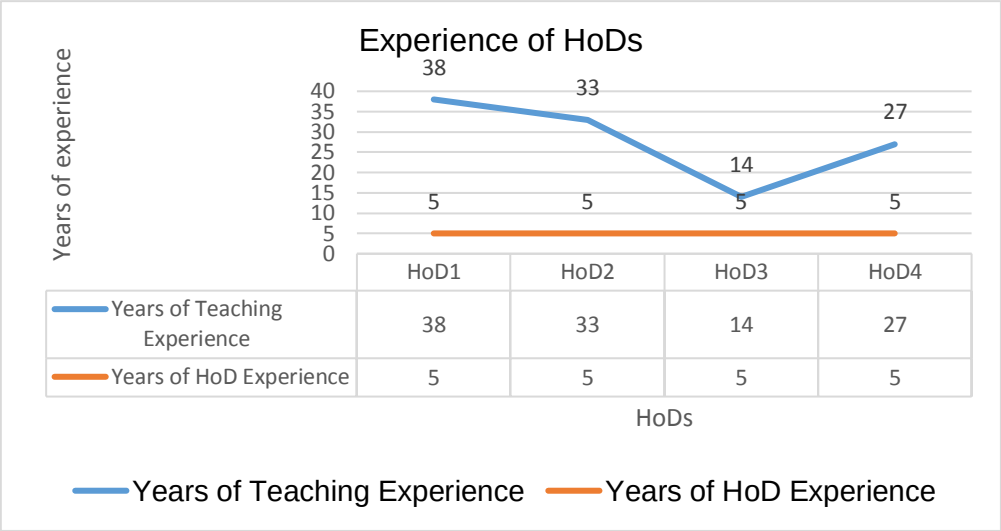

Figure 15: Experience of HoDs

In general, as expected, all the four HoDs have more years of teaching experience than the years of experience as heads of departments. The HoDs' average years of 5-years of experience are adequate for the HoDs to provide reliable data on how self-assessment strategies can be employed in schools to enhance quality education in the Zambezi region.

The school principals and HoDs provided valuable demographic data that was essential for this sequential explorative mixed method study. Thus, the data provided by the two cohorts of interviewees is based on their experience as teachers and school managers in addition to their academic qualifications. Data gathered during the first phase of the study was consequently used to inform the design of the Likert-scale questionnaire (See Appendix E) for teachers in the second phase of the study. Therefore, it was necessary that demographic data of the informants (school principals and HoDs) be established prior to the data collection exercise.

5.3 PERCEPTIONS OF QUALITY AND QUALITY EDUCATION IN GENERAL

This sub-section presents a collection of raw data from the participating school principals and heads of departments. The raw data was gathered during the first phase of the study. Two research instruments: personal interviews (See Appendix C) and focused group interview (See Appendix D) were used to capture the participants' opinions on quality and quality education in general. Furthermore, the instruments

helped collect valuable data on the recourses available to support the use of self-assessment strategies in the Zambezi region.

Five school principals (SP), denoted by: SP1, SP2, SP3, SP4, and SP5, participated in individual face-to-face interviews while four heads of departments (HoDs) participated in a focus group interview during the study were denoted as FGI. Face-to-face interviews with school principals were conducted first, followed by a focus group interview with the HoDs. Both interviews were conducted during school holidays to avoid disrupting school activities. The following sub-sections present the findings of the school principals and HoDs' general perceptions of quality and quality education and the use of self-assessment strategies in the Zambezi region.

The discussion will be done according to each of the four sub-problems phrased in Chapter one, (cf. par 1.4), namely:

- What entails quality and quality education?
- How can self-assessment strategies be linked to quality and quality education in general terms?
- What resources are available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region?
- How can a self-assessment strategy model be developed to enhance the quality of education in the Zambezi region?

5.3.1 The school principals' and HoDs' perceptions of quality and quality education in general

Participating school principals and HoDs gave different meanings of the notions of quality and quality education. It is worth noting from the onset that both school principals and the HoDs' perceptions of quality were based on their educational backgrounds as teachers, HoDs and school principals. The question read as follows: ***How do you perceive quality and quality education?***

The following patterns of perceptions were drawn from the school principals' and HoDs' perception of quality and quality education: 'Productive work'; 'Examinations results'; 'Lifelong learning'; 'Durability of products and services'; 'Fitness' and 'Relevancy'.

5.3.1.1 Productive work

Two school principals perceive quality as something that constitutes ‘productive work’. According to Respondent SP1, ‘more productive work by teachers yields quality products or services’ (SP1, lines 1 - 2); while Respondent SP2 viewed quality as, ‘the amount of work done by staff in a school that determines the output of quality products, namely learners’ (SP2 lines 1-2).

5.3.1.2 Examination results

Respondents SP1 and SP3 perceive quality in terms of ‘good examination results’. Thus: ‘the higher the pass rates, the higher the quality’ (SP1 line 2). Similarly, Respondent SP3 perceives quality as ‘when learners are able to pass whatever examination has been set to them’ (SP3 lines 1 - 2). The participating heads of departments (HoDs) concurred with school principals in perceiving quality as good examination results. The HoDs understand quality as ‘a type of education that yields good results’ (FGI line 1).

5.3.1.3 Lifelong learning

Respondent SP4 viewed quality as ‘lifelong learning’ (SP4 line 26), and that, ‘quality is a way of improving one’s lifestyle throughout one’s life’ (SP4 lines 27 - 28). The HoDs agreed that quality is a lifelong process. One HoD summed it up as follows:

> *Okay! I will add on to say that quality means you are preparing a child to fit in everyday life. Meaning a child will be developed, they will have their own self-esteem, they can stand on their own and they can do things bearing in mind that they are having their own mind-sets. They can fit in any way for the betterment of the country or for the future development of the country* (FGI lines 7 - 10).

5.3.1.4 Durability of products and services

Respondent SP4 perceives quality as ‘durability’ of services to the customers. Thus, ‘quality is something that is durable which enables one to continually grow to certain levels or stages’ (SP4 lines 26 - 27). Respondent SP5 views quality as usable goods: ‘customers like products that last longer and that can be used over and over again’

(SP5 line 31). In addition, Respondent SP5 said, 'the longer the products or services those customers receive, the better the quality of products or services provided' (SP5 lines 31 - 35). The HoDs concurred with Respondent SP5 by perceiving quality as 'information or something that is good and that is usable in future' (FGI lines 4, 6 and 19).

5.3.1.5 Fitness

The HoDs perceive quality as 'fitness' to societal needs. Quality is viewed as an education system that produces learners who are able to contribute meaningfully to the economic development of a country. According to one HoD, 'quality means that a child can fit in any way for the betterment of the country or for the future development of the country' (FGI lines 9 - 10). Quality in education is perceived as learner preparedness to fit into society.

5.3.1.6 Relevancy

The HoDs were further probed on their perceptions with regard to the relevance of quality education in the Zambezi region as follows: **Do you think the concept of quality is relevant to the education system in the Zambezi region? If so, why?**

All the heads of departments responded in affirmative. One HoD summarised the answer to the question to which all agreed to as follows:

> *Quality is relevant. Even customers in shops when they go to buy things, they look for quality commodities. So, we as service providers, when we provide services, we must make sure that we provide quality services* (FGI lines 21 - 22).

The participating school principals and the HoDs perceive quality differently. Furthermore, their definitions of quality are defined in an educational context and not 'quality' as a standalone notion. However, as Green (1994:17) puts it, 'there is no single definition of quality that is right to the exclusion of all others'. UNAM (2015) perceives quality as a relative and multi-dimensional concept in education because it is defined differently by different stakeholders or constituencies based on their values, interests,

perspectives and priorities. The notion of quality can mean different things to different people as it is a complex phenomenon.

However, all the definitions offered by the participating school principals and heads of departments have a central and an inherent feature of enhancement. Collins (2011) and Oxford (2010) define enhancement as increasing or improving the quality or value of something In this particular case, school principals and HoDs perceive quality as improving an education system by increasing: high examination results; effective teaching and learning work; life-long learning; and providing "total" education to the learner.

5.3.2 The school principals' and HoDs' perceptions of quality and quality education in the Zambezi region

The school principals and HoDs' perceptions of quality and quality education in the Zambezi region are manifold and can be put according to the following patterns:

> 'Teacher effectiveness'; 'Acquisition of basic competencies'; 'Learning outcomes'; 'Good examination results'; 'Learner prosperity'; 'An education system that produces educated citizens'; 'Deployment of professionally qualified teachers in schools'; 'Quality lessons and assessments'; 'Provision of adequate teaching and learning materials'; 'Relevance of syllabus to societal needs'; 'Developing children's potential to the fullest'; 'Holistic approach to life-long learning'; 'An education system that prepares people for life'; 'An education system that equips our people with skills'; and, 'an education system that produces leaders and many other professionals'.

5.3.2.1 Teacher effectiveness

The five school principals linked 'teacher effectiveness' to quality education. Respondent SP3 perceives quality education as a system that has 'qualified teachers who are able to deliver quality lessons and assessments to learners' (SP3 line 8 - 9). The participating school principals view teacher effectiveness as key to the realisation of the quality output of teaching and learning processes in schools. Thus, teachers' work ethos in terms of commitment, dedication, morale, skills and knowledge in executing their core professional duties of effective teaching and learning determines

quality education in schools. Participating school principals perceive quality education as ‘teacher effectiveness’. Thus,

> *Not all teachers deployed at my school are professionally qualified. That is why I encourage teachers to attend workshops at Cluster and Teacher’s Resource Centres to become effective* (SP2 lines 3 - 5).
>
> *I also encourage my teachers to pursue further studies to become professionally qualified teachers in order to be effective in teaching* (SP4 lines 9 - 10).

The deployment of professionally qualified teachers in schools is regarded as an indicator for quality education. Teachers who are well trained in content and pedagogical knowledge and skills are effective and have great potential to contribute immensely to quality education.

Similarly, HoDs agreed that quality education was much dependent on ‘teacher effectiveness’. Teachers who are well trained during pre-service and in-service training are seen to have potential to use their skills and pedagogical knowledge for the betterment of the learners in schools. This is in line with the findings of Ogboro and Nwadiani (2017) that the deployment and utilisation of professionally qualified teachers determine the internal efficiency of the school. Teachers, therefore, are regarded as the main contributors of quality education enhancement in the Zambezi region.

5.3.2.2 Learning outcomes

The participants regard learner outcomes as constituting quality education. This is summed up in one HoD’s remarks that: ‘when our learners complete school and articulate to next higher levels of education, then, we talk of quality education’ (FGI lines 43 – 44). Thus, schools that have learners who meet the minimum requirements for entry into the next higher levels of education are regarded as providing quality education. Respondent SP4 puts it as follows: ‘schools that enable learners to master basic competencies as prescribed in the basic curriculum offer quality education’ (SP2, lines 25 - 26). HoDs and school principals perceive quality education as the processes of acquiring basic competencies by learners which enables them to articulate to higher levels of learning through literacy, reading and numeracy. This was summed up by HoDs as follows:

> *If our children are able to read, write and do numeracy, then we have quality education* (FGI line 40). *You should go outside and find out how many are able to read in the Zambezi region. Maybe it will be a few out of a thousand. To me that's not quality education* (FGI lines 347 - 349)

5.3.2.3 High examination pass rates

Participating school principals perceive quality education in terms of high examination pass rates. According to Respondent SP2:

> *Schools that produce high examination pass rates are seen in the eyes of the public as offering quality education. If you want your school to be on the map, just produce good examinations results, especially in external examinations?* (SP2 lines 13 - 16).

Schools that produce high pass rates in the national examinations are regarded as quality education providers.

5.3.2.4 Learner prosperity

Participating school principals generally define quality education as 'learner prosperity'. Respondent SP5 perceives quality education as 'an educational system that prepares or equips people with skills that will help to produce leaders and many other professionals' (SP5 lines 33 - 35). Professionals such as engineers and doctors are seen to be products of an education system that offers quality education.

5.3.2.5 Educated citizens

Participating school principals generally define quality education as responsible citizens: Thus, 'quality education is an education system that produces educated citizens as mentioned in Vision 2030' (SP5 lines 9 – 10).

5.3.2.6 Quality lessons and assessments

Participating HoDs further perceive quality education as congruent to teacher effectiveness in lesson planning, presentations and learner assessments. One HoD wrapped it up as follows:

I have the mandate to check over the written work of the learners, to check over the lesson preparation for the teacher. And as I am checking over, I usually ask my teachers … please when you hand over your preparation file, please handover your syllabus as well, so that I look at what was the basic competency, and what were the stages for the lesson. Was it relevant to the basic competencies that are being addressed? And what was the homework given or the classwork given? Is it relevant to the basic competencies? (FGI lines 76 – 81).

5.3.2.7 Provision of adequate teaching and learning materials

Participating school principals linked quality education to the availability of 'adequate teaching and learning facilities' in schools. According to Respondent SP2, 'my school is in a flood-prone area and doesn't have enough resources. So, my teachers find it difficult to improvise teaching and learning materials from the immediate environment during the annual floods' (SP2 lines 5 - 6).

The HoDs further linked the 'provision of resources' (i.e. physical, financial and human) in schools as an attribute of quality education. Thus,

If we use the right resources, and we use the right documents, like for example, if we are using the right syllabi, where we get the basic competencies which we are supposed to teach our learners, then we can achieve quality education (FGI lines 29 – 31).

Schools that have physical facilities, such as classrooms, laboratories and libraries that are stocked with relevant teaching materials are seen as schools that offer quality education.

5.3.2.8 Relevance to societal needs

Participating school principals perceive quality education as being relevant to the needs of society and industry. According to Respondent SP2:

For me, quality education in the Zambezi region can only be attained when our youngsters meet the needs of our stakeholders in our local communities. Every

> *society needs to continually survive, so our education system should give learners quality education for this region to compete with other regions* (SP2 lines 7 – 12).

In general, participating HoDs agreed that quality education systems should 'fit the purpose' of society's needs. One HoD put it like this: 'our schools should teach our children so that they can be absorbed and be accepted by communities in and outside school, otherwise, there will be chaos in our communities' (FGI lines 40 – 43).

5.3.2.9 Child development

Participating school principals and HoDs view quality education as a child development process. Respondent SP4 perceives quality education as, 'an educational system that develops children to achieve their full potential … in all spheres of life' (SP4 lines 6 and 9). The participating HoDs regard quality education as inclined towards 'child development' and supported one of their colleagues who said the following:

> *Our education system should lead to the developmental* (sic) *of the child as a whole, whether the child is at home, or whether the child did not complete all the grades, that child should still fit in society as a respectable and responsible citizen of the country* (FGI lines 35 to 37).

The participants view quality education as a holistic development process whereby children are developed in totality: physically, spiritually, morally, emotionally, and psychologically as emphasised by Respondent SP2 that, 'learners in schools should be taught to their fullest' (SP2 line 2).

5.3.2.10 Life-long learning

Furthermore, the participants perceive quality education as 'life-long learning'. Thus, 'children and teachers at my school know that education does not end. We, as school principals should serve as models in pursuing further studies so that we can improve the good performance of our schools' (SP2 lines 51 - 53).

5.3.2.11 Fitness of purpose

Heads of departments generally perceived quality as 'fitness of purpose'. One HoD agreed that:

> *Unlike our schools in the rural areas, schools in town have facilities such as classrooms, laboratories, staff rooms, school fence, and many other things, that in the long run, create an enabling environment for quality education to take place in these schools* (FGI lines 364 - 366).

The participants regard the school infrastructure as contributing towards creating an enabling and supportive teaching and learning environment. Schools with modest infrastructure are better positioned to enhance quality education in schools.

5.3.2.12 Teacher focus

The HoDs were further prompted to agree or disagree with the following statement: ***Do you agree with the statement that 'Quality is what customers say it is'? If, so, why?***

> *Yes, we agree with that one because customers don't need faulty goods. If they are not provided or given a proper service, they tarnish the image of the business. Like in schools where we are working, some learners are moving from their home schools to other schools because of low quality. They see the quality at their school as of no use and then go to another school where learners are able to pass, and progress to the next grade. So, it is equally the same to our customers, when the goods of a particular shop are of faulty they will move to the next shop,* said one HoD.

One Hod said:

> *Yes, it is true, because we have even seen some parents approaching the school to question: why is my child not able to read? What are you doing in the school? But if they are satisfied, you will not see the parents coming. They will agree to say, yes, my child is in this grade, and my child is able to do this and that* (FGI lines 260 – 269).

5.3.2.13 Conclusion

The school principals and HoDs gave different meanings of quality and quality education in general. The interviewees defined the two notions by using different quality features. However, 'quality and quality education in general' seemed to be more problematic to define than 'quality and quality education' specifically to the Zambezi region. This is exemplified by the number of quality tenets mentioned by the interviewees. Thus, six (6) quality and quality education tenets were identified by school principals and HoDs in general compared to eleven (11) quality and quality education tenets specific to the Zambezi region.

However, it is worth mentioning that most of the quality features advanced by the interviewees in general and specific to the Zambezi region are also regarded by UNESCO (2005) and the World Bank (2012) as constituting key features of quality education indicators. However, the notions of quality and quality education remain transcendental among the interviewees as is evidenced by different meanings that the participants advanced in the study. School principals' and teachers' perceptions are varied and need to be synergised during the formulation of the schools' visions, missions and goals. This can help schools to realise quality education when the school principals and teachers share a common understanding of what quality education entails. In short, school principals and HoDs as school managers alone cannot enhance quality education in schools. The realisation of quality education in schools requires the involvement of teachers who are crucial in supporting quality assurance mechanisms such as self-assessment strategies.

5.3.3 Links of self-assessment strategies to quality and quality education

5.3.3.1 Internal professional support

Self-assessment strategies are used by educational organisations including schools to monitor and evaluate quality and quality education in general. In Namibia, the Ministry of Education has put in place the Directorate for Program Quality Assurance (PQA) with its sub-divisions at regional and national levels. PQA is mandated to assure the quality of education in schools. Inspectors of education (from the inspectorate division) and advisory teachers (from the advisory services) are expected to regularly visit and

support school principals and teachers for quality assurance in schools. The study interrogated interviewees on how often inspectors of education and advisory teachers monitor and evaluate school principals and teachers during school visits. School principals and teachers are required by the Ministry of Education to conduct self-assessment at the school level. According to the Ministry of Education (2013:4), 'the internal evaluation by the school of its own work would normally provide the starting point for the work of external evaluators'. The use of suitable self-assessment strategies by school principals and teachers in schools can serve as a link to quality and quality education enhancement in schools of the Zambezi region.

School principals and HoDs were asked to respond to how often inspectors of education (IoEs) and advisory teachers (ATs) visited school principals and teachers to monitor and evaluate quality education in schools. The participants' views on the external support in the use of self-assessment as a link to quality and quality education in schools can be presented in three different categories: 'external support'; 'internal support' and 'cluster support'.

5.3.3.2 External professional support

(i) Inspectors of education

All the five participating school principals generally agreed that inspectors of education regularly visited their schools: 'more than three times a term or trimester' (SP1 line 62); 'time and again' (SP2 line 25); 'termly, twice per term' (SP3 line 81); and, 'every month to collect monthly reports' (SP5 lines 36 - 37).

The participating HoDs generally concurred with the participating school principals that the inspectors of education regularly visited their schools though they differed slightly in terms of the frequency. One HoD said, 'it is once' (FGI line 297). Another HoD stated that, **'**yes, that one, I think it's random. I don't even say it is even once, because you may see even the inspector once after two years' (FGI lines 301 – 302).

(ii) Advisory Teachers

Participating school principals responded that advisory teachers seldom visited their schools. Respondent SP4 put it as follows:

> *That one has some challenges. I have seen lastly advisory teachers; anyway, they were there last year towards the end of the term but very late. In fact, but since I arrived at that school in 2004, I count less than 5 trips for advisory teachers* (SP4 119 – 122).

HoDs echoed similar sentiments pertaining to advisory teachers' visits to schools. According to one HoD:

> *The advisory teachers they just go just once in a year, once in a year, and normally they will just go there and criticise instead of helping* (FGI lines 299 - 300).

> *You may see the advisory teachers once after three years when you perform badly* (FGI line 302).

5.3.3.3 Cluster system

All participating school principals and the HoDs confirmed that the Zambezi region has a cluster system in place. Some respondents indicated that the cluster system is effective while others saw it as wanting. For example, Respondent SP1 regarded the cluster system as effective:

> *Very much! We normally have cluster competitions that we conduct not only academically but including these other non-subjects, like we have competitions on science fairs, competitions … on culture* (SP1 lines 69 – 73).

Respondent SP2 stated that, 'Yes we do! We have a cluster system that is working. But, there are some cluster centre hiccups in administering that is a problem' (SP2 33 – 34). Respondent SP3 stated that some cluster centres lack basic facilities: 'at my cluster centre there is not even a cluster office or room for meetings' (SP3 lines 95 – 96). Respondent SP4 regarded the cluster system as 'a challenge that is being aggravated by financial constraints that teachers incur while travelling from the school to the cluster centre and back' (SP4 lines 144 – 145).

On the contrary, one HoD vehemently stated that the cluster system is not effective in enhancing quality education in schools:

The cluster system is not effective for the reason that nothing is going on. Currently, I don't know maybe I can say because it is lack of resources, or maybe there is lack of someone to be in front, to call everyone for the activities of the cluster or maybe it is already completely gone (FGI lines 229 - 230).

I will say that the issue of cluster system in our region is not working. I transferred from one cluster to this one where I am. There are no meetings. You don't even know who is heading, and there is nothing that is happening (FGI lines 234 - 236).

5.3.3.4 School strategic planning

School strategic planning is a prerequisite to quality and quality education in schools. Schools that find time to plan short-, medium-, and long-term goals strategically can achieve quality and quality education in schools. School strategic planning can be guided by use of suitable self-assessment strategies that can help school principals and teachers to realise their schools' visions, missions and goals. This requires that school principals and teachers occasionally meet to plan activities strategically that can enhance quality education in schools. During planning meetings, school principals and teachers can critically examine and reflect on their past experiences: strengths and weaknesses in the light of schools' missions, visions and goals. In this case, the participating school principals were asked a question on how and why they formulate their school's mission, goals and vision.

All participating school principals concurred with the HoDs that they meet once every October of each year as a 'Ministerial policy' requirement (SP4 line 18). When the school principals and HoDs were further probed to explain the purposes of formulating their schools' missions, goals and visions annually, the following categories emerged: 'Planning' 'Curriculum' and 'Exam Targets'.

(i) Planning

All participating principals stated that they usually meet in October of every year as a ministerial requirement to redefine their mission. One school principal summed it up as follows: 'In October, we redefine the vision and mission and values of the school … to know where we are, and we have to reflect where we were so that we better prepare

for tomorrow' (SP5 lines 11 – 13). Furthermore, self-assessment strategies can help school principals and teachers to have shared school visions that are commonly known and understood by the school staff.

(ii) Curriculum

Three school principals pointed out that the main reason why they meet once every year as a school is to examine the 'curriculum'. School principal SP5, extrapolated it as follows:

> *Yeah, exactly, yes. Firstly, we are a government institution that is guided by government policies; normally we follow the basic curriculum of the Ministry of Education which we are supposed to implement fully* (SP5 lines 15 - 18).

Self-assessment strategies aim to help school principals and teachers improve the quality of education in schools by focusing on the learning outcomes of learners as outlined in the curriculum.

(iii) Exam targets

All five participating school principals and the HoDs indicated that one of the main purposes of meeting as schools in October of every year is to analyse the end of year examination results and confirm whether projected targets were achieved. School principal SP1 summed it up as follows: 'We meet to set examination targets for learners in all examinable subjects. Teachers retrospect learners' performances in previous year's examinations and set targets for the following year' (SP1 lines 17 – 19). Self-assessment strategies can help school principals and teachers improve examination results by exposing them to higher order thinking skills to critique their teaching repertoire.

(iv) Teacher surveys

The participating school principals and HoDs were asked to explain how the needs of teachers are taken into account by their respective schools in enhancing quality education.

The participating school principals responded by stating their experiences in terms of challenges and strengths. Respondent SP1 stated that, 'I try my utmost best to take into account teachers' needs but I'm experiencing difficulties because of lack of classrooms and vandalism of school property' (SP1 lines 25 - 27). The HoDs generally identified their challenges as including 'insufficient resources; and, lack of teaching and learning materials' (FGI line 366). School principals identified one strength of teacher involvement in their every day-to-day activity. Another school principal stated that, 'one way of how the needs of teachers are taken into account is by analysing teacher performance through subject meetings' (SP4 lines 35-36). Another school principal pointed out that, 'teachers' needs are taken into account by allocating subjects to teachers according to their fields of specialisation' (SP5 lines 53 – 54).

The participating school principals and HoDs were asked whether teacher satisfaction surveys are conducted at their schools to identify teachers' needs. The question asked was: **Are teachers' needs regularly surveyed and acted upon by your office? If yes, how often?**

The participants attested in general that teachers' needs are often determined during the first week of each school term. According to the school principals: 'It is done every trimester, 1st week of management staff meetings' (SP2 lines 19 - 20); 'The first week of each term where we come together with ... teachers teaching in Grade 10' (SP4 lines 81-82).

Respondent SP1 elaborated as follows:

> *Teachers go through the HoD. They bring their concerns to the HoD. If the HoD doesn't have any solution, then the HoD will bring it to me for my attention that I should address teachers' problems. And then that is when I can intervene if there is a failure from the HoD* (SP1 lines 33 -36).

On the sub-question of how teachers' needs are acted upon, Respondent SP2 said that, 'teachers' needs are handled in an orderly manner. Teachers go through the ladder of seniority to register their concerns' (SP2 lines 21 – 22). This was substantiated by three school principals who stated that the HoDs often identify teachers' needs. According to the three school principals: 'teachers go through the

HoD to register their needs, the HoD brings it to me for my attention' (SP4 100-103); and, 'teachers air the concerns through their senior teachers because I do not have an HOD' (SP2 lines 22-23).

The HoDs responded to the question above in the affirmative. According to one HoD, 'class visits and one-on-one dialogue with teachers' (FGI lines 77 and 89) are used as platforms to identify teachers' needs.

5.3.4 Availability of recourses for the use of self-assessment strategies to ensure quality education in the Zambezi region

5.3.4.1 Teacher effectiveness

Teachers are perceived as the main recourse available to ensure that quality education is enhanced in schools in the Zambezi region. Quality education can be linked to teacher effectiveness in schools. Teachers who are efficient and effective in service delivery can use self-assessment strategies to enhance quality education in schools through teacher collegiality, awards' programmes, motivation and competition and avoid teacher reprimands for non-performance.

5.3.4.2 Teacher collegiality

The participating school principals and heads of departments were asked the following question on teacher collegiality: **Do teachers at your school prefer to work in teams or in isolation? Explain.**

In general, the respondents indicated that teachers seem to prefer to work in teams. According to Respondent SP3:

> *It is only through team work that our goal can be realised. Because, eh, through team work, teachers can plan together and they can exchange work. They can plan to visit each other even if management is not involved just to share these types of teaching strategies and other stuffs which will improve the teaching profession* (SP3 lines 153 – 158).

According to Respondent SP2; some teachers prefer to work in isolation. According to him/her, 'some prefer to work in isolation but I encourage them to work in groups (SP2 lines' 59 - 60).

The HoDs confirmed what the four school principals (SP1, SP3, SP4 and SP5) said that teachers prefer to work in teams. One HoD, who was supported by all the colleagues, reiterated as follows:

> *I don't see my teachers or our teachers in our schools working in isolation. Because, you can even sometimes, vividly see them consulting each other when they are working on their preparations, or when they are preparing their teaching aids. They even do peer coaching themselves* (FGI lines 158 - 163).

However, one HoD mentioned that there are teachers who prefer to work in isolation and that they need professional help. According to the HoD, 'there are some teachers who are so lonely, who are not cooperative. So, you have to do some activities. As said by my colleagues that during lesson preparations, they come together and plan' (FGI lines 181 - 183).

A follow-up question on teamwork was posed to school principals and HoDs as follows: **Do you think your teachers prefer to work more closely with their departmental colleagues in their grade phases, (e.g. Lower Primary, Upper Primary, and Junior Secondary) rather than working with teachers having the same fields of specialisation? If so, why?**

Generally, the HODs signalled that teachers prefer to work more closely with their departmental colleagues in their grade phases, (e.g. Lower Primary, Upper Primary, and Junior Secondary) rather than working with teachers in different phases having the same fields of specialisation.

The school principals differed significantly on the question asked above. Respondent SP2 in confirmation to Respondent SP1 said:

> *Teachers from Lower Primary to Upper Primary and Junior Secondary work together according to their fields of specialisation. For instance in languages,*

teachers work together from pre-primary to junior secondary. There is no limit (SP 2 lines 65 – 67).

Additionally, Respondent SP3 confirmed that:

They team up according to their subject specialisations. So that this can assist them with the challenges they are facing in terms of delivering the subject matter (SP3 lines 205 - 207).

However, Respondent SP4 differed with Respondents SP2 and SP3. According to Respondent SP4:

That's a problem we have! I don't know whether it is just for the school or other schools. You find they create more phases that they are primary teachers we can never be upper primary or junior secondary but the essence is teaching and learning. The teacher at the lower primary has what it takes to assist someone who is teaching at the upper levels. But, the situation at my school stands that they want to remain at their respective phases (SP4 280 – 285).

Lastly, Respondent SP5 like SP1 took a middle stance between the two factions mentioned above. According to Respondent SP5:

Yes! Yes! No! What I have seen … I think they use both. Yeah, there are times when they engage their peers those ones with the same or similar specialisation but there are times when they work as departments (SP5 lines 97 - 98).

5.3.4.3 Teacher awards

Participating school principals and heads of departments were asked to explain how teachers are motivated to improve the quality of education in schools in the Zambezi region. The question read: **Do you award the best-performing teachers at your school? How?**

The five school principals responded in the affirmative that best-performing teachers are bestowed with gifts and prizes for their outstanding achievements. The practice of rewarding teachers is done at different levels of the education system in the Zambezi region. According to Respondent SP1, 'we have developed award ceremonies at

different levels, i.e., at school, cluster, circuit, and regional levels' *(SP1 lines 175 – 176).* Furthermore, Respondent SP3 said that, 'best-performing teachers are awarded letters of appreciation; letters of commendation and conferred with certificates of recognition' (SP3 lines 163 – 168). Respondent SP5 said, 'we also award the best performing teachers with small tokens of gifts, trophies and certificates' (SP5 lines 87 – 88).

The HoDs generally agreed that best-performing teachers are awarded in many different ways by schools and other education stakeholders. One HoD confirmed the awarding practice as follows:

> *We really give praise to those who are doing the good work by giving them certificates. Sometimes, even the community themselves they give them tokens. They come to them and say we appreciate what you are doing at our school* (FGI lines 164 – 167)

5.3.4.4 Teacher competition

The participating school principals (Respondents SP1, SP2, SP3, SP4 and SP5) and the HoDs were asked the following question on teacher competition: **Do your teachers compete against one another in producing good results? Yes/No. Elaborate.**

The two groups of respondents responded affirmatively with the exception of Respondent SP4 who responded negatively. Respondent SP4 justified his assertion as follows:

> *For me if there was competition, we would see that when exams come out, another teacher would surpass [best-performing teachers]. But for the past five years, consistently, this teacher has been performing well without any challenge, so if you see that situation, it shows there is no competition* (SP4 lines 289 - 292).

5.3.4.5 Teacher motivation

Participating school principals and heads of departments were asked how they motivated their teachers in producing good results. The respondents mentioned various ways of how teachers are motivated:

> *We provide certificates at the school level for those who do well* (SP1 lines 217 - 218).
>
> *I motivate them by comparing their learners' results at school, cluster and circuit levels* (SP2 lines 68 - 69).
>
> *I normally motivate them by giving them examples of good performing teachers* (SP3 lines 208 - 209).
>
> *Yes. By giving them certificates* (SP5 line 100).

The HoDs agreed that they motivate teachers during routine class visits and that they discuss areas for improvement, whereby, they 'focus on the good thing that the teacher is doing. Show him or her, what is it that he or she needs to improve on and motivate this person that you have not reached there, you can still improve' (FGI lines 170 - 172). HoDs generally agreed that they motivate teachers by 'praising' them (FGI line166).

5.3.4.6 Teacher reprimands

The participating school principals and HoDs were asked to mention how they negatively sanction non-performing teachers: **Do you reprimand the non-performing teachers? If yes, how?**

Participating HoDs were hesitant to state how non-performing teachers are reprimanded in schools. However, one HoD voiced that, 'reprimand is a very bad thing, um; you have to tackle it tactfully. I start with the good thing that the teacher is doing. Because it is not everything that this teacher is doing that is bad' (FGI lines 168 – 170).

Respondent SP3 confirmed that they reprimand non-performing teachers in the following manner: 'if things are not improving, I will go to an extent of issuing warning,

warning letters. Maybe I will start with a verbal warning and then warning written letter. Yes, and I have already issued all these things that I am saying' (SP 3 lines 190 – 193).

5.3.4.7 Decision-making

The participating school principals and HoDs were asked to state how they conduct the decision-making processes at their schools to ensure quality education. All the participants mentioned that decision making is participatory and consultative. The school principals pointed out that they frequently consult teachers in decision making processes on quality education matters. One HoDs said that, 'the value of decision making is to allow, or accommodate every teacher's idea, so that, we don't make mistakes in future' (FGI 149 -150). One HoD further stated that, 'it is important for us to allow every individual teacher to participate in decision making for the school to run smoothly and for us to set the same goal' (FGI 150 – 151). The HoDs further agreed with one of their counterparts that, 'the value of decision making, yah, it should be a decision that holds water, something that is understood by everyone, and that they will fully participate in implementing that decision' (FGI lines 152 – 153).

5.3.4.8 Academic freedom

Academic freedom can be regarded as a critical recourse that can be used to explore the use of self-assessment strategies to ensure quality education in schools. The participating school principals and HoDs were asked a question on teachers' academic freedom and control of their continuous professional development as follows: ***Do individual staff members have significant control over their own professional development?***

All participating school principals and the HoDs responded positively that individual staff members have significant control over their own professional development. The assertion was augmented as follows:

> *They do have control because many of them are studying in order to better their qualifications* (SP2 lines 49 – 50).
>
> *Yes! I will say yes. Though I cannot elaborate further* (SP3 line 139).

Yes they do, they show that by paying for their studies. So it makes a significant contribution towards their personal and professional development (SP4 lines 213 – 215).

Partly, I think! (SP5 line 72).

HoDs also concurred with the school principals that teachers are afforded significant control over their continuous professional development. The trend of teachers pursuing further studies featured again. Social media was also identified as one way of granting teachers the liberty to network with their fellow colleagues. One HoD put it in the following manner:

Yes, individual studies, that is one of them. And contacting maybe the … What do you call this cell phone thing? Yes! The social media, they create contact groups. They contact teachers in other schools on certain topics and so on (FGI lines 191 - 193).

5.3.4.9 Continuous professional development (CPD)

Continuous professional development is another recourse that can bring about quality education in schools. Through CPD activities, teachers can continuously improve their teaching skills and knowledge. Thus, participating school principals were asked to state their roles in supporting teachers in enhancing the quality of education in schools in the Zambezi region. The main question and follow-up questions read as follows: **Do you encourage your teachers to engage in continuous professional development activities? Can you give examples of continuous professional development activities that your teachers are engaged in?**

All participating school principals and HoDs confirmed that they encouraged their teachers to engage in continuous professional development activities:

We normally engage them. The Ministry has provided us with that program with the Teachers Resource Centre for them to be professionally developed (SP1 lines 105 - 106).

Yes! We do that again and again especially with young teachers (SP2 line 42).

Yes! Yes! I always do that! Teachers are upgrading their studies (SP3 line 131).

Yes! As I speak, I have more than two to three teachers who are studying just to improve their qualifications (SP4 lines 197 – 198).

Yes! Like I mentioned earlier on, we have got a committee that is called professional development continuous committee (SP5 lines 67 – 68).

Yes, individual studies, that is one of them. And contacting maybe the … what do you call this cell phone thing? The social media, they contact groups they contact one teacher in another school and what is that you are doing this topic and so on (FGI 191 – 193).

At school level, like I said, that is the part that we give to the professional continuous development committee which is headed by the HoD at the school, which is coordinated by the cluster principal at the circuit level (SP4 lines 200 - 202).

Yes, like I mentioned earlier on, we have got a committee that is called continuous professional development committee that … helps teachers on how to use the syllabus (SP5 lines 69 – 71).

The participating school principals and HoDs cited the following as examples of continuous professional development activities: 'Workshops', 'Subject meetings', 'Upgrading of teacher qualifications', 'Mentoring and promotion of teachers', and 'CPD committee meetings'.

The participating school principals and HoDs generated a wide range of recourses for self-assessment strategies that can be used to enhance quality education in schools. However, the recourses mentioned by the participants require careful planning by both school principals and teachers. Well planned recourses as stated by the participants have the potential to improve the quality of education by using self-assessment strategies in schools in the Zambezi region.

5.3.5 The development of self-assessment strategy models to enhance the quality of education in the Zambezi region

5.3.5.1 Roles of school principals in enhancing quality education

The school principals were asked to state whether they regard themselves as the only role players in ensuring quality education enhancement in schools: **Do you agree or disagree with the following statement: *School principals alone cannot accomplish the realisation of quality education enhancement in a school without the support of all its members?* Explain.**

All the school principals agreed with the statement that school principals alone could not accomplish the realisation of quality education enhancement in a school without the support of all its members as follows:

> *I agree. I'm not the teacher for the whole school ... And, I cannot work alone, as an individual to bring good results without others being involved in* (SP1 lines 253 - 256).

> *No ways. How I can work alone. I can only succeed by working with stakeholders. So, I don't buy the idea. School principals alone cannot accomplish the realisation of quality education enhancement in a school without the support of all school members* (SP2 lines 73 - 74).

> *I agree! Because the school is a very complex entity whereby it involves a lot of people: starting from learners, teachers themselves, support staff, the parents, community and the regional office, also. So, a principal single-handedly, it will be very difficult to run all these activities. Hence, there is a need for collaboration with every staff member* (SP3 lines 234 - 238).

> *Yes, I agree, the principal cannot. You need 90 to 95 per cent support from the staff establishment because it is a diverse establishment. It has to be approached in a proper manner* (SP4 lines 304 – 306).

Respondent SP5 responded positively by saying, 'Yes, I agree!' (SP5 line 103), but could not elaborate further.

The participating HoDs were also asked the following questions on their roles in enhancing quality education as follows: **What role does educational quality play in your current job? Who is the overseer of quality at your school?**

The HoDs responded as follows:

> *Really! We are part and parcel; although there is a principal … We are talking about the quality education. But the principal is the overseer, and the helping hand is the HoD. So these two, they play an important role for the quality of education. Yeah, why I am saying so is because, the head of department and the principal, they are the people who are solely to class visit the teachers to see whether a teacher they are following the basic competencies. Whether the teacher is following this syllabus, this is quality education that we are talking about* (FGI lines 53 – 59).

> *Ok, let me add-on on that one. As HoDs, we are the ones who must make sure that teaching and learning is taking place in schools. While the principal oversees everything but the teaching and learning remains the HoDs' responsibility to see to it that learners are taught and leaners are assessed, and learners are doing the work in the classrooms. The purpose of quality education is that learners should be able to read and write* (FGI lines 60 – 63).

> *As the Head of Department, am even there to induct the novice teachers whenever the teacher comes in a school I have to induct this teacher what is the culture of the school? How do we work with the community? What are the resources that we have? Because the teacher might be preparing the lessons and saying I don't have this teaching aid, while the teaching aid is in the school, I induct the teacher, I tell the teacher, we have this. So, as a head of department, I see myself as the steering wheel towards quality education* (FGI lines 90 – 96).

> *As head of department, I have the mandate to check over the written work of the learners, to check over the lesson preparation for the teacher. I usually ask my teachers, please when you hand over your preparation file, please handover as well your syllabus, so that I look at how, what was the basic competency, and what were the stages for the lesson. Was it relevant to the basic*

competencies that is being addressed and what was the homework given or the classwork given; is it relevant to the basic competencies? (FGI lines 75 – 81).

There exist several self-assessment strategies models that can be developed to enhance quality education in schools. In this study, the participants were asked to identify self-assessment strategies that are familiar to them and also to justify the use of chosen self-assessment strategies.

5.3.5.2 Exposition of self-assessment strategies

The school principals and HoDs were asked to state their personal opinions on the use of self-assessment strategies in schools as follows: **Are you using any of the self-assessment strategies stated above *(Survey, Guided assessment workshop, Questionnaire, Reflection journal, Matrix, Award simulation, and Departmental self-review modes)? Yes/No. Explain.***

Four school principals answered “Yes”, and only one answered “No”. The departmental review strategy was identified by Respondents SP1, SP2, SP4 and SP5 as being used in schools as follows.

> *Yes. There is one for the department, where I will require the departmental head to review the results within the department, and then a report will be written, every member of the department should sign, to show that they contributed towards the resolutions in it and problems they faced within the department. And then from there, we normally have a reflection that we do termly or monthly, that we reflect on the results. If, tests were given, home works were given, and class works were given then we reflect on how learners performed and where teachers need assistance and build on towards the end* (SP1 lines 257 - 264).

> *Yes! I think the departmental self-review. Yeah, they produce a report and they also do a result analysis that will help them to openly discuss the strengths and weaknesses in their respective subjects. They come up with self-improvement plan and is monitored by the HoDs and directly also my office* (SP2 lines 75 - 80).

Yes, departmental. We only come up with a departmental self-improvement plan in grade 10. This is where we use to meet in different subjects, to say, what is it that needs to be done and for how long (SP4 307 - 309).

Yes! I think the departmental self-review. Yeah, they produce a report and they also do a result analysis that will help them to openly discuss the strengths and weaknesses in their respective subjects. They come up with self-improvement plan and is monitored by the HoDs and directly also my office (SP5 104 – 108).

The school principals and HoDs were further asked to give their personal opinions on self-assessment and quality education in general: **Do you think that schools can use self-assessment strategies to enhance quality education in the Zambezi region? If yes, why?**

All the school principals and HoDs made positive remarks on the values of self-assessment in schools. Respondents SP3 and SP4 embraced the value of self-assessment in schools as follows:

Yes! Yah! You see! Self-assessment, even as a person, if I just do my things, left and right every day, without sitting down or maybe to reflect on what I have achieved, you see, I will be living a life without a purpose. So, in the same vein, a school as an institution, it is really very important that every term if possible, schools sit down and make a reflection, assess itself. Just to see if the school is at the right track in terms of achieving its overall goal in terms of also realising its vision (SP3 lines 244 - 250).

Yah, it is important because we need not to wait for someone to come and tell where you where you are and what you are supposed to do. So self-assessment is very important, like the system has offered us an opportunity that there is a self-assessment where we start with a teacher self-assessment. In the self-assessment you would see where are you falling short as a school and to do much better. So it is very important that a school does to self-assessment all the time (SP4 lines 310 - 316).

5.3.5.3 Communication

Communication is pivotal to the successful implementation and development of self-assessment strategies. The manner in which school principals communicate to teachers determines how self-assessment strategies can enhance quality education in schools. Participating school principals and HoDs were asked the following question on communication: **How often do you as a school principal/HoD communicate with your teachers about their personal and professional needs?**

The school principals and HoDs, in general, indicated that communication between them and teachers is frequent. According to Respondents SP2 and SP3, 'that is done at all times because I have to do it during morning briefings though once a week' (SP 2 lines 40 – 41). 'It's done on a daily basis' *(*SP3 line 27). The HoDs also confirmed that communication between teachers and the HoDs is regular and on-going.

5.3.5.4 Relationships

The relationship that exists between school principals and teachers is essential for the successful development of self-assessment strategies in schools. Teachers who are exposed to formal hierarchical relationships with school principals might be inhibited from exploring suitable self-assessment strategies, unlike teachers who have collegial relationships with their school principals. Participating school principals and HoDs were asked to reflect on their relationships with teachers as follows: **How do you regard the relationship that exists between you and your staff? Is it that of supervisor vs subordinate? Why?**

The Respondents differed in their responses. Some regarded themselves as leaning either to the 'supervisory' or 'subordinate' type of relationship. However, some fell in between the two styles of leadership as detected by prevailing situations. Thus, Respondents SP1, SP2 and SP3 advocated the 'supervisory' type of relationship, while Respondents SP4 was in favour of the 'subordinate' type of relationship. Only Respondent SP5 dismissed either type of relationship by describing his relationship with teachers as that of collegiality. According to Respondent SP5, 'we consider each other as colleagues' (SP5 lines 101 - 102).

The HoDs, however, viewed the relationship that exists between school principals and teachers as skewed towards the supervisory mode. According to one HoD, 'most of our principals are our supervisors, but, they understand us. If I have my own view, he will listen to it, whether he takes it or leaves it' (FGI lines 252 -253).

5.3.5.5 Leadership styles

Leadership styles that school principals use can enhance or inhibit the successful development of selected self-assessment strategies in schools. School principals were asked to state their preferred leadership styles at their respective schools. The question read: **What leadership style do you use as a school principal to motivate your teachers? Why?**

All the participating school principals indicated using mainly democratic and autocratic leadership styles by alternating the two styles of leadership. Respondents SP1 and SP2 indicated that the type of leadership style they use is dictated by the prevailing situations and circumstances. According to Respondents SP1 and SP2:

> *That one depends on the situation and circumstances that come in. There is no specific one that you can use. So, a situation will tell whether you become autocratic because of the nature of the staff that you have. If they don't comply, unless you impose laws, that's when they will comply* (SP1 lines 166 -169);

> *There is no style that works properly. I use various leadership methods for you cannot be democratic all the time, sometimes you dictate. So, I rely on using various leadership styles* (SP2 lines 56 – 58).

Respondents SP3, SP4 and SP5 indicated that they predominantly use the democratic leadership style: 'I normally use of course democracy or democratic type of style' (SP3 144); 'The style remains so complex. But normally the one we refer to as democratic is the one which enjoys the most privilege' (SP4 lines 226 – 227); and, 'I am a democratic person … I use the democratic leadership style' (SP5 lines 83 - 84).

In the same vein, the participating HoDs were asked the following question: ***What leadership style do you apply in your current leadership role?***

The HoDs corresponded with the school principals that they also use various leadership styles depending on the situation. One HoD put is as follows:

> *I would fail the question if I say I'm using a democratic; I'm using autocratic; I'm using laissez-faire only. The type of leadership that I use depends on the situation that is prevailing. I will not wait to consult all teachers, when the resolution is urgent, then I become autocratic. But, when I need the response over a long period of time, then I use democratic, because I need to consult with all staff members and hear what they are going to say. And laissez-faire, when I ask them something, I need to hear what will be their inputs and use that for implementation* (FGI lines 98 – 104).

The HoDs' leadership styles can be placed under the situational leadership style that advocates that no single best type of leadership style exists (Khanfar, Aslami, Nguyen, Noor & Kaifi, 2013). According to Matheri (2015:14), 'effective leadership is determined by the school principal; the staff under supervision; and the teaching and learning tasks that are required to be completed'. School principals and HoDs' leadership styles affect teacher effectiveness in developing self-assessment strategies in schools. However, Majoni (2015) found out that school principals who use autocratic and laissez-faire styles of leadership had negative effects on school effectiveness and quality of education.

5.3.6 Conclusion

Qualitative data was collected from two cohorts of school managers, namely, school principals and heads of departments of five selected combined schools in the Zambezi region. Personal interviews were conducted with school principals while HoDs participated in a focus group interview. The two types of interviews aimed to collect data based on the four-sub questions of the research as stated in Chapter one (cf. par. 1.4). The school principals and HoDs managed to provide valuable data on the four sub-problems stated above despite different perceptions of quality and what quality education in general entails. However, the findings from the first phase (qualitative) of the study were used to inform the design of the second phase (quantitative) of the sequential exploratory mixed method study. The patterns identified in (cf. par. 5.3.2) were used to formulate themes for the second phase of the study.

The next section presents an analysis of the quantitative data collected during the second phase of the sequential exploratory mixed method study.

5.4 PART B: QUANTITATIVE DATA PRESENTATION AND ANALYSIS

5.4.1 Demographic data of teachers

Fifty-four (54) teachers from the five educational circuits (cf. par. 1.8.2) in the Zambezi region of Namibia participated in the second phase of the sequential exploratory mixed methods study. A total of 70 Likert-scale questionnaires were given to the participating school principals for distribution to teachers. The Likert-scale questionnaires consisted of two sections: A - Biographical data, and B - Questions on quality and quality education in general. The respondents were required to rate the 38 items on a 5-point scale: *1 = Totally Disagree; 2 = Disagree; 3 = Not Sure; 4 = Agree; and, 5 = Totally Agree.* Teachers' responses were entered on a data base. For data analysis purposes, the Likert-scale variables were changed to binary variables: *'Totally agree'* and *'Agree'* responses were coded as one (1), denoted as *'At least agree'. 'Totally disagree'* and *'Disagree'* responses were coded as two (2), denoted as *"At least disagree".* The *'Not Sure'* responses were coded as three (3) while the 'Missed items' were denoted with a Zero (0).

However, due to the low number of missing items (0), i.e. 12 missed cells out of 2052 teachers' responses, they were re-grouped under code three (3) for *'Not Sure'*. In this case, the missing values are very minimal to effect missing-values bias (Vaus, 2002). The final reorganisation in the data analysis procedures was that of re-grouping codes 0, 2 and 3 into a single variable of *'At least disagree'.* The raw data was consequently presented into two groups for easy analysis of "At least disagree' and 'At least agree' against the independent variables of gender, age, teaching experience, grade phases, professional qualifications and current studies. The quantitative data that was collected during the second phase of the study was used to statistically confirm or refute the qualitative findings of the first phase of the study.

The null and alternative hypotheses were used in this study. Creswell (2014:51) defines a hypothesis as 'a prediction about what the researcher expects the results to show'. The first reason for formulating the hypotheses was to integrate the qualitative

interviews and the quantitative data on the perceptions of quality and quality education in teaching and learning by teachers. The second reason for formulating the hypotheses was to enable the researcher to predict the results of the study.

A null hypothesis is a statement that serves as a basis for argument but is yet to be proven, while an alternative hypothesis is a statement of what a hypothesis test is set up to establish (Prasad, Rao, & Rehani, 2001). The following hypotheses were formulated in direct response to the four sub-problems of the study (cf. par. 1.4):

H_o - There is no significant difference ($p > 0.05$) among the participants' perception that schools have a shared and common understanding of quality and quality education (i.e. mean score).

H_a - There is a significant difference ($p > 0.05$) among the participants' perception that schools have a shared and common understanding of quality and quality education (i.e. mean score).

H_o - There is no significant difference ($p > 0.05$) among the participants' belief that internal professional support is adequate to improve the participants' professionalism (i.e. mean score).

H_a - There is a significant difference ($p < 0.05$) among the participants' belief that internal professional support is adequate to improve the participants' professionalism (i.e. mean score).

H_o - There is no significant difference ($p > 0.05$) among the participants' belief that external professional support is adequate to improve the participants' professionalism (i.e. mean score).

H_a - There is a significant difference ($p < 0.05$) among the participants' belief that external professional support is adequate to improve the participants' professionalism (i.e. mean score).

H_o - There is no significant difference ($p > 0.05$) between the participants perception that teacher effectiveness is essential for quality education enhancement in schools (i.e. mean score).

H_a - There is a significant difference ($p < 0.05$) between the participants perception that teacher effectiveness is essential for quality education enhancement in schools (i.e. mean score).

H_o - There is no significant difference ($p > 0.05$) between the participants' perception that the school principals play an important role in enhancing quality education in schools (i.e. mean score).

H_a - There is a significant difference ($p < 0.05$) between the participants' perception that the school principals play an important role in enhancing quality education in schools (i.e. mean score).

H_o - There is no significant difference ($p > 0.05$) between the participants' perception that schools allow teachers to explore more self-assessment strategies (i.e. mean score).

H_a - There is a significant difference ($p < 0.05$) between the participants' perception that schools allow teachers to explore more self-assessment strategies (i.e. mean score).

In this study, the null hypothesis was given special consideration to the alternative hypothesis. This is due to the fact that the null hypothesis relates to the statements being tested on quality and quality education, whereas, the alternative hypothesis relates to the statement to be accepted if/when the null hypothesis is rejected (Prasad, Rao, & Rehani, 2001).

The researcher initially requested the participating school principals during the first phase of the study to help distribute the information letters, consent forms and Likert-scale questionnaires to teachers. The researcher had no direct relationship with the respondent teachers as the Likert-scale questionnaires were handed over to the participating school principals in their respective offices. The completed Likert-scale questionnaires were returned by the school principals in sealed envelopes after two weeks as was agreed upon. Out of 70 Likert-scale questionnaires, 54 were completed and submitted to the researcher by school principals culminating in a 77% response-rate which is acceptable by research standards. IBM SPSS.19 and Microsoft Excel programmes were used to yield descriptive statistics on the data gathered during the

quantitative phase. The following sections present descriptive statistics of the findings in the second phase (quantitative) of this sequential exploratory mixed research study.

5.4.1.1 Gender of participating teachers

Figure 16 depicts the gender of participating teachers. Of the 54 respondents, 29 (54%) were female and 25 (46%) male. The total number of teachers in the Zambezi region is 1 578 of which 916 (58%) are female, and 662 (42%) are male (Ministry of Education 2016:1).

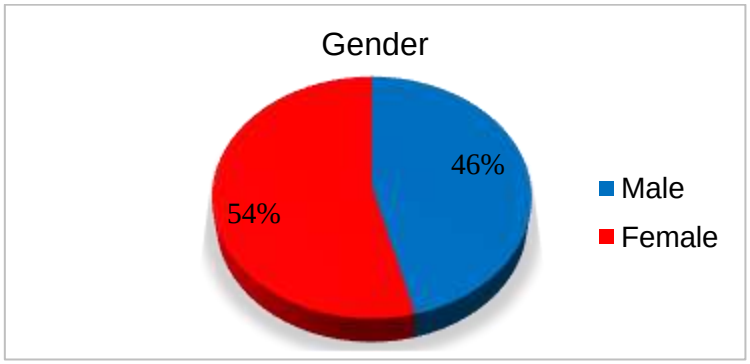

Figure 16: Gender distribution of participating teachers

Coincidentally, the gender proportions of the participating respondents are very similar to those of the entire population of teachers in Zambezi region in which 55% of teachers were female and 45% male in 2012 (Ministry of Education, 2012). In the Fifteenth School Day Report of the Ministry of Education (2016), the number of female teachers slightly increased to 916 (58%) and the number of male teachers decreased to 662 (42%) in the Zambezi region (Ministry of Education, 2016). Thus, female teachers slightly increased while the number of male teachers decreased during the period 2012 to 2016.

5.4.1.2 Age-profile of teachers

Figure 17 illustrates the age of teachers in which teachers are divided into three age-profiles: young (≤ 34 years), middle-aged (35-49 years) and old (≥50 years). Thus, 20 (37%) of teachers are young (≤ 34 years); while 10 (19%) of teachers are old (≥50 years) and are towards retirement from the teaching profession. The highest frequency

age-range which forms the majority of teachers is the middle age-range of teachers aged between 35 to 49 years old, totalling 24 (44%) of teachers.

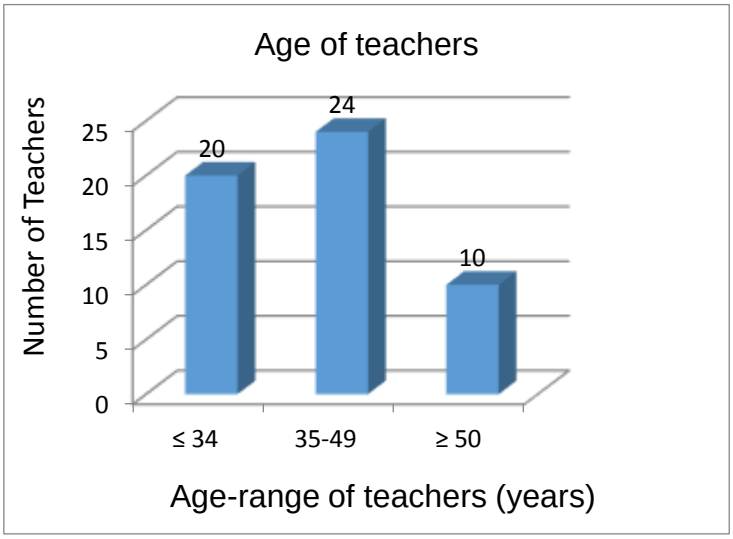

Figure 17: Age-profile of teachers

In general, most teachers are middle-aged and thus have ample time in their teaching careers to explore various effective self-assessment teaching strategies that could enhance quality education in the Zambezi region.

5.4.1.3 Relationship between gender and grade phases

Figure 18 shows that lower and junior primary phases are staffed mainly by female teachers 20 (71%) against 8 (29%) male teachers; while the upper primary and junior secondary phases are dominated by male teachers 17 (65%) as compared to 9 (35%) female teachers. The current status of teacher deployment to the lower and senior phases by gender could be based on teacher qualifications.

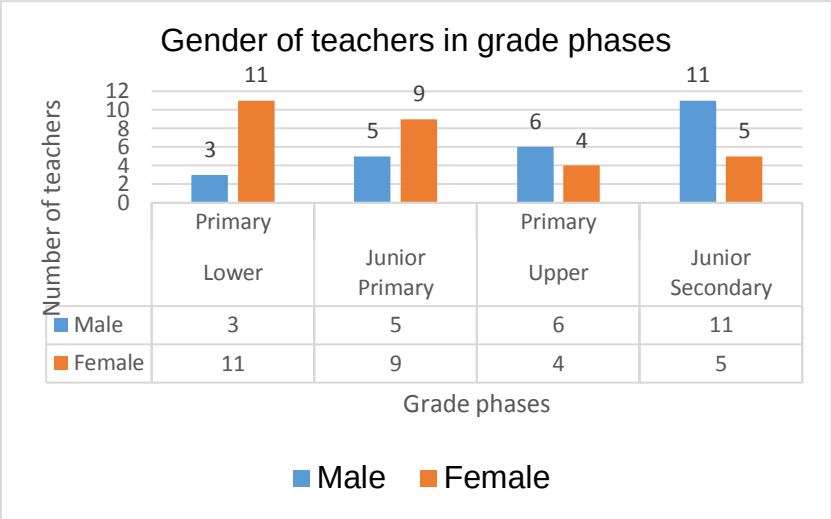

Figure 18: Gender of teachers according to grade phases

Probably, more female teachers have lower qualifications which makes them to be assigned to the lower grades. Possibly, if both female and male teachers have similar qualifications, then it could mean that either the male teachers refuse to be assigned to teach lower grades or that the principals who assign teachers to various teaching grades are biased against female teachers. The disproportion of deployment by gender of teachers to lower and senior phases of schools could suggest that the social status of male teachers is still higher than their female counterparts teaching in the lower phases of education (UNESCO, 2013). The use of the self-assessment strategies can help clear the social misconception of according social status to teachers according to grade phases by allowing teachers to teach across grade phases as per their competence to enhance quality education in schools in the Zambezi region. Also, efforts could be made to facilitate female teachers to acquire necessary qualifications to teach in higher grade phases through continuous professional development.

5.4.1.4 Qualifications of teachers

Figure 19 depicts two distinct groups of teachers according to the highest educational qualifications. Teachers who are regarded as professionally qualified should be in possession of a recognised 3 or 4 year tertiary teaching qualfication on an NQF Level 6 or 7. The unqualified and professionally underqualified teachers, who are often appointed on contract and in a temporary capacity, possess Grade 10 or 12 Certificates or equivalent; or Grade 10 or 12 Certificates or equivalent plus 1 or 2 years

of tertiary teachers' training (GRN, 2018). Thus, 18 (33%) participating teachers are in possession of Grade 10 and/or 12 Certificates or equivalent plus 1 or 2 years of tertiary teachers' training and are therefore clasified as un-qualified or under-qualified.

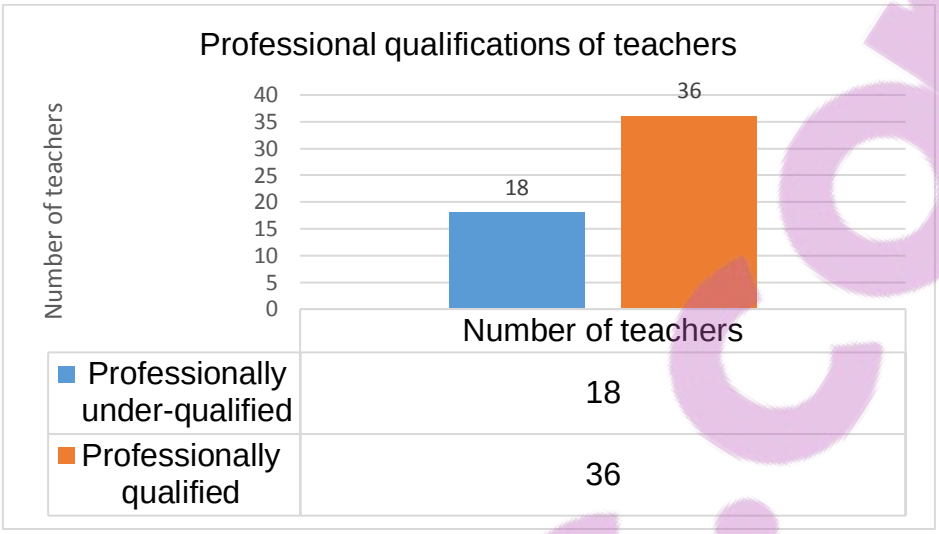

Figure 19: Professionally qualified and under-qualified teachers

The majority of teachers, 36 (67%), are in possession of BETD and/or B. Ed or B. Tech Honours degrees and are classified as professionlly qualified teachers (GRN, 2018).

The introduction of universal primary education in the Zambezi region has led the Ministry of Education to recruit unqualified and underqualifed teachers to teach lower and junior primary education phases rather than to leave learners without teachers. However, the question is whether teachers with Grade 10 or 12 Certificates without any form of teacher training in education can really teach, and what level they would be considered competent to teach? This study posits that the 36 (67%) professionally qualified teachers could use self-assessment strategies to support un-qualified and under-qualified teachers to improve the quality of education in the Zambezi region.

5.4.1.5 Years of teaching experience

Teachers are grouped into three groups of teaching experience: novice teachers (< 10 years), experienced teachers (11-24 years) and most experienced teachers (> 25 years). Figure 20 depicts the three groups of teachers with regard to their teaching experience. Thus, more than half the number of teachers, 27 (50%), had <10 years of teaching experience in sharp contrast with 11% for most experienced teachers with >

25 years. 21 (39%) of the respondents have relative experience of teaching ranging from 11 to 24 years of teaching experience. In general, the majority of the participating teachers have vast years of teaching experience which can be shared with novice teachers on how self-assessment strategies could be used to enhance quality education in schools. This study advances the development and use of self-asessment strategies by school principals to support novice teachers who are in the majority in schools.

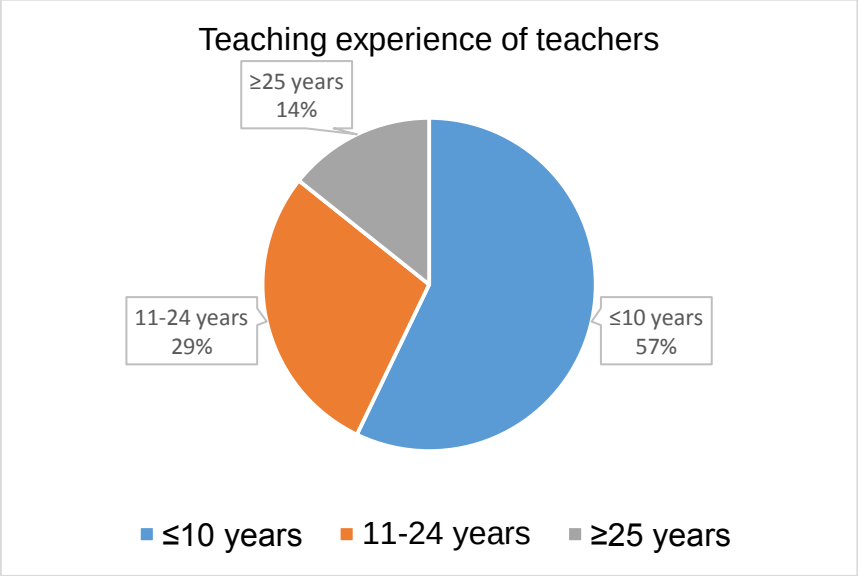

Figure 20: Years of teaching experience for teachers

5.4.1.6 Teachers pursuing further studies

Figure 21 shows that the majority of teachers 34 (63%) are currently pursuing further studies in education. 29 (54%) teachers are studying for either a Diploma in Education or a Bachelor of Education Honours degree. According to UNESCO (2013:26), 'a teacher with a three-year teaching qualification [BETD] will earn an annual base salary of between N$ 88 152 and N$ 125 112, while a teacher with a four-year teaching qualification [B. Ed Honors] will earn between N$ 129 354 and N$ 174 357'. However, despite the monetary incentive offered by the Ministry of Education, one-third (33%) of participating teachers are not studying currently. This study posits that the use of self-assessment strategies could encourage teachers to continue studying despite having qualifications that make them professionally qualified.

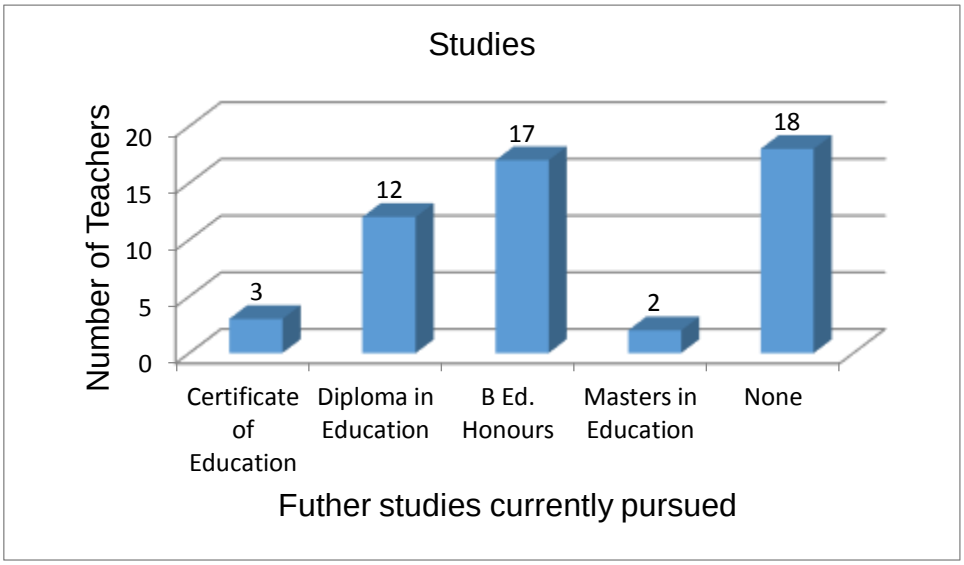

Figure 21: Number of teachers pursuing further studies

5.4.2 Conclusion

The aforementioned analysis in section 5.4.1 synthesised the demographic data of teachers who participated in the second phase of the sequential exploratory mixed methods study. The participants provided information that is useful in classifying and categorising teachers according to the six independent variables: gender, grade phases, age, professional qualifications, years of teaching experience, and pursuing of further studies.

5.4.3 Reliability of data

Cronbach's coefficient of reliability was used to test the reliability of the study data. Cronbach's alpha, calculated as shown in the formula below, provides a useful lower bound on reliability.

$$\alpha = \frac{n}{n-1}\left(1 - \frac{\sum_{j=1}^{n} var(x_j)}{var(x_0)}\right)$$

Where: $\sum_{j=1}^{n} var(x_j)$ is the sum of individual variances and n is the number of questions and $var(x_0)$ is the variance of all the entries.

Cronbach's alpha is a function of the number of items in a test, the average covariance between item-pairs, and the variance of the total score. The reliability of test scores

can be expressed as the ratio of the true-score and total-score (error plus true score) variances. Cronbach's alpha will generally increase when the correlations between the items increase. For this reason, the coefficient measures the internal consistency of the test. Its maximum value is 1, and usually, its minimum is 0, although it can be negative.

A commonly accepted rule of thumb is that an alpha of 0.6-0.7 indicates acceptable reliability and 0.8 or higher indicates good reliability. Very high reliability (0.95 or higher) is not necessarily desirable, as this indicates that some items may be entirely redundant. The Cronbach's α value for this study data is 0.849, indicating a good reliability.

The Spearman-Brown prediction formula can also be used to test the reliability of our data set. This prediction formula, is used to predict the reliability of a test after changing the test length and is calculated using the formula below:

$p_r^1=\frac{n\times r}{1+(n-1)r}$ *Where r* is the reliability of the current "test".

The formula predicts the reliability of a new test composed by replicating the current test *n* times (or, equivalently, creating a test with *n* parallel forms of the current exam). Thus *n* = 2 implies doubling the exam length by adding items with the same properties as those in the current exam. Values of *n* less than one may be used to predict the effect of shortening a test.

By doubling our data (i.e. n=2), the p_r^1=0.918, indicating a high reliability of our study data.

$$Spearman-Brown\ Prediction\ formula=\frac{n\times r}{1+(n-1)r}=0.8834$$

This shows that the data collected was highly reliable as the Likert-scale questionnaire has a reliability score of 0.8.

In statistical data analysis it is a standard practice that 'missing' and 'unsure' responses are added to 'disagree' and 'strongly disagree' responses (cf. par. 5.7.1). The assumption is that if the participants couldn't decide whether they disagreed or agreed, they definitely do not agree, otherwise agree or strongly agree would have been

chosen. Thus, the ‘undecided responses’ are regarded as similar to disagreeing with the statements stated in the Likert-scale questionnaire (Mouton, 2015). In this statistical analysis, the ‘missing’ and ‘unsure’ responses were added to the “disagree” responses which consequently led to four categories of responses for statistical analysis: Totally disagree, disagree, agree and totally agree. In certain instances, the categories were further be reduced into two: “At least disagree” (i.e. disagree + totally disagree + unsure + missing) and “At least agree” (i.e. agree + totally agree).

A Microsoft Excel inter-item correlation matrix was used to improve Cronbach’s alpha in the grouped items. The items that lowered reliability to unacceptable level were identified and removed from the correlation of thematic groups of items. Hence items 16, 20, 21, 22, 33, 34 and 35 were removed to improve Cronbach’s alpha.

5.5 PERCEPTIONS OF QUALITY AND QUALITY EDUCATION IN GENERAL

5.5.1 Perceptions of quality and quality education using independent variables

The following sub-sub-sections present the respondents’ perceptions of quality and quality education (cf. par.1.4) according to the six independent variables: gender, age-profile, grade phases, qualifications, teaching experience and current studies.

5.5.1.1 Perceptions of quality according to gender of teachers

The responses summarised in Figure 22 indicates a very sound school organisational behaviour with 21 (81%) male and 26 (90%) female respondents at least agreeing that schools have a shared and common understanding of the term ‘quality’. 4 (16%) male teachers and 3 (10%) female teachers at least disagreed that schools have a shared and common understanding of the term ‘quality’.

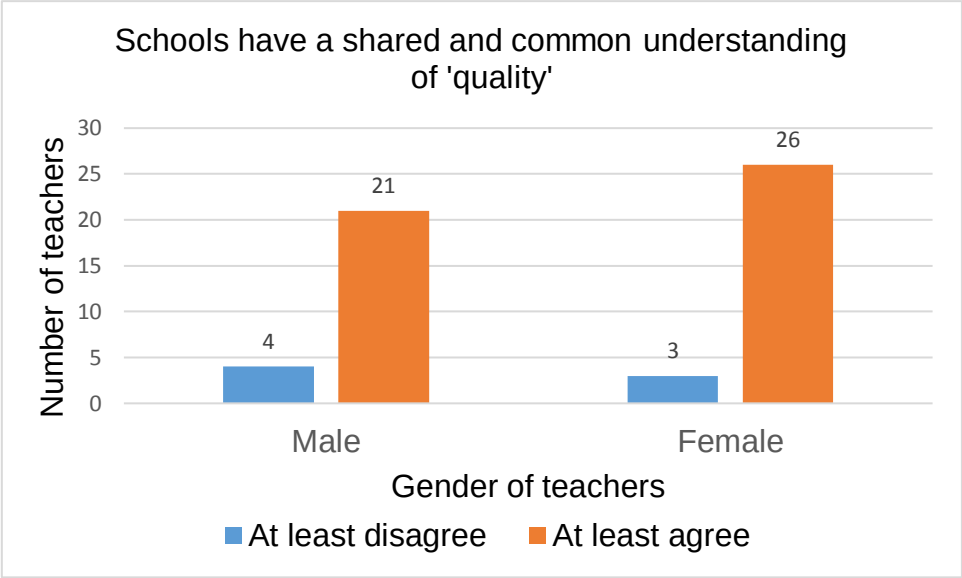

Figure 22: Schools have a shared and common understanding of 'quality'

Table 6: Extent of agreement or disagreement on quality by gender

Gender	Totally Disagree	Disagree	Not Sure	Agree	Totally Disagree	Total
Male	1 (4%)	1 (4%)	2 (8%)	9 (36%)	12 (48%)	25 (46%)
Female	0 (0%)	1 (3.4%)	2 (6.9%)	12 (41.4%)	14 (48.3%)	29 (54%)
Total	1 (2%)	2 (3.7%)	4 (7.4%)	21 (38.9%)	26 (48.1%)	54 (100%)

A 2-way analysis of variance was conducted to test the null hypothesis below at $\alpha = 0.05$:

H_o: Male and female teachers have similar understanding of the term quality.

H_a: Male and female teachers have dissimilar understanding of the term quality.

After conducting ANOVA on the data in Table 6 above, the p-value is 0.338 implying that we cannot reject H_o and thus conclude that there is no significant difference between male and female teachers understanding of the term 'quality'.

The null hypothesis below was tested using a 2-way Anova.

H_o: There is no significant difference between the various Likert-scale categories on the extent of agreement and disagreement with the statement.

H_a: There is a difference between the various Likert-scale categories on the extent of agreement and disagreement with the statement.

After conducting $ANOVA_{df1,4}$ on the Likert-scale items on the extent of agreement and disagreement with the statement, the p-value is 0.00108 implying that there is a significance difference between the various categories on the extent of agreement and disagreement with the statement. This conclusion agrees with results in Table 6 in which 87% of the respondents at least agreed with the statement that teachers understood the term 'quality'.

5.5.1.2 Perceptions of quality according to age-profiles of teachers

Figure 23 shows teachers' perceptions according to age-profiles in which the majority of teachers in each age-profile, i.e., 17 (85%) young teachers; 21 (87.5%) middle-aged teachers and 9 (90%) old teachers at least agree with the statement that schools have a shared and common understanding of the term 'quality'.

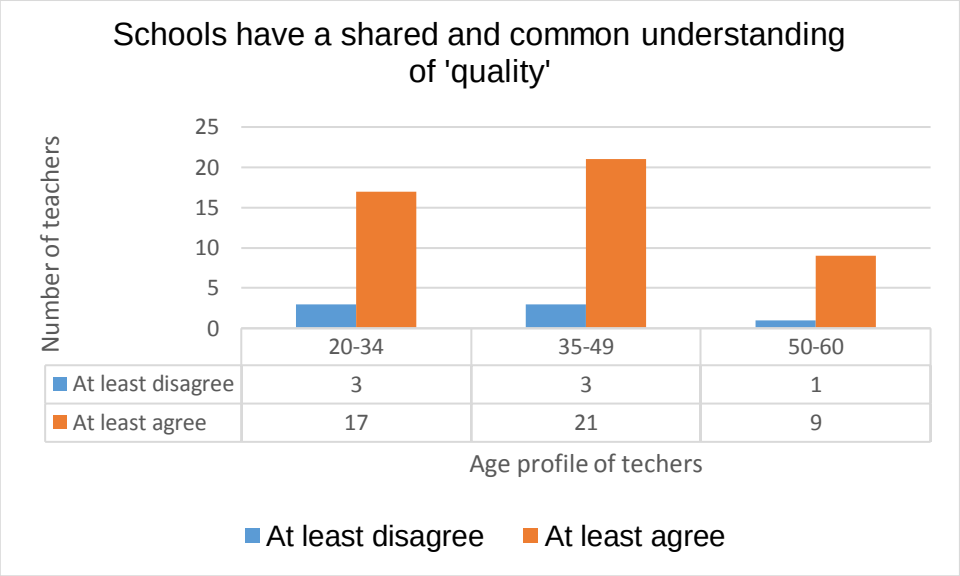

Figure 23: Perception of teachers on understanding of quality by age-profile

Only a minority of teachers totalling 7 (13%) in the various age-profiles of teachers at least disagreed with the statement that schools have a shared and common understanding of the term 'quality'.

5.5.1.3 Perceptions of quality according to grade phases of teachers

Figure 24 depicts teachers' perception of quality as a shared and common phenomenon in schools according to grade phases of teachers. The majority of teachers: 27 (96%) lower phase teachers and 20 (78%) senior phase teachers, at least agreed with the statement that schools have a shared and common understanding of quality.

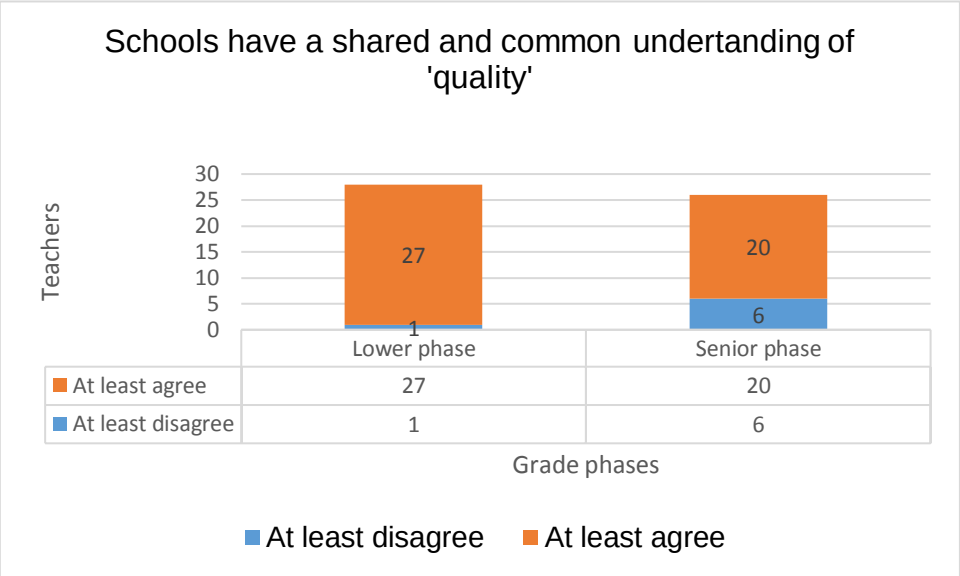

Figure 24: Perceptions of teachers according to grade phases

5.5.1.4 Perceptions of quality according to qualifications of teachers

Figure 25 shows the teachers' perceptions according to qualifications on the statement that schools have a shared and common understanding of the term 'quality'. The majority of both qualified and unqualified teachers, 94% and 72% respectively, believe that schools have a shared and common understanding of the term 'quality'.

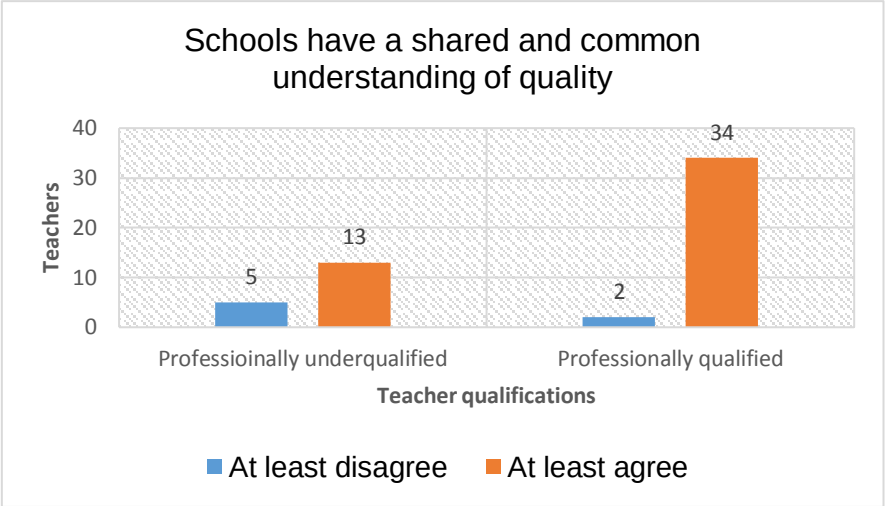

Figure 25: Teachers' views on 'quality' according to qualifications

5.5.1.5 Perceptions of quality according to teaching experience of teachers

Figure 26 depicts the difference in teachers' perceptions of quality as a shared and commonly understood concept with regard to their teaching experience. The teaching experience was categorised as inexperienced (≤10 years), experienced (11-20 years) and very experienced (≥21years). The majority of teachers in the three teaching experience categories, 23 (85%) inexperienced teachers, 12 (86%) experienced teachers and 12 (92%) very experienced teachers at least agree with the statement that schools have a shared and common understanding of quality. Only a minority, 7 (13 %) of the teachers disagreed with the statement.

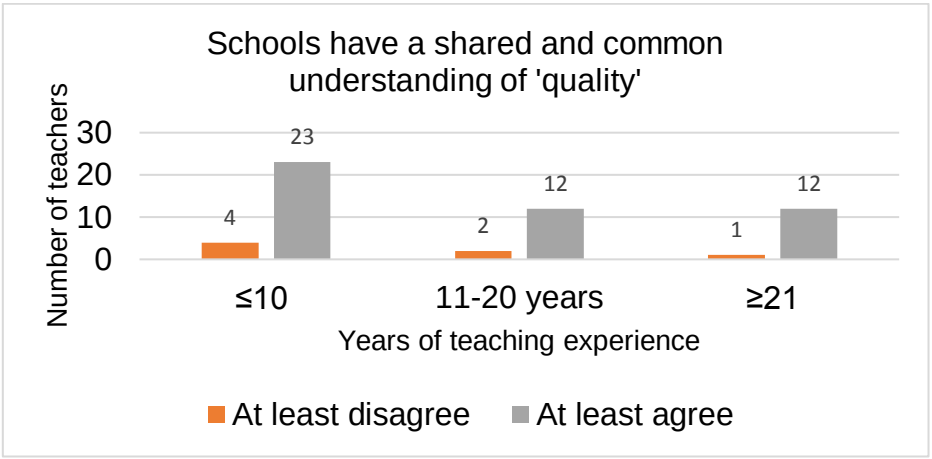

Figure 26: Teachers' views on quality by teaching experience

5.5.1.6 Perceptions of quality according to teachers currently pursuing further studies

Figure 27 shows teachers' perceptions according to their current studies on the statement that schools have a shared and common understanding of quality. The majority of both underqualified and qualified teachers at least agree that schools have a shared and common understanding of quality. Thus, all 3 (100%) professionally underqualified and 27 (87%) professionally qualified teachers at least agreed with the statement that schools have a shared and common understanding of quality.

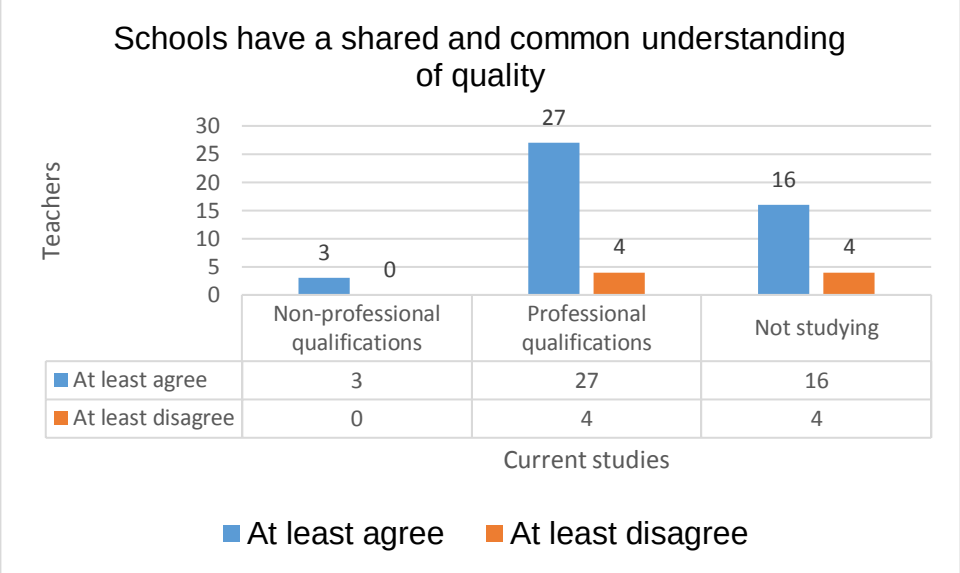

Figure 27: Teachers' views on quality by current studies

5.5.2 Schools have a shared and common understanding of quality education (QE)

Teachers' perceptions of quality education as a shared and commonly understood concept is discussed in the following sub-sections using the six independent variables: gender, age, teaching experience, qualifications, grade phases and teachers currently pursuing further studies.

5.5.2.1 Teachers' perceptions of schools having a shared and common understanding of QE according to gender

Figure 28 illustrates how teachers' perception of 'quality education' is shared and understood by teachers according to gender. The majority of male and female teachers, totalling 48 (89%), at least agreed that schools have a shared and common understanding of QE. However, a minority of teachers at least disagreed with the statement: 1 (2%) male teachers and 5 (9%) female teachers.

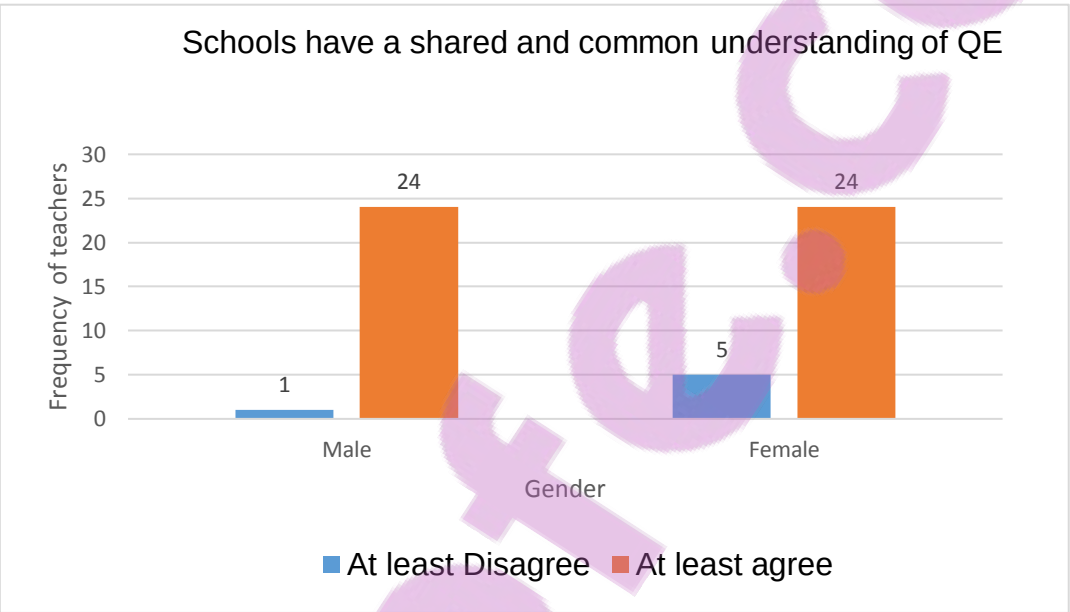

Figure 28: Teachers' views on quality according to gender

5.5.2.2 Teachers' perceptions of schools having a shared and common understanding of QE according to age

Figure 29 shows that the majority of young (8, 80%), middle-aged (30, 88%) and old (10, 100%) teachers at least agree with the statement that schools have a shared and common understanding of quality education. However, a minority (4, 14%) of young and middle-aged teachers disagreed with the statement.

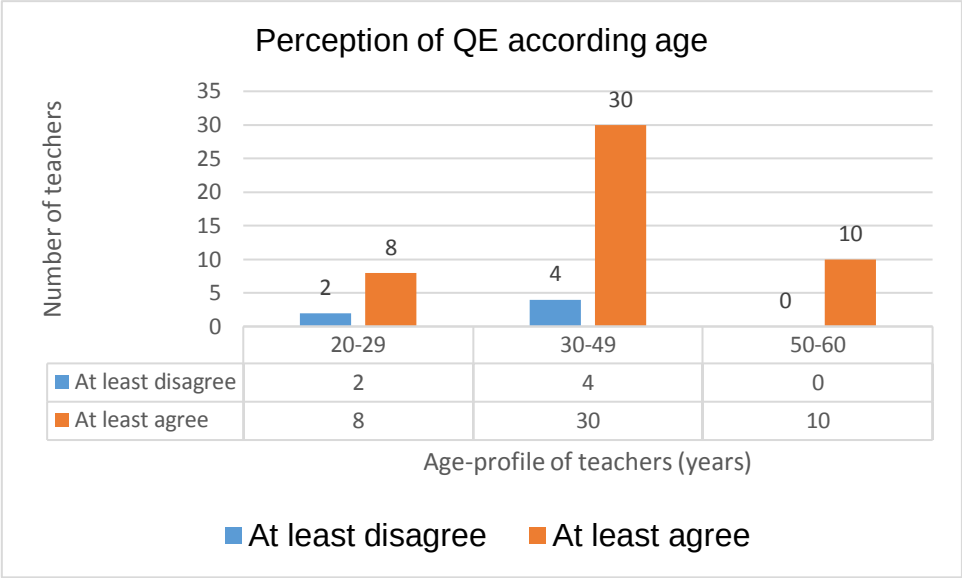

Figure 29: Teachers' views on quality according to age-profile

5.5.2.3 Teachers' perceptions of schools having a shared and common understanding of 'quality education' (QE) according to grade phases

Figure 30 portrays perceptions of the statement that quality education is shared and understood by teachers in schools according to grade phases. Thus, the majority of teachers in both the lower (24, 86%) and senior (24, 92%) phases of combined schools at least agreed with the statement. Only a small minority 6 and11 % of teachers in both lower and senior phases, respectively, view schools as not having a shared and common understanding of quality education.

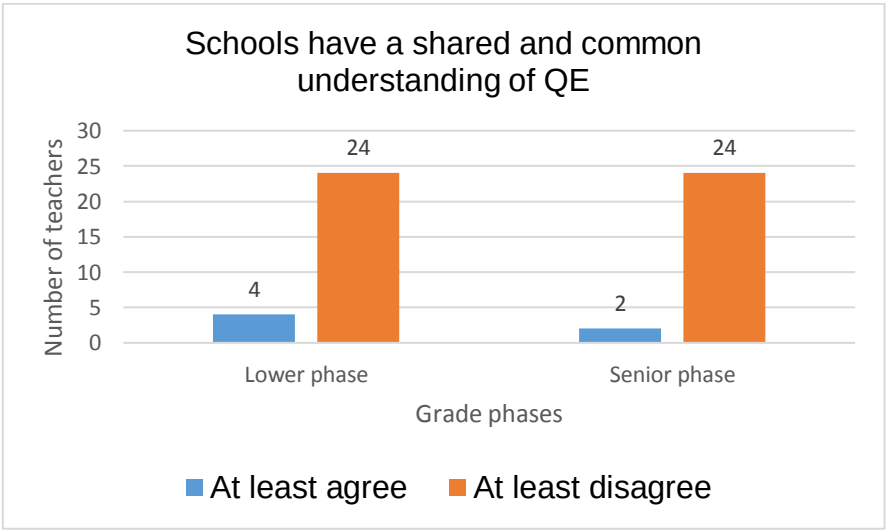

Figure 30: Teachers' understading of QE according to grade phases

5.5.2.4 Teachers' perceptions of schools having a shared and common understanding of QE according to professional qualifications

Figure 31 shows that 5 (9 %) of professionally and 1 (2 %) of professionally underqualified teachers at least disagree with the statement that schools have a shared and common understanding of quality education. However, the majority of teachers in the lower (13, 72%) and senior (35, 97%) phases of combined schools at least agreed with the statement that schools have a shared and common understand of quality education.

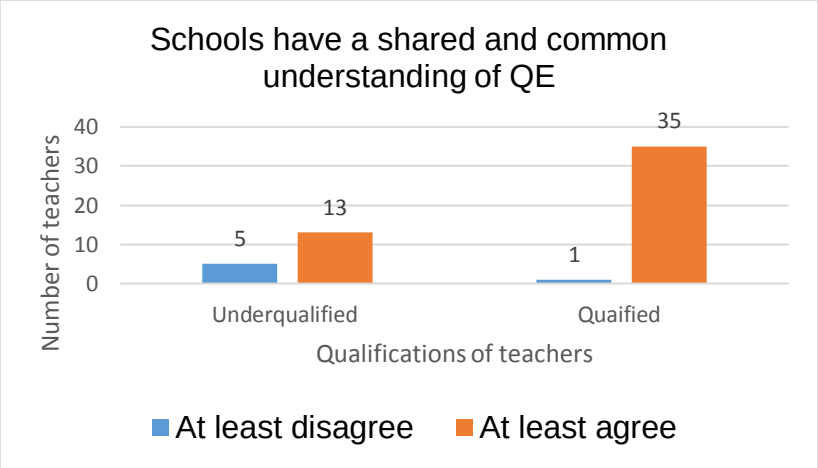

Figure 31: Teachers' perceptions on quality according to qualifications

5.5.2.5 Teachers' perceptions of schools having a shared and common understanding of QE according to years of teaching experience

Figure 32 shows that the majority of inexperienced teachers (22, 82%), experienced (13, 93%) and very experienced (13, 100%) teachers generally agree with the statement that schools have a shared and common understanding of quality education. Only a small proportion - 6% and 15% - in the inexperienced and experienced categories, respectively, at least disagreed with the statement that schools have a shared and common understanding of quality of education.

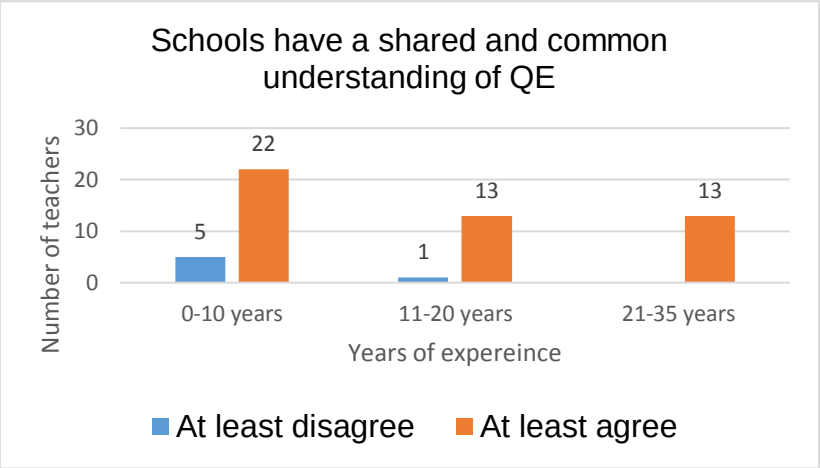

Figure 32: Teachers' perceptions on quality according to teaching experience

5.5.2.6 Teachers' perceptions of schools having a shared and common understanding of QE according to current studies

Figure 33 shows that the majority of teachers, i.e. 2 (67%) in pursuit of unprofessional teacher qualifications, 29 (94%) pursuing professionally teacher qualifications and 16 (80%) of teachers not studying at least agree that schools have a shared and common understanding of quality education. The minority of teachers, i.e. 1 (33 %) teacher pursuing professionally underqualified study programmes, 2 (6%) of teachers pursuing further professional teacher qualifications and 4 (20%) of teachers not studying any teacher professional qualifications disagreed with the statement that schools have a shared and common understanding of quality education.

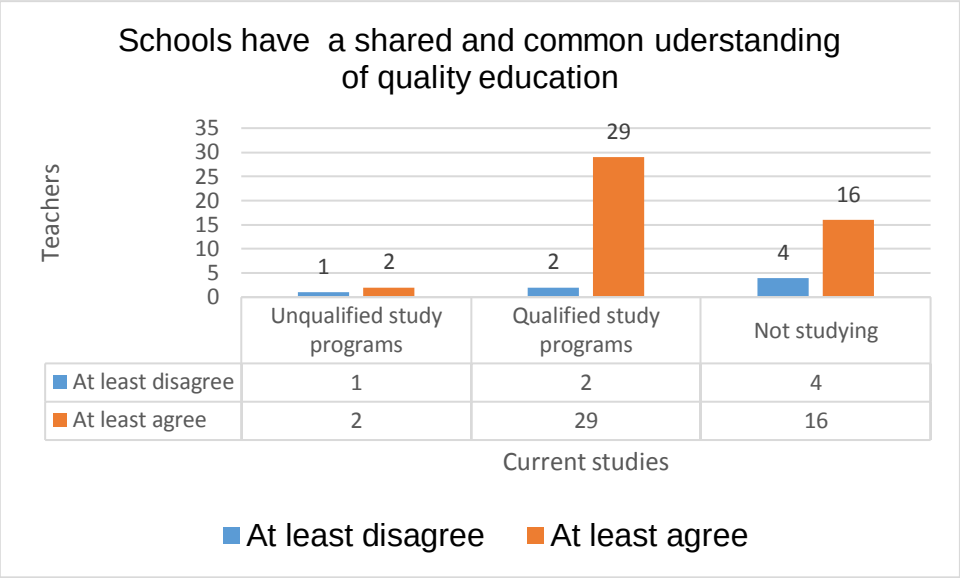

Figure 33: Teachers' perceptions on quality according to current studies

In general, the majority of teachers, for all the six independent variables (gender, age, teaching experience, grade phases, professional qualifications and current studies), at least agree with the statement that schools have a shared and common understanding of quality education. A comparison of the perceptions between the teachers and school principals including the HoDs with regard to quality education will be discussed in Chapter six.

In the succeeding section (5.6), an item-correlation matrix is used to espouse the average mean scores of teacher respondents to the following items: Teachers' perception of quality and quality education as a shared and understood concept by staff in schools; roles of school principals in ensuring quality education in schools; external and internal professional support in schools; teacher effectiveness; and self-assessment modes familiar to teachers.

5.6 FACTOR ANALYSIS

Babbie, (2010:491) defines factor analysis as 'a complex algebraic method for determining the general dimensions or factors that exist within a set of concrete observations'. In this study, the researcher generated sets of variables that are highly correlated with the four sub-problems of the study. This was done by examining the patterns of correlations between variables (Vaus, 2002).

5.6.1 What entails quality and quality education?

The mean score of 4.37 in Table 7 below indicates that the respondents highly agreed on the contribution of the study items regarding quality and quality education in schools. The six quality assurance factors need to be taken into account when making decisions on quality and quality education in schools. The mean score of 4.37 indicates that 87% of the respondents at least agreed with the statements on quality and quality education in schools. The null hypothesis on participants' perception of quality and quality education is rejected. It can be concluded that schools have a shared and common understandings of quality and quality education albeit defined differently.

Table 78: Teachers' perceptions on quality and quality education

Teachers' perception of quality and quality education					
Item	Item description	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	N
1	The school has a shared and common understanding of the term: "quality".	4.28	0.899	0.657	54
2	The school has a shared and common understanding of: "quality education"	4.59	0.687	0.685	54
3	The school's vision is developed with the involvement of teachers.	4.50	0.666	0.618	54
4	The school's vision is understood by all staff members.	4.37	0.708	0.638	54
5	All teachers work towards realising the school's mission and vision.	4.41	0.714	0.679	54
6	The school has consistent values and norms to inform decision-making processes.	4.07	0.821	0.663	54
Overall		4.37	0.749	0.657	

This finding supports the first principle of Deming (1988), which encourages school principals to create constancy of purpose for continual improvement of services in schools.The vision, mission and values to enhance quality education must be clear and shared by all teachers in schools. This implies that school principals and teachers should decide what self-assessment strategy they are pursuing and become relentlessly good at the work this strategy implies (Murgatroyd and Morgan, 1993).

5.6.2 How can self-assessment strategies be linked to quality and quality education in general terms?

In light of the data in Table 8 below, the mean score of 3.24 indicates that the respondents tended to regard internal professional support to teachers as insufficient. The seven factor-items in Table 8 need redress to help teachers develop professionally.

Table 9: Internal professional support

Internal professional support					
Item	Description	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	N
26	The school is organised around the needs of individual teachers.	3.52	1.285	0.755	54
27	Teachers' needs are regularly surveyed and acted on.	2.98	1.189	0.734	54
28	The cluster system is effective for continuous professional development activities.	2.98	1.380	0.729	54
29	Teachers attend continuous professional development activities each term at the cluster centres or circuit offices or Teachers Resource Centre (TRC).	2.89	1.449	0.741	54
30	Teachers are involved in the identification of needs that are addressed in the cluster or circuit-based workshops.	3.11	1.254	0.701	54
31	Teachers' needs are usually addressed during cluster or circuit-based workshops.	3.35	1.200	0.728	54
32	Quality education is defined by teachers at your school.	3.83	0.795	0.805	54
Overall		3.24	1.222	0.742	

The high discrepancy of values between 2.89 and 3.83 suffice to indicate that the seven factor-items need urgent attention to help teachers improve through continuous professional development activities. The mean score of 3.24 indicates that 35.2% of respondents at least disagreed with the statements, thereby registering their dissatisfaction of lack of internal school-based professional support. The null hypothesis is accepted that the participants' belief that internal professional support is adequate to improve the participants' professionalism (i.e. mean score).

Deming's sixth principle of using work-based training techniques such as self-assessment strategies can help address teachers' professional needs in the absence of limited support from external professional experts.

The overall mean score of 3.03 (Table 9) indicates that the respondents tended to disagree with the statements that external professional support is regularly provided to teachers in schools. The mean score of 3.03 indicates that the respondents disagreed with the statements that continuous professional support is adequately provided by outside agencies. The null hypothesis that there is no significant difference between the participants' perception that teacher effectiveness is essential for quality education enhancement in schools is rejected. Therefore, there is need to introduce school-based professional support mechanisms such as self-assessment strategies to improve teachers' professionalism to enhance quality education in schools.

Table 10: External professional support

External professional support					
Item	Description	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	N
23	Regional Office/External support is sought for improvement of teaching/learning.	3.56	1.176	0.757	54
24	Inspectors of education visit the school once every month to help the school improve.	2.80	1.522	0.636	54
25	Advisory teachers (ATs) often visit the school once every term to support teachers.	2.74	1.469	0.611	54
Overall		3.03	1.389	0.668	

This finding supports the SACMEQ III Report (Miranda et al., 2012:105) 'that the general visit to schools by professional staff for guidance and support has diminished over the years, which might have a negative impact on education quality'. The third principle of Deming (1988) encourages schools to cease dependency on inspection of services. Schools must focus on school-based continuous professional development activities such as the self-assessment strategies to improve the quality of education.

5.6.3 What recourses are available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region?

The overall mean score of 4.16 indicates that the respondents tend to regard teacher effectiveness as a crucial recourse in improving the quality of education in schools (Table 10 below). The mean score of 4.16 indicates that 83.2% of the respondents at least agreed with the statement that teacher effectiveness plays an important role in improving the quality of education in schools. The null hypothesis on teacher effectiveness is rejected. It is safe to conclude that teacher effectiveness is crucial for quality and quality education in schools.

This finding supports the conclusion by Muijs and Reynolds (2011) whose study showed that teachers' beliefs about teaching, their subject-knowledge and their self-efficacy are essential for improving the quality of education in schools. Furthermore, Deming's thirteenth principle advocates for training and re-training of teachers to improve teacher effectiveness which consequently could have a positive impact on quality education in schools.

Table 11: Teacher effectiveness

Teacher effectiveness					
Item	Description	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	N
11	Authority and responsibility is delegated to teachers to conduct professional development activities.	4.13	1.065	0.606	54
12	There is competition among teachers to produce good results.	4.33	0.991	0.511	54
13	Teachers have significant control over their own continuous professional development.	4.17	0.746	0.662	54
14	Teachers are motivated by awards and prizes to work harder.	3.98	1.221	0.609	54
15	Teachers are reprimanded for poor examination results.	4.04	1.149	0.608	54
17	Teachers prefer to work more closely with colleagues in their departmental grade phases.	4.31	0.987	0.607	54
Overall		4.16	1.026	0.601	

5.6.4 How can self-assessment strategy models be developed to enhance the quality of education in the Zambezi region?

5.6.4.1 Roles of school principals

The overall mean score of 3.94 in Table 11 below indicates that the respondents tend to regard the roles of school principals as essential in developing the self-assessment strategies in the Zambezi region. The six factors of school principals' roles are viewed by the respondents as crucial in the development of self-assessment strategies that can enhance quality education in schools. The ISO 9000 quality management principles can be useful for school principals to use. The principles guide school principals to effectively and efficiently manage teachers to improve the operations of schools. For instance, the leadership and customers' principles (cf. par. 2.2.4) enunciate that school principals should harness teachers to focus on the continuous

improvement of teaching, learning and curriculum to meet and exceed the needs and expectations of learners.

Table 12: Roles of school principals in ensuring quality education in schools

Roles of school principals in ensuring quality education					
Item	Description	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	N
7	Leadership is widely distributed among teachers.	3.72	1.204	0.668	54
8	Regular meetings are conducted to discuss teachers' needs.	3.72	1.054	0.716	54
9	School structures and processes are team based.	3.98	1.000	0.685	54
10	The school has mechanisms to avoid poor learner performance/ failure.	4.39	0.811	0.714	54
18	The school has a communication system that is open to all teachers.	4.11	1.003	0.686	54
19	The school uses both autocratic and democratic styles of leadership	3.74	1.247	0.717	54
Overall		3.94	1.053	0.698	

The overall mean score of 3.94 indicates that 79% of the respondents at least agree that school principals can play an important role in ensuring quality education in schools.

However, regular meetings and leadership distribution among teachers need improvement as both have lower mean scores of 3.72. The twelfth principle of Deming (1988) encourages school principals to remove barriers that deprive teachers in leadership of their right to pride in engaging in self-assessment activities. Additionally,

the eighth principle of Deming (1988) advocates that school principals should drive out fear among teachers by improving communication with them. In other words, school principals should not only supervise teachers but also provide support and advice for teachers' professional development in a conducive atmosphere (Miranda et al., 2012).

5.6.4.2 Development of self-assessment strategies in the Zambezi region

The mean score of 2.94 in Table 12 below indicates that the respondents are unfamiliar with varied self-assessment modes that can be used to improve the quality of education in schools. The respondents either disagreed, totally disagreed, not sure or did not answer the question. This confirms that teacher self-evaluation (TSE) is possibly the only mode of self-assessment that teachers are exposed to in schools. This is confirmed by the Ministry of Education policy that requires teachers to conduct teacher self-assessments annually before the 15th of October (Ministry of Education 2013). However, the thirteenth principle of Deming (1988) encourages education and self-development of teachers. Therefore, school principals should encourage teachers to use other self-assessment strategies and should not be confined to only one type of teacher self-assessment.

Table 13: Modes of self-assessment strategies familiar to teachers

Development of self-assessment strategies					
Item	Description	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	N
36	You are familiar with at least two types of self-assessment strategies.	3.00	0.869	0.832	54
37	You are familiar with at least three types of self-assessment strategies.	3.06	0.940	0.867	54
38	You are familiar with at least six or more types of self-assessment strategies.	2.76	1.080	0.893	54
Overall		2.94	0.963	0.864	

5.7 DISCUSSION OF ITEMS REMOVED FROM THE FACTOR ANALYSIS

5.7.1 Removed items to improve Cronbach's alpha

Table 13 presents seven factor-items that contribute to quality enhancement in schools through professional support (cf. par. 5.9) but were removed from calculations of means in order to improve Cronbach's alpha. One sample t-tests were used to analyse the removed factors.

Table 14: Removed items to improve Cronbach's alpha

Item	Description	Mean	Std. Deviation	Cronbach's Alpha	N
16	Decision-making at the school is fully participative.	3.67	1.212	0.647	54
20	The school works to achieve consistency of examination results.	4.44	0.634	0.736	54
21	Monitoring and evaluation tools (e.g. class visits, classroom observation, etc.) are used to monitor teachers' performance.	4.54	0.794	0.729	54
22	Examination results are used as a measure of quality standards.	4.52	0.771	0.669	54
33	The school allows teachers to use different self-assessment strategies to enhance quality education.	3.91	1.103	0.540	54
34	The school uses only one type of self-assessment strategy throughout the year.	2.26	1.169	0.822	54
35	The school uses more than one type of self-assessment strategy throughout the year.	3.20	0.979	0.414	54

5.7.2 One Sample t-tests

One sample t-test was used to test the Likert-scale mean score values of items (Table 13) against an assumed mean value of 3. The one sample t-test was done to confirm or reject the respondents' opinions on the statements pertaining to quality education in schools.

5.7.2.1 Decision-making at the school is fully participative (Item 16)

Using a one sample t-test, the Likert-scale mean score value of 3.67, was tested against an assumed mean value of 3. There is a highly significant difference ($t_{(54)}$ = 6.635; df = 53, p=0.000) between the Likert-scale mean score and assumed mean value of 3. In other words, the respondents affirmed that decision-making at the school is fully participative. Teachers can take advantage of this opportunity to decide on the most viable self-assessment strategies that best suit their personal and professional needs.

The Likert-scale mean score of 4.44 indicates a high agreement with the statement. A one sample t-test of this mean score against an assumed value of 3 was done. There is a statistically significant difference ($t_{(54)}$ = 16.730; df =53, p = 0.000) between the Likert-scale mean score and assumed mean value of 3. The majority of respondents strongly agreed with this statement. In practice, schools are consistently urged to improve the examination results. The best performing schools in examination results are often praised and recognised by the regional education office and regional government representatives including non-governmental organisations in the Zambezi region.

5.7.2.2 The school works to achieve consistency of examination results (Item 20)

Also, the best performing teachers and school principals are all awarded certificates, medals, trophies and monetary rewards from a minimum of five-hundred to five-thousand Namibia dollars (Mushaukwa, 2017). However, the Minister of Education cautions schools not to focus solely on improving examination results but also on the outlook of education in general (Hanse-Himarwa, 2017).

5.7.2.3 Monitoring and evaluation (e.g. class visits, classroom observation, etc.) tools are used to monitor teachers' performance (Item 21)

A mean value of 4.54, which is close to total agreement was obtained for this statement. A one sample t-test shows a statistically significant difference ($t_{(53)}$ = 14.223; p = 0.000) between the Likert-scale mean score and assumed mean value of 3. It can be concluded that monitoring and evaluation tools are used to monitor teachers' performance.

5.7.2.4 Examination results are used as a measure of quality standards (Item 22)

Schools that produce very good to excellent examination results are regarded as quality schools in the Zambezi region (Mushaukwa, 2017). The respondents mean score of 4.52 tends towards total agreement with the statement. A one sample t-test shows a statistically significant difference ($t_{(53)}$ = 14.479; p = 0.000) between the Likert-scale mean score and assumed mean value of 3. It can be concluded that examination results are used to measure quality standards in the region.

5.7.2.5 The school allows teachers to use different self-assessment strategies to enhance quality education (Item 33)

The mean score of 3.91 indicates that the respondents nearly agreed with the statement that schools allow teachers to use different self-assessment strategies to enhance quality education. A one sample t-test shows a statistically significant difference ($t_{(53)}$ = 6.479043; p = 0.000) between the Likert-scale mean score and assumed mean value of 3. These results point to the fact that schools allow teachers to use different self-assessment strategies to enhance quality education. Teachers are required by the Ministry of Education to conduct teacher self-assessment in October every year (Ministry of Education, 2013b).

5.7.2.6 The school uses only one type of self-assessment strategy throughout the year (Item 34)

The mean score of 2.26 indicates that the respondents generally disagreed with the statement. A one sample t-test shows a statistically significant difference (t (53) = -4.658; p = 0.000) between the Likert-scale mean score and assumed mean value of 3.

It can be concluded that the schools do not use only one type of self-assessment strategy throughout the year. It is possible that the respondents distinguished between the internal school self-evaluation and external school self-evaluation processes that all state schools are expected to use. Consequently, this might have led the respondents to perceive that schools do not use only one type of self-assessment. In contrast, the literature review study shows that schools are subjected to one type of self-assessment, namely, NSSE (Ministry of Education, 2013b).

5.7.2.7 The school uses more than one type of self-assessment strategy throughout the year (Item 35)

The mean score of 3.20 is close to a neutral perception with regard to the statement. A one sample t-test does not show a statistically significant difference ($t(53) = 1.530$; $p = 0.132$) between the Likert-scale mean score and assumed mean value of 3. It can be concluded that the schools are unsure as to whether they use more than one type of self-assessment strategy throughout the year. It is possible that the respondents were not sure whether to regard the use of internal and external school self-evaluations in schools as constituting self-assessment strategies. In essence, internal and external school evaluations are Ministerial initiatives to ensure quality assurance in all state schools by use of performance indicators. Self-assessment strategies on the other hand supplement the generic internal and external school self-evaluations of which teacher self-assessment is a component. Hence, the respondents were not sure as to whether schools use more than one type of self-assessment strategy in the light of the internal and external school self-evaluations.

5.7.3 Conclusion

In conclusion, this sequential exploratory mixed methods study enabled the researcher to collect qualitative data by means of personal and focus group interviews to explore the perceptions of participants using a five-point Likert-scale. The qualitative data presented verbatim was analysed to inform the second phase of the study (quantitative) by focusing on the four sub-problems of the research (cf. par. 1.4). The quantitative data was analysed using Microsoft Excel 2013 data analysis programmes. In general teachers agreed with certain tenets of quality and quality education in the Zambezi region as advanced by the school principals and HoDs, thereby confirming

the findings collected during the first phase of the study, the qualitative phase. However, differences of opinions also occurred where teachers disagreed with the perceptions of either school principals or HoDs or both. The next part of the chapter will triangulate data gathered during the two phases of this sequential explorative mixed method design study.

5.8 PART C: TRIANGULATION OF RESEARCH FINDINGS

This section triangulates the findings of both qualitative and quantitative data gathered during the first (qualitative) and second (quantitative) phases of this sequential explorative mixed method study. The triangulation process aims to validate data based on the four sub-problems stated in Chapter one.

5.8.1 Definitions of quality and quality education

The school principals and heads of departments had different connotations of quality and quality education. The term ‘quality’ was vaguely defined by both groups of interviewees who impulsively linked it to education and not as a stand-alone definition (cf. par. 5.3.1). When they were asked to define quality education, various meanings of quality education emerged which can be rightly regarded as features of quality education rather than definitions (cf. par. 5.3.2). On the other hand, ≥85% of teachers agreed that schools have a shared and common understanding of the term ‘quality’ (See Figures 22 to 27) and ≥90% of the teacher respondents agreed that schools have a shared and common understanding of ‘quality education’ (See Figures 28 to 33). This seems to imply that teachers regard the terms ‘quality’ and ‘quality education’ as simple and unambiguous and they are therefore generally understood by teachers and school principals.

A greater proportion of 87% of teacher respondents confirmed the school principals’ and HODs’ assertions that schools have a shared and common understanding of school vision statements (See Table 7). Thus, the mean score of 4.50 in Table 7 (Item 3) indicates that (90%) of teachers agreed that vision statements are developed with the involvement of teachers, 87% agreed that the vision and mission statements are understood by all staff members, 88% agreed that all teachers work towards realising the schools’ mission and vision, and 81% agreed that schools have consistent values

and norms to inform decision-making processes. This is in line with the recourse of school-based management (SBM) system (Pomuti & Weber, 2012) which advocates for the decentralisation and devolution of duties and responsibilities to school levels. The goal of SBM is to increase school autonomy and decision making through the involvement of teachers and other education stakeholders to improve the quality of education in schools.

However, despite the general perception by school principals, HoDs and teachers that schools develop strategic plans with visions and goals which are shared and commonly understood by teachers and school principals, such visions and plans are not often realised by some schools in the Zambezi region. Stakeholders, particularly parents, in general, are dissatisfied with the quality of education in the Zambezi region due to repeated poor annual examination results (See Chapter one). This predicament requires that school principals and teachers should re-strategise their missions and visions towards enhancing quality education in the Zambezi region to meet stakeholders' quality education expectations. As Lingman, Lingman, and Raghuwaiya (2014:2119-2125) rightly put it:

> Any education institution or system that fails to understate educational planning in all seriousness, responding effectively to the manifold demands and rising expectations of various stakeholders in current times, does so at its peril.

This is in line with Deming's second principle that obliges schools to adopt new school philosophies such as SBM. For example, the principle of school decentralisation can empower teachers to initiate self-assessment strategies that are suitable to their own contextual needs which consequently can enhance quality education in the Zambezi region.

However, there are no universally agreed definitions of quality and quality education. Mohammed and Haseena (2015) emphatically point out that quality and [quality education] are difficult terms to define. According to Mohammed and Haseena, (2015:100-105), 'like freedom and justice, [quality and] quality in education can be experienced, but cannot be defined'. The terms are multifaceted and understood differently by education stakeholders.

Hence, Deming's first principle of constancy of purpose is crucial in enhancing quality education in schools. From the onset, teachers as key players of quality education enhancement in schools should be actively engaged in defining quality and quality education. School principals and teachers should have a shared and common understanding of quality and quality education prior to the formulation of school mission statements and visions. This will enable teachers and school principals to be consistently aware of their roles in enhancing quality education in schools.

5.8.2 Perceptions of quality and quality education in the Zambezi region

5.8.2.1 Teacher focus

Although only two school principals identified 'teachers' as customers, the HoDs generally perceived teachers as key customers of schools as they are directly involved in defining quality education. The mean score of 3.83 in Table 8 (Item 32) shows that 77% of teacher respondents at least agreed that teachers as stakeholders are involved in defining the notion of quality education in schools.

It is imperative that school principals take into cognisance teachers' voices in defining quality education. Teachers are key role players in ensuring that quality education is realised in schools. Yemisi (2013:138-143) agrees that 'teachers are very important to the success of the school system in achieving its goals and objectives'. Similarly, the findings in the UNESCO's Report (2013:35) regard teachers as 'the most critical factor for improving the quality of education'. This implies that teachers' needs and expectations at school level should be identified and addressed adequately by school principals. Once teachers' needs are accomplished, teachers can significantly enhance quality education in schools which can be reinforced by the use of self-assessment strategies to support teachers' needs and expectations.

5.8.2.2 Teachers' needs

The participating school principals generally agreed that teachers' needs are often determined during the first week of each school term. Examples of teachers' needs included teaching and learning materials, and subject allocation according to fields of specialisation. The HoDs confirmed the assertion that teachers' needs are taken into account during class visits and one-on-one dialogues with teachers. The mean score

of 3.52 in Table 8 (Item 26) indicates that 70% of the teachers at least agreed that schools are organised around the needs of individual teachers, while the mean score of 2.98 indicates that 60% of the respondents at least agreed that regular meetings are conducted to discuss teachers' needs.

Teachers are central in ensuring that quality education is realised in schools (cf. par. 2.3.3.4). Therefore, teachers' needs should be diligently satisfied by school principals. In practice, school principals alone cannot identify and satisfy all teachers' needs. It is, therefore, necessary that teachers be afforded opportunities to identify their personal and professional needs that can contribute to enhancing quality education in schools. The use of self-assessment strategies can be of help to teachers who intend to critically identify, analyse and prioritise needs for personal and professional development.

5.9 LINKS OF SELF-ASSESSMENT STRATEGIES TO QUALITY AND QUALITY EDUCATION IN GENERAL

5.9.1 Professional support

The participating school principals and the HoDs generally agreed that the provision of professional support at school level is adequate and that the inspectors of education regularly visited their schools more frequently than their counterparts (advisory teachers). However, some school principals and HoDs indicated that despite frequent visits to schools by inspectors of education, very little professional support was given to teachers except for collecting monthly reports from the school principals. The mean score of 2.80 in Table 9 (Item 24) shows that 56% of the teacher respondents at least agreed that inspectors of education visit schools every month, while 44% at least disagreed. Furthermore, 55% of the respondents at least agreed that advisory teachers visit schools, while 45% at least disagreed.

The Ministry of Education (2006) encourages teachers and school principals to explore different ways of external assessment provision to develop their professional expertise in line with Deming's third principle for termination of dependence on supervision [external support] to achieve quality education (Deming, 1988). However, due to financial challenges, it is not possible for education officers (inspectors of education, NIED staff and advisory teachers) to visit classes and have one-on-one discussions with all teachers.

Additionally, the process of monitoring and evaluating of teachers by school principals and HoDs at the school level, though viable, can be daunting to teachers because the element of supervision by an expert is still imminent. Teachers as professionals need to be empowered to determine what is best for their professional development rather than to rely on external support. As Bradley (1993:174) puts it, 'quality comes not from supervision, but from the improvement of the process [and], the old way of supervising bad quality out must be replaced by the new way of building good quality in'. Teachers can be empowered to employ selected self-assessment strategies rather than to rely on external support to improve the quality education in the Zambezi region.

5.9.2 Cluster system

To supplement external teacher support mechanisms that are detached from real learning environments, some schools resort to school cluster centres as an alternative way of supporting teachers. According to Pomuti and Weber (2012:2), 'school clusters are authorised to manage school supervision and in-service training for school managers and teachers in order to improve management … teaching, and learning, [and] provide teacher support'.

The mean score of 2.98 in Table 8 (Item 28) shows that 60% of the teacher respondents at least agreed that the cluster system is effective for continuous professional development activities, while 40% at least disagreed that the cluster system is effective for continuous professional development activities. Some school principals and HODs are in agreement with the 40% of teachers who perceive the cluster system as being ineffective due to poor infrastructural resources. Hence, schools resort to internal school support rather than external support from education officers to support teachers.

School cluster systems have potential to help teachers support one another in providing quality education through 'sharing resources, experiences, and expertise' (Pomuti & Weber, 2012:1). Teachers can learn from teachers in the neighbouring schools of how self-assessment strategies are implemented to enhance quality education in the Zambezi schools. The choice of teacher support in neighbouring schools ought to be based on the needs of teachers who are the key arbitrators of quality enhancement. However, Deming's fourth principle of cost effectiveness can

only be sustained if schools develop long-term relationships of loyalty and trust with one another to ensure quality education in schools (Deming, 1988).

5.10 AVAILABLE RECOURSES FOR USE OF SELF-ASSESSMENT STRATEGIES IN THE ZAMBEZI REGION

5.10.1 Decision-making

Decision-making can be regarded as a valuable recourse that schools can explore in improving the quality of education in schools. In general, the participating school principals perceived decision making processes in schools as participatory and consultative in nature. The HoDs also perceived decision-making processes as an important way of engaging teachers to participate in the decision making processes to achieve school goals. The mean score of 4.07 in Table 7 (Item 6) shows that 81% of the teacher respondents at least agreed that teachers participate in decision making.

School principals do well by engaging and involving teachers in decision-making processes in schools. This is in line with the findings of Lin (2014:50-58) that,

> Schools that allow teacher participation in decision-making processes present crucial information closest to the sources of problems of schooling and thereby improving the quality of education in schools.

However, in real school settings, it is not possible for teachers to be engaged in all decision making processes in schools as this might take up their valuable classroom time. School principals, however, can use decision-making processes as recourse to empower teachers to make decisions on suitable self-assessment strategies that can help improve the quality of education in schools.

5.10.2 Academic freedom

The participating school principals and HoDs confirmed that they encourage their teachers to engage in continuous professional activities. The following were cited as examples of continuous professional development activities: ‘Workshops’, ‘Subject meetings’, ‘Upgrading of teacher qualifications’, ‘Mentoring and promotion of teachers’, and ‘CPD committee meetings’. The mean score of 4.17 in Table 10 (Item 13) shows

that 83% at least agreed that teachers have significant control over their continuous professional development while 17% at least disagreed.

Deming's fifth and sixth principles advocate for constant improvement by instituting training on the job. In an education context, this implies that teachers need to continuously improve their skills and knowledge to be able to contribute meaningfully to quality education enhancement. According to the British Council (2011:7),

> CPD is a planned, continuous and lifelong process whereby teachers try to develop their personal and professional qualities, and to improve their knowledge, skills, and practice, leading to their empowerment, their organizations and their pupils.

CPD is more than equipping teachers with anecdotal skills, such as, 'training teachers to handle a new textbook' (British Council, 2011:7). CPD is a life-long learning process which allows teachers to develop professionally. Thus, CPD should aim to redress the immediate needs of teachers in real classroom situations to supplement formal continuous professional development training programmes often administered by external agencies, such as inspectors of education and advisory teachers. CPD can be helpful to teachers who are engaged in using suitable self-assessment strategies to enhance quality education in schools.

There exist several recourses that are available for use by school principals including school strategic planning. This recourse of strategic planning provides school principals and teachers with apt time to carefully plan suitable and relevant self-assessment strategies that schools can employ to help improve the quality of education in the Zambezi region. The HoDs concurred with the school principals that schools often meet once every October of each year as per the Ministerial policy to plan SDPs and PAAIs. School principals and HoDs also agreed that teachers are often involved in the formulation process of school vision statements and goals. Therefore, teachers share a common understanding of school vision statements at school levels.

5.10.3 Teacher effectiveness

The participating school principals and heads of departments were asked questions on teacher efficacy (collegiality, teamwork, awards, competition and reprimand). The

school principals concurred with HoDs who confirmed that teachers generally prefer to work in teams. They further reiterated that teachers prefer to work more closely with their departmental colleagues in their grade phases (e.g. Lower Primary, Upper Primary, and Junior Secondary) rather than working with teachers having the same fields of specialisation. However, the interviewees indicated that some teachers prefer to work in isolation. The mean score of 4.31 in Table 10 (Item 17), shows that 86% of the respondents at least agreed that teachers prefer to work more closely with colleagues in their departmental grade phases while 14% of the teachers at least disagreed.

The school principals differed significantly on the question of whether teachers preferred to work with colleagues with similar fields of specialisation or departmental colleagues. Some school principals stated that teachers are free to approach other teachers regardless of grade phase or field of specialisation. This is in line with Deming's ninth principle which calls for school principals to eliminate the barriers between departments in schools. Teachers need to be exposed to suitable self-assessment strategies that can help them to focus on subject-specific or departmental and learners' needs. Self-assessment strategies allow teachers to perceive each other as colleagues rather than rivalries. It is only then that teachers can work as a team with the ultimate aim of improving the quality of education in schools.

5.10.3.1 Teacher awards

The school principals and HoDs affirmed that best-performing teachers are bestowed with gifts and prizes for their outstanding achievements at different levels of the education system in the Zambezi region. The assertion was confirmed by 80% of the respondents who agreed that teachers are motivated by awards and prizes to work harder as shown in Table 10 (Item 14).

In October every year, schools meet to review their school strategic management plans. It is during this time that teachers set up their targets that will be used to measure their performance the following year during October. Deming (1988) regards these practices as forces of destruction. Oduwaiye et al. (2012:145) also caution that 'setting goals can lead to marginal performance; merit pay can destroy teamwork; and appraisal of individual performance can nourish fear and increase variability in desired

performance'. School principals can use self-assessment strategies that are self-rewarding for personal and professional development. Self-assessment strategies have great potential to help teachers to enhance quality education through collaboration and not competition.

5.10.3.2 Teacher competition

The school principals and HoDs perceived that teacher competition is rife in schools. A mean score of 4.33 in Table 10 (Item 12) shows that 87% of the respondents at least agreed there is competition among teachers to produce good results while 13% disagreed.

Teacher competition in schools is contrary to Deming's tenth principle that advocates for the elimination of slogans in organisations which 'are based on the belief that people could, if they tried, do better' (Bradley 1993:184). The practice of competition creates adversarial relationships among teachers who are competing against each other to achieve national standards. Therefore, school principals should advocate for the use of self-assessment strategies that have potential to change teachers' mind-sets of competition to that of teamwork to improve the quality of education in schools.

5.10.3.3 Teacher reprimand

The school principals accepted the use of negative sanctions to reprimand non-performing teachers by issuing warning letters. The participating HoDs were hesitant to state how non-performing teachers are reprimanded in schools but agreed that teachers are reprimanded in schools. The mean score of 4.04 in Table 10 (Item 15) shows that 81% of teachers at least agreed that teachers are reprimanded for producing poor results at the end of the year. Oduwaiye et al. (2012:144) state that 'fear creates an insurmountable barrier to improvement of any system' and therefore, teacher reprimands should be avoided to improve the quality of education in schools.

Juran and Gryna (1980) maintain the 85/15 rule that a minute fraction of 15 percent of poor examination results can be linked to teachers' efficacy, while a bigger fraction of 85 per cent can be attributed to schools' system management inefficiency. Teachers should not be scapegoats for the poor performance of learners in examinations. As mentioned in Chapter one, all stakeholders are equally to blame for schools' appalling

examination results (cf. par. 1.2; 2.3.2.1). As a result, every stakeholder is expected to reflect on how best they can improve the schools' examination results. Hence, this study seeks to support teachers through the use of self-assessment strategies to improve the examination results with the ultimate aim of continuously improving the quality of education in schools.

Teacher reprimands especially after examination results are out undermine teachers' self-esteem. It is imperative that such practices be discouraged and substituted by professional development activities where teachers can use self-assessment strategies to critically review and reflect on their personal, professional competencies for improvement in an enabling atmosphere. Therefore, teachers should not be condemned for what goes wrong at the school but should rather be supported and empowered to conduct suitable self-assessment strategies that enhance quality education in schools.

5.11 DEVELOPMENT OF SELF-ASSESSMENT STRATEGY MODELS TO ENHANCE QUALITY EDUCATION IN THE ZAMBEZI REGION

5.11.1 Exposition of self-assessment strategies

The school principals and HoDs were familiar to most of the eight self-assessment strategies (surveys, guided assessment workshops, questionnaires, reflective journals, matrix, award simulation, pro forma and self-reviews) presented to them during the interviews. However, the self-assessment mode that seemed to be the most familiar to the participants was that of self-review mode. Apparently, this mode is closely linked to the commonly practised school self-evaluation in all state schools in the Zambezi region. Additionally, the school principals and HoDs made positive remarks on the values of self-assessment to improve the quality of education in schools thereby creating an enabling environment and atmosphere for the use of self-assessment strategies in the Zambezi region.

The school principals' and HoDs' perception of being knowledgeable of only one mode of self-assessment strategy was confirmed by the teacher respondents that schools do not allow teachers to use different self-assessment strategies to enhance quality education apart from the TSE which is conducted once per annum, during October.

The overall mean score of 2.94 in Table 12 shows that 59% of teacher respondents at least agreed that schools allow teachers to use different self-assessment strategies, while 41% disagreed. Bradley advises school principals that, 'improvement is not a one-time effort. Everyone and every department must subscribe to the ethic of constant improvement, and management must lead the way' (Bradley 1993:175). Jayakumaran and Manoharan further point out that 'today it is in our best interest to encourage everyone's potential by dedicating ourselves to the continual improvement of our own abilities and those of the people with whom we work and live' (2011:150).

Finally, Deming's principle advocates that individual teachers should become actively involved in acquiring new skills, techniques and knowledge to effect meaningful changes in the teaching and learning processes by focusing on 'students' strengths, individual learning styles, and different types of intelligences' (Jayakumaran & Manoharan 2011:150). Therefore, school principals should encourage teachers to partake in self-assessment strategies of their own that can meaningfully contribute to their professional development which in turn will contribute to the realisation of quality education in schools.

5.11.2 Roles of school principals

In general, the school principals perceived communication between school principals and teachers as being frequent and done on a daily basis. The HoDs also concurred with school principals that communication between teachers and the school principals is regular and on-going.

Teachers gave three different variables of leadership and communication skills that exist between school principals and teachers: open communication; distributive and leadership styles.

5.11.2.1 Communication

The mean score of 4.11 in Table 11 (Item 18) shows that 82% of teachers at least agreed that schools have an open communication system. However, 18% of the respondents disagreed that schools have open communication systems while 13% were unsure.

5.11.2.2 Distributive leadership and leadership styles

The mean score of 3.72 in Table 11 (Item 7) shows that 74% of the respondents at least agreed that leadership is widely distributed among teachers by school principals, while 26% of the respondents at least disagreed with the statement.

The mean score of 3.74 in Table 11 (Item 19) shows that 75% of the respondents at least agreed that the school principals use both autocratic and democratic styles of leadership, while 25% of the respondents at least disagreed with the statement.

School principals do well to have open communication systems in schools. Teachers are prone to stressful experiences in and outside school that can demoralise them from implementing their core duties of teaching, such as family chores, marriage problems, and financial debts (Decenzo & Robbins, 2006). Baraza,Simatwa, and Gogo (2016:91-114) state that,

> Stress is a dynamic condition in which an individual is confronted with an opportunity, constraint, or demand, related to what he or she desires and for which the outcome is perceived to be both uncertain and important.

Teachers with stress cannot be effective in carrying out self-assessment strategies. It is imperative that school principals have an open door policy of communication to allow teachers under stress to voice their problems to remain focused on implementing self-assessment strategies.

Furthermore, it is important that school principals create enabling environments that can help resolve teachers' personal and professional problems. Teachers are more likely to state their grievances and gratitude to school principals who use democratic styles of leadership than those who are autocratic. Maposa and Chisango (2016:44-51) state that 'staff development programs could be perceived more positively if schools shift from autocratic to democratic way of managing school programs'. School principals should allow teachers to support one another by using self-assessment strategies that focus on resolving teachers' personal and professional problems experienced in and outside the school in a democratic school environment.

5.12 CONCLUSION

This chapter presented qualitative and quantitative data that was collected during the two phases of this sequential exploratory mixed study. The first section in Part A of the chapter presented the demographic data of participating school principals and HoDs. Similarly, in Part B, demographic data of teacher respondents was first presented prior to presenting responses of teachers on the Likert-scale questionnaire. Finally, Part C presents the triangulation of qualitative and quantitative data gathered during the two phases of this sequential mixed method study.

The findings of this study are based on the school principals', HoDs', and teachers' perceptions of quality and quality education in general and how it can be enhanced by the use of self-assessment strategies in schools in the Zambezi region. The subsequent paragraphs summarise the chapter findings under the four sub-problems stated in Chapter one, (cf. par. 1.4).

The school principals and HoDs provided varied and diverse definitions of quality and quality education. Deming (1994:2) acknowledges that 'the basic problem anywhere is quality'. Quality is defined and understood differently by education stakeholders. However, teachers, on the other hand, agreed and strongly agreed that quality and quality education is well known, understood and shared by staff in schools as evidenced by the high percentage of 'agree' and 'strongly agree' responses. Hence, individual teachers claim to be knowledgeable of what quality and quality education entails despite that there exists no single and universally agreed definitions of the two terms. Therefore, it is essential for school principals during school strategic planning meetings to apply Deming's first principle to create constancy of purpose for continual improvement of teaching and learning in schools in the Zambezi region (Deming, 1988).

The participants - school principals, HoDs and teachers - generally perceive that monitoring and evaluation of school principals and teachers in the Zambezi region by external offices and agencies are lacking. External support is generally limited to once-off visits by ATs and IoEs to schools. The lack of visits to schools by education officers is caused by many factors including financial constraints that the Ministry of Education is experiencing. Deming's third principle cautions teachers to cease dependence on

external agencies to improve teaching and learning as it is not sustainable in the long-run (Deming, 1988). It is therefore imperative that school principals and teachers devise school-based initiatives such as the use of self-assessment strategies to improve the quality of education in teaching and learning schools.

The participants agreed in principle that schools have recourses that can be put to best use to improve the quality of education in schools. Deming's sixth and thirteenth principles require school principals to institute training programmes of education and retraining for teachers in schools (Deming, 1988). Teachers should be encouraged to engage in continuous professional development activities to improve teaching and learning in schools.

The majority of participants indicated that the use of self-assessment strategies is limited in schools. The school principals and HoDs mentioned mainly one mode of self-assessment, namely, self-review, which is similar to the school self-evaluation advocated by the Ministry of Education. Teachers indicated to be familiar with two or three modes of self-assessment. Deming's fifth principle can be adopted by school principals to allow teachers to engage in the process of continually improving every aspect of teaching and learning processes (Deming, 1988).

Therefore, with limited recourses and support available in schools, school principals and teachers can develop suitable self-assessment strategies to improve the quality of education in schools. Juran's principle of 'fitness for use' encourages school principals to utilise the teaching and learning recourses to satisfy the needs and expectations of learners (Juran and Godfrey, 1979).

The school principals' interpersonal skills, communication skills, and leadership styles can affect teachers' initiatives to explore the use of self-assessment strategies in schools. Deming's eighth principle encourages school principals to drive out fear among teachers by improving communication (Deming, 1988). It is important that school principals should create enabling and supporting environment for teachers to conduct and explore the use of other self-assessment strategies to improve quality education in teaching and learning in schools. Therefore, the developments of self-assessment strategies require school principals to create supportive and enabling environments for teachers to be creative and innovative in schools. The leadership and

communication styles used by school principals influence the manner in which self-assessment strategies could be developed to enhance quality education in teaching and learning in schools

The next chapter will present a summary of the research findings. The study limitations will be presented prior to making recommendations on how self-assessment strategies can be used to improve the quality of education in the Zambezi region. Finally, areas for further research in quality education enhancement in the Zambezi will also be presented.

CHAPTER 6: SUMMARY OF THE STUDY, CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

6.1 INTRODUCTION

Chapter six begins with a summary of the study. The study was based on the exploratory sequential mixed methods approach of using self-assessment strategies to enhance quality education in the Zambezi region of Namibia. This is then followed by the research findings, discussed according to four sub-problems stated in Chapter one:

- What entails quality and quality education?
- How can self-assessment strategies be linked to quality and quality education in general terms?
- What recourses are available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region?
- How can self-assessment strategy models be developed to enhance the quality of education in the Zambezi region?

The recommendations from the study are then presented in response to the four sub-problems stated above. The limitations and delimitations of the study are also presented in the chapter. The chapter presents the contributions of the study to education theory and practice with a model illustration of how self-assessment strategies can be employed by teachers. Lastly, the chapter presents avenues for future research and concludes with final remarks on how self-assessment strategies can be used to improve the quality of education in the Zambezi region of Namibia.

6.2 SUMMARY OF THE RESEARCH

In this exploratory sequential mixed methods study, five schools were purposively selected from each of the five educational circuits in the Zambezi region: Bukalo, Chinchimane, Katima Mulilo, Ngoma and Sibbinda. The five schools are located in the remote areas of the Zambezi region. Three of the five remote schools are located in flood-prone areas along the Zambezi River, north-east of Katima Mulilo Town.

The five schools are generally inaccessible and difficult to visit throughout the year due to poor terrain and the mammoth task of crossing over tributaries of the Zambezi River. Miranda et al. (2011) affirm that schooling in the Zambezi region is often disturbed by floods which occur on an annual basis which makes it difficult for inspectors of education and advisory teachers to frequently visit the schools. However, the five selected schools are typical examples of many schools that are rarely visited by education officers. Therefore, the selected remote schools serve as suitable school models for this particular study on how self-assessment strategies can be used to enhance quality education in the Zambezi region of Namibia.

The research was conducted in two phases: qualitative and quantitative (cf. par. 5.2; and 5.7). During the first phase (qualitative), two methods of data collection were used: personal and focus group interviews. The participating school principals were engaged in personal interviews (See Appendix C) while the HoDs participated in a focus group interview (See Appendix D). Data collected from the school principals' and HoDs' interviews was analysed and used to inform the design of the Likert-scale questionnaire which teachers completed during the second phase of the data collection exercise. Thereafter, the qualitative data was used to confirm or disconfirm data collected during the first phase of the study.

Five school principals and four HoDs participated in the study. The participating school principals and the HoDs had vast years of teaching and school management experiences as espoused in Chapter five, (cf. par. 5.2.1.4 and 5.2.2.4). The rich experiences of school principals and HoDs were used to inform and guide the design of the second phase (quantitative) of this particular study. The male interviewees (school principals and HoDs) were in the majority compared to their younger female counterparts (cf. par. 5.2.1; and 5.2.2.) The age differences and working experiences between the male and female school principals are considered in this study as an opportune time for the young female school principals to acquire valuable school managerial skills from their ageing and experienced male counterparts.

The fifty-four teachers who participated in the study had varied years of teaching experience ranging from less than five years to over thirty-two years (cf. par. 5.4.1.5). The selected sample of teachers included: un-qualified, under-qualified, novice and

experienced teachers (cf. par. 5.4.1.4). The researcher sought to capture teachers' perceptions on quality tenets in education from their personal opinions and experiences in schools.

The school principals were requested to return the completed questionnaires in a period of two to three weeks. One school returned the questionnaires in a sealed envelope after two weeks, while the remaining four schools submitted theirs during the third week. The quantitative data obtained from the Likert-scale questionnaires was entered into a Microsoft Excel database before the data analysis was conducted using IBM SPSS.19 and Microsoft Excel software.

The following section (6.3) will highlight the research findings of this exploratory sequential mixed methods study in answering the four sub-problems stated in Chapter one, (cf. par. 1.4).

6.3 THE RESEARCH FINDINGS

6.3.1 Introduction

The findings of this sequential explorative mixed research methods study revealed the following findings under the four sub-problems stated above.

6.3.2 Findings with regard to sub-question 1: What entails quality and quality education?

The different connotations provided by school principals and HoDs in Chapter five (cf. par. 5.3.1 and 5.3.2) suffice to indicate that quality is a multifaceted concept. The definitions of the two concepts are dependent and influenced mainly by the stakeholders' interest in education, and hence the variations as evidenced by the school principals' and teachers' different perceptions of the two concepts. However, despite the variations in defining quality, a common trend is that quality is centred on satisfying specific needs of customers. In an educational context, quality education focuses on satisfying the educational needs of customers and stakeholders. Schools should satisfy teachers' personal and professional needs for quality education to be achieved in schools. The main study finding of sub-question 1 is that the two notions of 'quality' and 'quality education' are commonly shared and understood by the

participants but are defined differently. The rejection of the null hypothesis attests the aforementioned finding that schools have shared and common understanding of the two concepts at hand but have different connotations of quality and quality education.

6.3.3 Findings with regard to sub-question 2: How can self-assessment strategies be linked to quality and quality education in general terms?

In response to sub-question 2 as stated in Chapter one (cf. par. 1.4), this study found out that self-assessment is linked to quality and quality education as a monitoring and evaluation measure of standards in schools. This is in line with the Dakar international framework and UNESCO's (2005) conception of quality standards stated in Chapter one (cf. par. 1.11.3). Thus, in schools, the monitoring of teachers' practices is done by school principals, HoDs and also by outside agents or experts (Education Officers: Inspectors of Education and Advisory Teachers). The study established that school principals and HoDs supported teachers to improve teachers' professional competencies through class visits, class observations and face-to-face discussions as shown in Chapter five (cf. par. 5.3.4.5; 5.7.2.3; 5.8.2.2). However, the study revealed that external professional support in inadequate as stated in Chapter five (cf. par. 5.6.2). The lack of external support by education experts in schools was found to be a contributing factor towards the lack of quality education in schools in the Zambezi region of Namibia. Miranda et al. (2011) also confirm that 'the general visits to schools by professional staff [Education Officers: Inspectors of Education and Advisory Teachers] for guidance and support has diminished over the years, which might have a negative impact on quality in schools' (Miranda et al., 2011; Ministry of Education, 2006).

The major finding of this study in response to sub-question 2 is that external professional support by inspectors of education and advisory teachers is inadequate in schools in the Zambezi region of Namibia.

6.3.4 Findings with regard to sub-question 3: What recourses are available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region of Namibia?

In response to sub-question three stated above and in Chapter one (cf. par. 1.4), the study found out that the availability of recourses to support the use of self-assessment strategies in schools is indispensable. Recourses of teacher involvement in decision-making processes during school strategic planning and the identification of needs serve as support mechanisms to meet teachers' needs and expectations. This is in line with Lin's (2014) findings that 'the decisions made by teachers could be easier implemented by them'. Thus, the involvement of teachers in formulating school visions, mission statements and goals is done annually in October as per the Ministry of Education directives and is key to teacher participation. Teachers have an advantage of identifying and addressing needs that derive directly from their interactions with learners in the classrooms during school strategic planning meetings (Lin, 2014). Additionally, the study showed that school strategic planning is an opportune time for school principals and teachers to carefully select and plan the implementation of chosen self-assessment strategies based on teachers' needs. On the contrary, however, the study found out that teachers' over-indulgence in school administration chores can compromise quality education through loss of valuable teaching time in the classrooms (Lin, 2014).

Another major finding of this study is that self-assessment is closely linked to teacher effectiveness. In Chapter two (cf. par. 2.3.3.4) a conclusion by the McKinsey Report (2007) in Finland is that 'the quality of an education system cannot exceed the quality of its teachers' *(*McKinsey, 2007:19). This finding supports the proponents of teacher effectiveness research, such as that of Muijs and Reynolds (2011) who have shifted their focus from traditional perspectives of quality, which are based on the 'process-product' paradigm to 'teacher effectiveness'. Teacher effectiveness is central to ensuring quality education in schools. Santiago and Benavides (2005), regard teachers as the most significant and costly resource in schools who are central to quality education improvement. In this study, it was established that effective teachers were rewarded and bestowed with prizes and monetary incentives at various levels of the education system (school, cluster, circuit, regional, and national levels). Also,

the study revealed that this practice served as a motivating factor for teachers to improve the quality of education in schools. On the contrary, the study revealed that teacher reprimands that were instituted against non-performing teachers served as deterrent measures to the under-performing teachers as mentioned in Chapter five (cf. par. 5.3.4.6; 5.10.3.3).

Furthermore, the study showed that teachers are central to the provision of quality education in schools. Therefore, school principals alone without support from teachers cannot achieve a quality education. The traditional view of regarding teachers as the silenced in the process of decision making is out-dated (Lin, 2014). The realisation of quality education in schools requires a concerted effort from teachers, including other education stakeholders. This study also showed that teachers' needs are regularly surveyed and acted upon by school principals as mentioned in Chapter five (cf. par. 5.6.2; 5.8.2.2). However, on the contrary, the study found that schools do not accurately focus on teachers' personal and professional needs despite regular morning staff brief-meetings and the annual once-off strategic meetings. These recourses do not provide adequate time for teachers to register their personal and professional needs in the Zambezi region of Namibia. The main finding of this study in response to sub-question 3 is that schools do not fully utilise available recourses to support teachers' personal and professional needs in enhancing quality education in schools.

6.3.5 Findings with regard to sub-question 4: How can self-assessment strategy models be developed to enhance the quality of education in the Zambezi region of Namibia?

In response to sub-question 4 as stated above and in Chapter one (cf. par. 1.4), the study showed that the current use of TSE is a common practice in schools as per the Ministry of Education directives (2013b). However, the study found that the participants are eager to explore and develop alternative self-assessment strategies in schools to supplement the TSE. Also, the study showed that some participants resent the prescribed use of TSE because it is not fulfilling all the teachers' needs and expectations in improving the quality of education in the Zambezi region as pointed out in Chapter five (cf. par. 5.3.5).

The study further revealed that school principals are pivotal in developing self-assessment strategies in schools. Generally, school principals interchangeably used two leadership styles in schools: democratic and autocratic (cf. par. 5.6.4). However, the study showed that school principals opted to use the autocratic leadership style to attain set goals of the schools. The laissez-faire type of leadership was the least favoured by school principals as it required frequent and unnecessary consultations with teachers for decision-making as stated in Chapter five (cf. par. 5.3.4.7).

Finally, in Chapter five (cf. par. 5.11.2), the study showed that communication between school principals and teachers could help in developing feasible self-assessment strategies in schools. Thus, school principals who use democratic leadership styles have potential in creating conducive environments for teachers to develop suitable and relevant self-assessment strategies in schools. Therefore, school principals have a pivotal role to play in supporting innovative teachers who plan to explore and design alternative self-assessment strategies to improve quality education in schools in the Zambezi region of Namibia. The main finding of the study in response to sub-question 4 is that school principals tend to use the autocratic style of leadership.

6.3.6 Summary

This sequential explorative mixed method study showed that the two concepts of quality and quality education are elusive and understood differently by the participants. The study also revealed that the lack of support from external agencies compel schools to devise alternative internal school mechanisms to improve the quality of education with little or no support from external agencies. Therefore, school principals are required to avail recourses for effective teachers to be innovative in selecting relevant and suitable self-assessment strategies to improve the quality of education in schools in the Zambezi region of Namibia.

6.4 CONCLUSIONS FROM THE STUDY

6.4.1 Conclusions of participants' perceptions on quality and quality education in general

The concepts of quality and quality education are multi-faceted and transcendental in nature. Despite the fact the two terms are borrowed from industry, there are embraced as legitimate concepts in the education sector. Consequently, education stakeholders (Government, industry, schools, tertiary institutions, etc.) expect schools to provide quality education to all learners in order to meet their divergent needs and expectations. Schools, in return, should accommodate and strategise to meet the broad requirements of the stakeholders. However, the participants held different connotations of the concepts to exemplify the assertion that there exist no single definitions of the concepts. Therefore, it is imperative that school principals and teachers should involve stakeholders in defining the notions of quality and quality education in the light of national standards for schools to remain relevant to industry and societal needs.

6.4.2 Conclusions of self-assessment links to quality and quality education in general

Despite the fact that quality and quality education are abstract concepts, there is need to use empirical evidence to measure the two concepts. Internal and external school monitoring and evaluating mechanisms are regarded by the participants as a means of assuring quality education in schools. However, due to factors beyond the external agents' control, the IoEs and ATs cannot monitor and evaluate all school principals and teachers in schools in the Zambezi region as expected. It is therefore logical and essential that school principals should empower and encourage teachers to support one another at school level. School principals can identify and collaborate with effective teachers to develop suitable self-assessment strategies that meet personal and professional needs of teachers. Through teamwork, collaboration and carefully planning, teachers can contribute immensely in the successful design and implementation of self-assessment strategies in schools to improve the quality of education in teaching and learning.

6.4.3 Conclusions of recourses available for use of self-assessment strategies.

Schools in the Zambezi region are privileged in using the National Standards for School Evaluation in developing their school mission statements, vision and goals. This is attested by the participants' views that teachers are involved in formulating school strategic plans. Teacher involvement in decision making processes by school principals empowers teachers to own and be accountable for any collective decision made. Thus, self-assessment strategies should not be imposed on teachers by school principals or external experts. Schools should therefore avail more recourse for teachers to select and design suitable self-assessment strategies for use in improving the quality of education teaching and learning in schools.

6.4.4 Conclusions of developing self-assessment strategies

Self-assessment strategies have proved to be effective not only in industry but in education, too. Mount Edgemont secondary school is one school in the USA that uses self-assessment strategies to improve quality education in teaching and learning. Therefore, the development of self-assessment strategies requires school principals to create supportive and enabling environments for teachers to be innovative in schools. The leadership and communication styles used by school principals influence the manner in which self-assessment strategies can be developed in schools. Thus authoritarian school principals might find it difficult to convince and get adequate support from teachers who are suppressed to develop self-assessment strategies. On the contrary, democratic school principals who are open to communication have an advantage of listening to personal and collective ideas of teachers on how best to develop self-assessment strategies.

6.5 RECOMMENDATIONS FROM THE STUDY

6.5.1 Introduction

In the light of the study findings in section 6.3 above, the following recommendations are presented in response to the four sub-problems of this exploratory sequential mixed methods study as phrased above.

6.5.2 Recommendations with regard to sub-question 1: What entails quality and quality education?

From the findings of the study, the concepts of quality and quality education are elusive, multi-faceted and transcendental as stated in Chapter two (cf. par. 2.2.2). Despite the fact that the two terms are borrowed from industry (cf. par. 2.2.1; 2.2.2.; 2.3.1; and 2.3.2), the concepts are defined and understood differently by the participants, namely, teachers, HoDs and school principals (cf. par. 5.3.1; and 5.3.2). The school principals together with teachers, need to formulate simple, clear, comprehensible and concise definitions of the two concepts to avoid the ambiguity. The concepts should be commonly shared and understood by all the teachers and school principals early during the first term of each academic calendar. Therefore, it is recommended that school principals and teachers should redefine the concepts of 'quality' and 'quality education' to establish common understandings of the two concepts at hand.

6.5.3 Recommendations with regard to sub-question 2: How can self-assessment strategies be linked to quality and quality education in general terms?

Despite the fact that quality and quality education are abstract concepts (cf. par. 2.2.2), there is a need to use empirical evidence to measure the two concepts. Thus, internal and external school monitoring and evaluating mechanisms are needed to ensure quality education in schools. However, due to factors beyond the control of the education directorate, the IoEs and ATs cannot monitor and evaluate all school principals and teachers in schools in the Zambezi region as expected. Due to the lack of inadequate professional support by inspectors of education and advisory teachers in schools, it is recommended that school principals and teachers should intensify

and fortify teamwork in planning and implementing self-assessment strategies to enhance quality education in teaching and learning in schools.

6.5.4 Recommendations with regard to sub-question 3: What recourses are available to ensure that quality education is realised by the use of self-assessment strategies in the Zambezi region of Namibia?

From the study findings with regard to sub-question 3 as stated above (cf. par. 1.4), it is recommended that school principals should be innovative in availing recourses at school levels to support teachers' initiatives in using suitable and feasible self-assessment strategies to improve the quality of education in schools. Furthermore, teacher effectiveness and teacher involvement in decision making processes in schools should be used to empower teachers to own and be accountable for any collective decisions taken at school levels (Lin, 2014). In other words, self-assessment strategies should not be imposed on teachers by school principals or external experts. Therefore, it is recommended that school principals should avail possible recourses to empower teachers to select, explore and design suitable self-assessment strategies for use in improving the quality of education teaching and learning in schools.

6.5.5 Recommendations with regard to sub-question 4: How can self-assessment strategy models be developed to enhance the quality of education in the Zambezi region of Namibia?

Sub-section 6.3.4 above revealed that self-assessment strategies have been proven to be effective in improving the quality of education in schools. It was also concluded that the successful implementation of self-assessment in schools is dependent mainly on the school principals' attitude towards teachers. Furthermore, it was established that the leadership styles and communication policies that school principals adopt could have either a positive or an adverse effect on the implementation of self-assessment strategies in schools.

Thus authoritarian school principals might find it difficult to convince and get adequate support from suppressed teachers to develop self-assessment strategies. On the contrary, democratic school principals who are open to communication have an

added advantage of listening to personal, professional and collective ideas of teachers on how best to develop self-assessment strategies. It is recommended that school principals should be approachable and supportive in empowering teachers to supplement the current use of TSE with other proven and effective self-assessment strategies to improve quality education in teaching and learning in schools.

6.5.6 Summary

The recommendations stated above are in response to the four sub-problems of this study. The recommendations aim to inform school principals, HoDs, education officers (IoEs, ATs), and the Regional Directorate of Education management (Director, Deputy Directors, Chief Education Officers) of how self-assessment strategies can improve the quality of education in teaching and learning in schools in the Zambezi region of Namibia. School principals play a pivotal role in managing available recourses. The use of appropriate communication and leadership styles can allow teachers the freedom to explore the use of self-assessment strategies to enhance quality education in teaching and learning in schools.

6.6 LIMITATIONS AND DELIMITATIONS OF THE STUDY

Firstly, the study was conducted in five selected remote and spaced-out schools in the five educational circuits of the Zambezi region in Namibia. Traveling to some schools to collect data was a challenge. On one occasion, a visit to one school in a flood-prone area was aborted due to the water mode of transport available at the time of the visit. The researcher could not risk canoeing in traditional canoes to collect data. However, the participating school principals and HoDs were persuaded and convinced to attend interviews in Katima Mulilo town during school holidays. Unfortunately, one HoD failed to attend a focus group interview for health reasons.

Secondly, despite collecting data from the selected school principals, HoDs and teachers, the results of the study cannot be over-generalised to all schools in the Zambezi region. Schools are unique educational organisations that have needs and challenges that differ from one school to another. Therefore, other remote schools should focus on the opportunities and challenges faced by teachers to develop

suitable self-assessment strategies to improve the quality of education in remote schools.

6.7 CONTRIBUTIONS OF THE STUDY TOWARDS THEORY AND PRACTICE

6.7.1 Self-assessment model

This exploratory sequential mixed methods study focused on the four sub-problems stated in Chapter one (cf. par. 1.4), to contribute towards literature on theory and practice of quality and quality education in schools in the Zambezi region of Namibia (cf. par. 1.9). By focusing on the four sub-problems, this study generated a database on individual and collective participants' perceptions of quality and quality education in the Zambezi region. The database contained valuable insights for exploration on how self-assessment strategies can be emulated by other remote schools in similar settings in the Zambezi region.

The study findings contribute to existing theory and practice of quality education by advancing self-assessment strategies for use in remote schools that seldom receive external professional support. Teachers who intend to adapt the self-assessment model can use the steps stated in Chapter three (par. 3.2.2; 3.3.9) to plan and implement the self-review process. It should also be noted that there are varied tools that can be adapted by teachers to analyse data to improve the quality of education in teaching and learning in schools. Juran and Godfrey (1978) present the following tools as effective in problem-solving: box plot, brainstorming, cause-effect diagram, data collection, flow diagrams, graphs and charts, histogram, Pareto analysis, scatter diagrams and stratification tools. The nature of the problem determines the type of tools that teachers can use to solve teaching and learning problems in schools. In this study, a flow diagram (See Figure 34 below) was used to illustrate how continuous improvement of quality education in teaching and learning can be realised in schools in the Zambezi region.

Figure 34 below depicts a six-step sequential process model of a teacher self-assessment cycle. The steps and arrows in the flow diagram show the activities that need to be completed by teachers before they can move to the next step in the improvement cycle. The model is designed to help teachers plan and focus on the

research problem of how to enhance quality education in teaching and learning in schools in the Zambezi region.

Sample Guidelines for a Teacher Self-Assessment Cycle

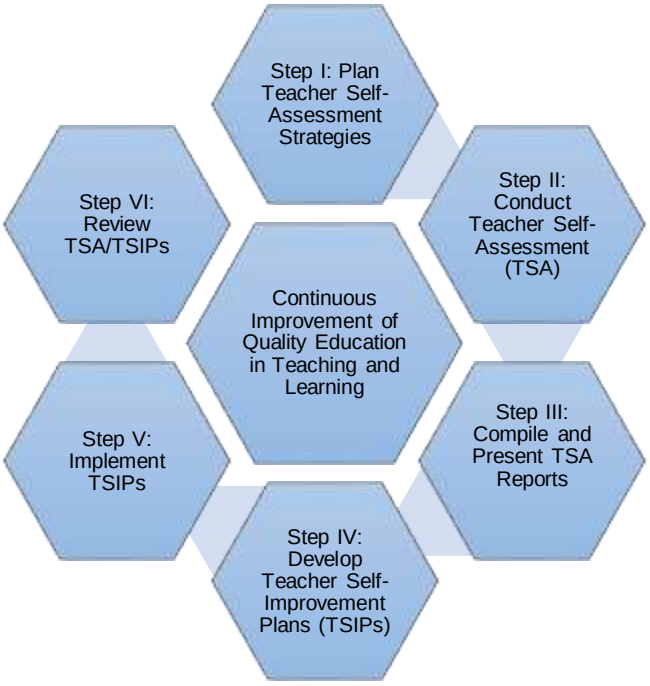

Figure 34: Guidelines for a teacher self-assessment model

A flow diagram was chosen because its framework focuses on a systematic process of improving quality education in schools (Juran and Godfrey, 1979). It allows teachers to use higher order thinking to assess quality improvement using self-assessment strategies (Step I). It also allows teachers to identify the root causes for the lack of teaching and learning processes in schools by self-critiquing their teaching practices (Step II). Furthermore, it provides teachers with room to remedy and evaluate the causes of the research problem in quality education enhancement (III). Additionally, it allows teachers to implement and sustain their good pedagogical skills and knowledge (Step IV). Lastly, a flow diagram allows teachers to be innovative in identifying and evaluating suitable self-assessment strategies (Steps V and VI), that can enhance quality education in teaching and learning in schools (Juran and Godfrey, 1979).

The model of self-assessment process is based on Deming's four-stage cycle of quality improvement (cf. par. 3.2.4), and Adam's self-assessment procedures (cf. par. 3.3.9). The steps can be reduced by combining two steps into one to befit a chosen self-assessment strategy where necessary. The teacher self-assessment derives from TQM quality management principles that emphasise the use of tools to inform decision-making in an organisation.

6.7.1.1 Step I: Plan teacher self-assessment strategies

Teachers who are willing to participate in teacher self-assessment processes meet to plan and agree on the modalities of the chosen self-assessment strategy. Teachers focus and adapt pre-determined criteria or indicators of standards, for example, from the Deming's simulation awards or National Professional Standards for Teachers in Namibia for self-assessment. Teachers discuss the advantages and disadvantages of the chosen self-assessment criteria. Higher order thinking skills (cf. par. 3.5) can be applied by teachers during this stage to self-critique their teaching styles using evaluation questions to justifying their teaching practices. Three key questions need to be discussed using higher order thinking: What is the current situation of my teaching and learning processes in my classroom? What changes need to be made? How are the changes going to be made? Why should the changes be made? This is different from the 'Yes' or 'No' question types that require teachers to use lower order thinking skills.

The use of a SWOT analysis can be helpful for teachers to have a commonunderstanding of their individual's strengths, weaknesses, opportunities and threats in teaching and learning processes. Teachers can identify: 'Strengths' meaning areas that they are proud of; 2. 'Weaknesses' - areas that they can improve upon; 3. 'Opportunities' - recourses that the teachers can utilise to improve the teaching and learning processes; and, 4. 'Threats' - areas that the teachers have no control over except that they can choose how to respond to such threats. Teachers plan and agree on a time-frame of when to complete the self-assessment which should later be submitted to a chosen team leader, or a proven effective teacher. This process can take a month or two to complete. School principals can apply Deming's first principle of creating constancy of purpose for continual improvement of services

(cf. par. 2.3.2.1; 5.6.1; 5.8.1) to support teachers. Despite the fact that the initiative to use the self-assessment is from teachers, the school principal should ensure that the earmarked improvements are linked to the school's vision, mission statement, and goals.

6.7.1.2 Step II: Conduct teacher self-assessment

Each teacher conducts his or her own teacher self-assessment using a chosen self-assessment strategy within an agreed upon time-frame, i.e., two to three months as stated in Step I above. It is essential that teachers complete the teacher self-assessment instruments as honestly as possible based on their personal observations and experiences of their performances. Teachers can adopt the new philosophy to supplement the common TSE mode of assessment in schools. Unlike Deming's second principle that advocates for the abandonment of traditional ways of assessment, in this case, teachers can apply the new form of assessment to supplement the mandatory TSE mode of self-assessment by the Ministry of Education, Arts, and Culture (2013a).

Thereafter, the team leader should convene a meeting for teachers to present their personal self-assessments. Collectively, teachers identify and prioritise key areas for improvement. The team leader then collates and generates a generic teacher self-assessment (SWOT analysis) that is agreed upon by teachers in the school. The generation of a generic and consolidated teacher self-assessment analysis can be done within a period of a month or two.

6.7.1.3 Step III: Compile and present teacher self-assessment reports

The effective teacher presents the consolidated teacher self-assessment analysis to the school principal and/or HoD for validation. The task of the school principals and/or HoD is to validate and authenticate the findings of the consolidated teacher self-assessment and make recommendations for improvement. The authentication process can be done within a period of two months. Deming's seventh principle encourages the school principals and HoDs to emphasise quality, not quantity in authenticating the teacher self-assessment outcomes (cf. par. 3.3.8). Thus, the

school principals should carefully identify key areas that need urgent redress at school level.

6.7.1.4 Step IV: Development of teacher self-improvement plans (TSIP)

The teachers meet to discuss feedback received from the school principal, (or an effective teacher or HoD). Based on the recommendations, the teachers develop individual self-improvement plans to redress teaching and learning problems in classrooms. The TSIPs should clearly state: What task is to be addressed? Who is responsible for carrying out the task? When is the task expected to be accomplished? And, how is the task going to be done? Table 3 (cf. par. 3.3.9), can serve as guidelines for teachers to emulate.

6.7.1.5 Step V: Implementation of teacher self-improvement plans (TSIP)

Teachers carry out the planned activities as recommended in the teacher self-improvement plans. Deming's fifth and sixth principles encourage teachers to engage in the process of continual improvement of every aspect of the teaching and learning process (Deming 1988). Teachers can use the TSIP to implement the recommendations to enhance quality education in teaching and learning in schools. Effective teachers are expected to monitor the implementation of the TSIPs regularly. Teachers can conduct the activities stated in the TSIPs without fear of impeachment by the school principals and other professional staff for the self-assessment process to be efficient and effective.

6.7.1.6 Step VI: Review of the teacher self-assessment cycle

Teachers meet to reflect and review the self-assessment processes. The teachers should reflect, review and identify areas that have improved in their teaching styles and problematic areas that still need redress.

This step allows teachers undertaking teacher self-assessment processes to re-strategise and restart Step I of the quality improvement cycle. The completion of the self-assessment cycle can take six to twelve months.

6.7.2 Summary

The self-assessment cycle as shown in Figure 34 is essentially a school-based model for continuous improvement of quality education in teaching and learning in schools. The self-assessment model is cost-effective and does not require teachers to travel away from schools. Neither does it allow teachers to seek guidance and support from external professionals. Instead, the self-assessment cycle requires teachers to systematically share ideas, skills and knowledge at different stages of the improvement cycle at the school level. Thus, teachers work to identify strengths, weaknesses, opportunities and threats in their classrooms. However, one disadvantage of the self-assessment cycle is that it requires teachers to sacrifice their afternoon time to engage in the teacher self-assessment cycle. Therefore, school principals and effective teachers should regularly encourage and provide adequate support for teachers to engage in the teacher self-assessment cycle continuously.

6.8 FUTURE RESEARCH POSSIBILITIES

There exist grey areas for future research possibilities on the topic of quality and quality education in general. The following are some future research possibilities:

- Due to a public commotion among education stakeholders (parents, non-governmental organisations, faith-based organisations, etc.) regarding lack of quality education in schools, there is a need for future research to focus on tangible mechanisms and processes to enhance quality education in teaching and learning in remote schools. Stakeholders expect schools to provide quality education regardless of whether a school is located in an urban, semi-urban or rural area of Namibia.
- The Ministry of Education should allow and empower practitioners (teachers) to explore the use of alternative self-assessment strategies to supplement the prescribed TSE strategy in schools. It is a fallacy to assume that the current TSE meets all the teachers' needs and expectations in enhancing quality education in teaching and learning in schools. Future research should focus on devising viable forms of self-assessment to complement the prevailing use of TSE in schools.

- Self-assessment is used in both private and public sectors to improve organisations' performances continuously. Therefore, future research should benchmark successful schools that encourage the use of self-assessment strategies to continuously improve the quality of education in teaching and learning. Such findings can serve as models for remote schools to emulate in using self-assessment strategies to improve quality education in schools in the Zambezi region of Namibia.
- School principals as accounting officers play a pivotal role in ensuring that quality and quality education is realised in schools. It is recommended that future research should focus on providing school principals and HoDs with practical guidelines that clearly spell out their roles to support the use of self-assessment strategies by using appropriate communication and leadership styles.

6.9 FINAL REMARKS

This sequential explorative mixed method study explored national and international connotations of quality and quality education in general. The study established the links of self-assessment to quality and quality education in general. The recourses available to support self-assessment in schools were also identified in this study. A school-based self-assessment was posited to illustrate how remote schools - that receive limited support from professional education experts - can improve the quality of education. Finally, research possibilities are presented for further research by scholars to improve the quality of education in schools in the Zambezi region of Namibia.

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APPENDICES

APPENDIX A: RESEARCH ETHICS CLEARANCE CERTIFICATE

UNISA college of education

Research Ethics Clearance Certificate

This is to certify that the application for ethical clearance submitted by

VM Matakala [33768919]

for a D Ed study entitled

The enhancement of quality education using self-assessment in Zambezi region of Namibia

has met the ethical requirements as specified by the University of South Africa College of Education Research Ethics Committee. This certificate is valid for two years from the date of issue.

Prof KP Dzvimbo
Executive Dean : CEDU

Dr M Claassens
CEDU REC (Chairperson)
mcdtc@netactive.co.za

Reference number: 2014 SEPTEMBER /33768919/MC 12 SEPTEMBER 2014

APPENDIX B: PERMISSION LETTER FROM THE ZAMBEZI DIRECTORATE OF EDUCATION

Ministry of Education, Arts and Culture	**REPUBLIC OF NAMIBIA** **ZAMBEZI REGIONAL COUNCIL** **DIRECTORATE OF EDUCATION, ARTS AND CULTURE** **OFFICE OF THE REGIONAL DIRECTOR**	Zambezi Regional Council

Tel No.: (066) 261902/931
Fax No.: (066) 253187

Private Bag 5006
Katima Mulilo

Enquiries: **MM Mwinkanda**

Reference No:

28 September 2016

TO: Mr. Vincent Mubiana Matakala
Quality Assurance Coordinator
UNISA

RE: REQUESTING PERMISSION TO OBTAIN AND USE DOCUMENTS TO CONDUCT RESEARCH

I have pleasure in informing you that your request for permission to use documents from schools in Zambezi Region to conduct your Research (*The enhancement of quality education using self-assessment in Zambezi region of Namibia*) is **granted**.

Hope you find this in good order.

Thank you

MR. AUSTIN M SAMUPWA
REGIONAL DIRECTOR

MINISTRY OF EDUCATION ARTS & CULTURE
Zambezi Regional Directorate
2016 -09- 28
Office of the Director
Private Bag 5006 - Katima Mulilo

APPENDIX C: SCHOOL PRINCIPAL INTERVIEW PROTOCOL

Instructions for the interviewer:

1. The research topic for my thesis is entitled:
   The enhancement of quality education using self-assessment strategies in the Zambezi educational region of Namibia
2. The information you are going to provide in this interview will be treated as highly confidential.
3. The interview will be audio-recorded for authenticity.
4. Be as honest as possible and feel free to ask me to repeat any question that is not clear to you.
5. Probing questions might be asked to follow up on answers provided.
6. Be at ease and talk clearly.
7. There are no correct or wrong answers apart from your personal opinions.
8. You are free to decline answering any of the interview questions.

Purpose of interview:

The aim of this study is to establish and determine how self-assessment strategies can be used to enhance the quality of education in the Zambezi educational region.

Demographic Information for School Principals:

1. Gender Male / Female
2. Age 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-60
3. Years of Teaching Experience:
4. Years of School Principal Experience:
5. Circuit:
6. Highest Qualification:
7. Current Studies:
8. Future Studies:
9. HOD Contact Details:

Questions:

1 How do you perceive: a) quality, and b) quality education?
2 In your opinion as a school principal, who do you regard as your school's customers?
3 How often do you as a school principal engage your teachers in formulating the mission, goals and vision of the school? Why?
4 Is your school organized around the needs and expectations of your learners/teachers/parents? How?

5 Are learners, teachers and parents' needs regularly surveyed and acted upon by your office? How often?
6 How do learners, teachers and parents register their concerns to your office? Do you think their concerns contribute to quality education enhancement?
7 How often do education officers, i.e. inspectors of education and advisory teachers, supervise teachers at your school in a year?
8 Is your school utilising the cluster system to excel in the provision of quality education? How?
9 What do you do as a school principal to constantly improve teaching and learning processes in the classrooms?
10 How often do you as a school principal communicate with your teachers about their personal and professional needs?
11 Do you encourage your teachers to engage in continuous professional development activities? Can you give examples of continuous professional development activities that your teachers are engaged in? Are they effective? Why?
12 Do individual teachers have significant control over their own continuous professional development?
13 Are you as a school principal pursuing any continuous professional development programmes that aim to contribute towards the continuous improvement of your school in order to meet and exceed the needs of the learners/teachers? Mention these programmes?
14 What other systems do you employ to supplement the school or teacher self-evaluation system to continuously improve the professional development of your teachers?
15 What leadership style do you use as a school principal to motivate your teachers? Why?
16 Do teachers at your school prefer to work in isolation or in teams? Explain.
17 Do you award the best performing teachers at your school? How?
18 Do you reprimand the non-performing teachers? How?
19 Do you think your teachers prefer to work more closely with their departmental colleagues in their grade phases, (e.g. Lower Primary, Upper Primary, and Junior Secondary) rather than working with teachers having the same fields of specialisation? Why?
20 Do your teachers compete against one another in producing good results? Yes/No. How do you motivate your teachers to excel in producing good results?
21 Do you use staff performance appraisal systems to encourage teachers to work very hard? Yes/No. Why?
22 How do you regard the relationship that exists between you and your staff? Is it that of supervisor vs. subordinate? Why?

23 Do you agree or disagree with the following statement:

School principals alone cannot accomplish the realisation of quality education enhancement in a school without the support of all its members.

Explain.

Some schools make use of self-assessment strategies such as the following:

1. Survey mode
2. Guided assessment workshop mode
3. Questionnaire mode
4. Reflection journal mode
5. Matrix mode
6. Award simulation mode
7. Prof forma mode
8. Departmental self-review mode

24. Are you using any of the self-assessment strategies stated above? Yes/No. Which ones have you used? Did they bring any noticeable improvement? Explain.

25. Do you think that schools can use self-assessment strategies to enhance quality education in the Zambezi educational region? Why?

Allow me to sincerely thank-you for your valuable time spent with me during this interview.

APPENDIX D: HOD FOCUS GROUP INTERVIEW PROTOCOL

Instructions for the interviewer:

1. The research topic for my thesis is entitled:
   <u>The enhancement of quality education using self-assessment strategies in the Zambezi educational region of Namibia</u>
2. The information you are going to provide in this interview will be treated as highly confidential.
3. The interview will be audio-recorded for authenticity.
4. Be as honest as possible and feel free to ask me to repeat any question that is not clear to you.
5. Probing questions might be asked to follow up on answers provided.
6. Be at ease and talk clearly.
7. There are no correct or wrong answers apart from your personal opinions.
8. You are free to decline answering any of the interview questions.

DEMOGRAPHIC INFORMATION FOR HEADS OF DEPARTMENTS

Please Tick and/or Circle in the appropriate box:

1.	**Gender**				**Male**			**Female**	
2.	**Age**	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-60
3.	**Years of Teaching Experience**								
4.	**Years of Heads of Departments Experience**								
5	**Circuit**								
6.	**Highest Qualification**								
7.	**Current Studies**								
8.	**Future Studies**								

Purpose of interview:

The aim of this study is to establish and determine how self-assessment strategies can be used to enhance the quality of education in the Zambezi educational region.

Questions:

1. How do you perceive: a) quality, and, b) quality education?

2. Do you think schools in the Zambezi region are offering quality education? Why?

3. In your opinion as Heads of Departments, who do you regard as your schools' customers?

4. How school principals engage teachers in formulating the missions, goals and visions of schools? How?

5. Are your schools organized around the needs and expectations of your learners/teachers/parents? How?

6. Are learners, teachers and parents' needs regularly surveyed and acted upon by your offices and that of School principals? How often?

7. How do learners, teachers and parents register their concerns to your offices and that of the school principals? Do you think their concerns contribute to quality education enhancement?

8. How often do education officers, i.e. inspectors of education and advisory teachers, supervise teachers at your school in a year?

9. Is your school utilising the cluster system to excel in the provision of quality education? How?

10. What are the advantages and disadvantages of the cluster system?

11. What do you do as a Heads of Departments to constantly improve teaching and learning processes in the classrooms?

12. Do you encourage your teachers to engage in continuous professional development activities? Can you give examples of continuous professional development activities that your teachers are engaged in? Are they effective? Why?

13. Do individual teachers have significant control over their own continuous professional development?

14. Are you as Heads of Departments pursuing any studies or programmes that aim to contribute towards the continuous improvement of your school? Mention these programmes.

15. What other systems do you employ to supplement the school self-evaluation system to continuously improve the professional development of your teachers?

16. What leadership styles do you use as Heads of Departments to motivate teachers at your respective schools? Are your leadership styles different from those of the school principals? Why?

17. Do teachers at your school prefer to work in isolation or in teams? Explain.

18. Do you think teachers prefer to work more closely with their departmental colleagues in their grade phases, (e.g. Lower Primary, Upper Primary, and Junior Secondary) rather than working with teachers having the same fields of specialisation at you school? Why?

19. Do teachers at your school compete against one another in producing good results? Yes/No.

20. Do you use staff performance appraisal systems to encourage teachers to work very hard? Yes/No. Why?

21. How do you regard the relationship that exists between you and your school principal? Is it that of supervisor vs. subordinate? Why?

22. Do you agree or disagree with the following statement:

School managers alone cannot accomplish the realisation of quality education enhancement in a school without the support of all school members. Explain!

23. Some schools make use of self-assessment strategies such as the following:
    - Survey mode
    - Guided assessment workshop mode
    - Questionnaire mode
    - Reflection journal mode
    - Matrix mode
    - Award simulation mode
    - Prof forma mode
    - Departmental self-review mode

24. Is your school using any of the self-assessment strategies stated above? Yes/No! Which ones have you used? Did they bring any noticeable improvement? Explain!

25. Do you think that schools can use self-assessment strategies to improve the quality education in the Zambezi educational region? Why?

Allow me to sincerely thank-you for your valuable time spent with me during this interview.

APPENDIX E: TEACHER QUESTIONNAIRE - LIKERT-SCALE

Demographic Data

Gender: Male / Female

Age Range: 18-19/ 20-24/ 25-29/ 30-34/ 35-39/ 40-44/ 45-49/ 50-54/ 55-60

Grade Phase: Lower Primary / Junior Primary / Upper Primary / Junior Secondary

Highest Qualifications: ……

Years of Teaching Experience: ……

Current Studies: ……

To what extent do you agree or disagree with the following statements about your school?

Put an X on the appropriate number.

Key:

1 = Strongly Disagree

2 = Disagree

3 = Not sure

4 = Agree

4 = Strongly Agree

Statements:

1. The school has a shared and common understanding of the term: **"Quality".**
   Totally Disagree *Totally Agree*
   1 2 3 4 5

2. The school has a shared and common understanding of: **"Quality Education".**
   Totally Disagree *Totally Agree*
   1. 2 3 4 5

2. The **school's vision** is developed with the involvement of teachers.
   Totally Disagree *Totally Agree*
   3. 2 3 4 5

4. The school's vision is understood by all staff members.

Totally Disagree *Totally Agree*

1 2 3 4 5

5. All teachers **work towards** realising the school's mission and vision.
Totally Disagree *Totally Agree*

1 2 3 4 5

6. The school has **consistent values and norms to** inform **decision-making** processes.
Totally Disagree *Totally Agree*

1 2 3 4 5

7. **Leadership** is widely distributed among teachers.
Totally Disagree *Totally Agree*

1 2 3 4 5

8. **Regular meetings** are conducted to discuss teachers' needs.
Totally Disagree *Totally Agree*

1 2 3 4 5

9. School structures and processes are **team based.**
Totally Disagree *Totally Agree*

1 2 3 4 5

10. The school has mechanisms to **avoid poor learner performance** / **failure**.
Totally Disagree *Totally Agree*

1 2 3 4 5

11. **Authority and responsibility is delegated** to teachers to conduct professional development activities.

Totally Disagree *Totally Agree*

1 2 3 4 5

12. There is **competition** among teachers to produce good results.
Totally Disagree *Totally Agree*

1 2 3 4 5

13. Teachers have **significant control** over their **own continuous professional development.**

Totally Disagree *Totally Agree*

1 2 3 4 5

14. Teachers are **motivated by awards and prizes** to work harder.

Totally Disagree *Totally Agree*

1 2 3 4 5

15. Teachers are **reprimanded for poor examination results**.

Totally Disagree *Totally Agree*

1 2 3 4 5

16. **Decision-making** at the school is fully participative.

Totally Disagree *Totally Agree*

1 2 3 4 5

17. Teachers prefer to **work more closely with colleagues** in their departmental grade phases.

Totally Disagree *Totally Agree*

1 2 3 4 5

18. The school has a **communication system** that is open to all teachers.

Totally Disagree *Totally Agree*

1 2 3 4 5

19. The school uses both **autocratic and democratic styles** of leadership

Totally Disagree *Totally Agree*

1 2 3 4 5

20. The school works to achieve **consistency** of examination results.

Totally Disagree *Totally Agree*

1 2 3 4 5

21. **Monitoring and evaluation** (e.g. class visits, classroom observation, etc.) **tools** are used to monitor teachers' performances.

Totally Disagree *Totally Agree*

1 2 3 4 5

22. **Examination results** are used as a measure of quality standards.

Totally Disagree *Totally Agree*

1 2 3 4 5

23. **Regional Office/External support** is sought for **improvement of teaching/learning**.

Totally Disagree *Totally Agree*

1 2 3 4 5

24. **Inspectors of Education visit** the school once every month to help the school improve.

Totally Disagree *Totally Agree*

1 2 3 4 5

25. **Advisory Teachers (ATs)** often visit the school once every term to support teachers.

Totally Disagree *Totally Agree*

1 2 3 4 5

26. The school is organised around the **needs** of individual teachers.

Totally Disagree *Totally Agree*

1 2 3 4 5

27. Teachers' **needs are regularly surveyed** and acted on.

Totally Disagree *Totally Agree*

1 2 3 4 5

28. The **cluster system** is effective for **continuous professional development** activities.

Totally Disagree *Totally Agree*

1 2 3 4 5

29. Teachers attend **continuous professional development activities each** term at the cluster centres or circuit offices or Teachers Resource Centre (TRC).

Totally Disagree *Totally Agree*

1 2 3 4 5

30. Teachers are **involved** in the **identification of needs** that are addressed in the cluster or circuit-based workshops.

Totally Disagree *Totally Agree*

1 2 3 4 5

31. **Teachers' needs are usually addressed** during cluster or circuit-based workshops.

Totally Disagree *Totally Agree*

1 2 3 4 5

32. **Quality education** is defined by teachers at your school.

Totally Disagree *Totally Agree*

1 2 3 4 5

33. The school allows teachers to use different **self-assessment strategies** to enhance quality education.

Totally Disagree *Totally Agree*

1 2 3 4 5

34. The school uses only one type of self-assessment strategy throughout the year.

Totally Disagree *Totally Agree*

1 2 3 4 5

35. The school uses more than one type of self-assessment strategy throughout the year.

Totally Disagree *Totally Agree*

1 2 3 4 5

36. You are familiar with at least two types of self-assessment strategies.

Totally Disagree *Totally Agree*

1 2 3 4 5

37. You are familiar with at least three types of self-assessment strategies.

Totally Disagree *Totally Agree*

1 2 3 4 5

38. You are familiar with at least six or more types of self-assessment strategies.

Totally Disagree *Totally Agree*

1 2 3 4 5

APPENDIX F: SAMPLE TRANSCRIPT

School Principal One (SP1)

Instructions for the interviewer:

(i) The research topic for my thesis is entitled:

<u>The enhancement of quality education using self-assessment strategies in the Zambezi educational region of Namibia</u>

(ii) The information you are going to provide in this interview will be treated as highly confidential.

(iii) The interview will be audio-recorded for authenticity.

(iv) Be as honest as possible and feel free to ask me to repeat any question that is not clear to you.

(v) Probing questions might be asked to follow up on answers provided.

(vi) Be at ease and talk clearly.

(vii) There are no correct or wrong answers apart from your personal opinions.

(viii) You are free to decline answering any of the interview questions.

Purpose of interview:

The aim of this study is to establish and determine how self-assessment strategies can be used to enhance the quality of education in the Zambezi educational region.

Demographic Information for School Principals:

1. Gender Female
2. Age 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-60
3. Years of Teaching Experience: 17
4. Years of School Principal Experience: 4
5. Circuit: Sibbinda
6. Highest Qualification: B Ed Hon
7. Current Studies: None
8. Future Studies: Masters

Questions:

1. How do you perceive: a) quality, and, b) quality education?

SP 1: Eh, more productive work by teachers yields quality products or services at the end. 2

SP 1: The higher the pass rates, the higher the quality. Quality education we are looking at the productivity of what we are doing currently in class with learners that yields good results at the end of the day. And that our learners may prosper and become educated as they proceed in the system. 6

2. In your opinion as a school principal, who do you regard as your school's customers?

SP1: The 1st customer is the learner because that is the target of education. The 2nd one, are the parents, they are also involved in the learning of their children since their the core parents we have in the community

And thirdly, the implementers of the curriculum which are the teachers including the stakeholders that we have within the country. 11

3. How often do you as a school principal engage your teachers in formulating the mission, goals and vision of the school? Why?

SP1: Normally the curriculum itself requires us to revisit our mission, aims, and vision, every October of each year. So we normally do that every year and see if we have met our vision, goals of the school if missed some of the points on the goals then we have to what we can do and implement as a school every year of October. We revisit for every exam that we have, have we met our mission, including the term tests… that we normally we provide in the term? "We meet to set examination targets for learners in all examinable subjects. Teachers retrospect learners' performances in previous year's examinations and set targets for the following year.

So it is throughout but formally that we submit to the ministry and to the circuit office, it is done once. But at the school we do it every time of each quarter. 21

4. Is your school organized around the needs and expectations of your learners/teachers/parents? How?

SP1: Partly, because some of the things are not yet in order, they are not yet there, with the current situation, that I have with my school, the grade 0 class doesn't have a class they are using a laboratory, so for science classes and science experiments they are not done properly because of the occupation of the class. I try my utmost best to take into account teachers' needs but I'm experiencing difficulties because of lack of classrooms and vandalism of school property. And then from there, we are looking at the protection of vandalism of school properties that is still to be attended to, because the school doesn't have a fence so anyone can trespass anytime they want.
So for us to be on the safe side, unless, we have a fence. 30
So it is not everything that the ministry can do towards meeting our expectations in education but the little that we get we appreciate and then we consider it as a starting point towards achieving all that we want for the school. 33

5. Are learners, teachers and parents' needs regularly surveyed and acted upon by your office? How often?

SP 1: I will start with teachers. Teachers they go through the HoD, they bring their concerns to the HoD, if the HoD doesn't have any solution towards it then the HoD will bring it to me for my attention that I should address teachers' problems. And then that is when I can intervene if there is a failure from the HoD. With parents, they follow the same procedure. They will start with the class teacher because the class teacher is the immediate supervisor of the learner. 39
So if the teacher fails to solve the parents' problem, then the teacher will bring it to the attention of the HoD. From the HoD then it will come to me.

And then finally I will meet the parent and then finalise the issue with all these people involved, the HoD, the class teacher, the learner and the parent then we solve it at once. 44

6. How do learners, teachers and parents register their concerns to your office? Do you think their concerns contribute to quality education enhancement?

SP1: Very much, because they are aware of what is happening actually in class. And sometimes we normally invite parents to come in and take observations of teachers teaching in their classes and see how their children participate and from there if there is any concern with how the teacher delivers or any concern from a learners side coming to the parents because there are issues that we normally face as teachers sometimes they will go and complain that the teacher doesn't explain well or the teacher doesn't do us, whatsoever. 51

So if parents come in and are involved within the teaching and learning periods, then it becomes a solution at the end of the day.

And cheating between the learners' information that passes to the parents and what is actually happening at the school will be limited. 55

7. How often do education officers, i.e. inspectors of education and advisory teachers, supervise teachers at your school in a year?

SP1: With advisory services, it's once, because they say they have a workload for the whole region and we have few of them who specialized in one subject and they have to see all the five circuits, so if they come its only once, but for inspectorate section, them they can visit frequently sometimes 2 times a month depending on the problems that the school have. 60

And the issues that we invite them for, to come and attend as inspectors of education in our schools. So it can be more than 3 times a term or trimester.

Novice teachers. Normally, if we have a novice teacher, that is the duty of the HoD for induction. And then from there, that is when I come in to intervene if there are issues that have failed within the department that HoD is heading then I will also assist. We also have cluster centre principals. They do also help us in mentoring the novice teachers including the experienced ones because everyone is due to learn every day because and learning doesn't stop. *68*

8. Is your school utilising the cluster system to excel in the provision of quality education? How?

SP1: Very much!
We normally have Cluster competitions that we conduct not only academically but including these other non-subjects, like we have competitions on science fairs, competitions on clusters level on culture, that we know one another's' culture from different communities that we have. *73*
And then we normally have debates for English to help learners learn, and we normally have the Readathon day sometimes we bring it at cluster level.
And then we work together as a team to enhance the participation of learners.
And then that knowledge of coming together helps learners to learn from others and then they prosper from there because they will copy from others what they are doing if something new comes during the activity. *79*

9. What do you do as a school principal to constantly improve teaching and learning processes in the classrooms?

SP1: We have three things that we normally do. The first one we have class visits that is done during the first trimester of the first month. And then we have a follow up of a class observation. A class visit is a mini one. It doesn't cover the whole components that teaching and learning requires. We only look at the presentation and the work that learners is given. *84*

But when we come to class observation, we start from the filing of all the information documents that the teacher should have. Are they properly filed, are they properly used, and are they properly maintained for longer service? *87*

And then the last one we conduct a personal interview with the teacher to see whether the teacher has a problem then maybe when we were class visiting or when classroom observation was done, the teacher couldn't express himself with the concern then when we have a personal interview with him.
He will raise all the needs, he will raise all the problems that the teacher faces.

So that is how we look at it. *93*

10. How often do you as a school principal communicate with your teachers about their personal and professional needs?

SP1: We have a form that is designed by the ministry, where we have the personal … observation plan that is done every October like the first one which I was saying about the school so, that one is done once in a year.

So that personal plan that the teacher does, is for the following year according to the weaknesses that the teacher has. Himself, he will mention out his weaknesses and then the strengths. *99*

From the weakness that is where we build on a personal development plan for the following year. That the first trimester we are going to concentrate on this weaknesses that we have and if the teacher achieves it then we move on till when all the weaknesses are met but they should not be met after six months of the year for us to have good results at the end. *104*

11. Do you encourage your teachers to engage in continuous professional development activities? Can you give examples of continuous professional development activities that your teachers are engaged in? Are they effective? Why?

SP1: We normally engage them. The Ministry has provided us with that program with the Teachers Resource Centre for them to be professionally developed. And then what they normally do is, they call the teacher himself should write all things that he wants to be developed in. Now we talk of technology ITC issues because most of the things they use ITC and few of us teachers have the knowledge, so that training is already provided by the ministry. So it is helping. And we talk of the issue of using … the school reports with computers.
No more writing with hands. *112*
So it is one of the things that the teachers are developed in that they do not need the assistance of the school secretary to do the work.
And they can do it themselves.
And then have accuracy of results the way they should be portrayed.
And then we normally do that because we want the quality to be standard and we want to see if that everything that we want in the education system is made and is made towards the goal of the nation. *119*

12. Do individual teachers have significant control over their own continuous professional development?

SP1: In some cases only few. It depends on the type of people you have. *120*

Some they become negative and some they are positive towards what they require as to be developed in, but later on they will decide to drop out and say I don't want anymore ... *123*
So there is no way you can force a person till you convince by through dialogue and you tell the person the need and the importance of that professional development a person has written himself, and why he needs to go over, then you find few of them will come in and say I am willing to take over the process and go up to the end until I make it. *128*

13. Are you as a school principal pursuing any continuous professional development programmes that aim to contribute towards the continuous improvement of your school in order to meet and exceed the needs of the learners/teachers? Mention these programs?

SP1: Normally, what we normally do as a school, we look at the results, the previous results either for the trimester or at the end of the year. That will be our mirror. And then from there, we call in the teacher and make an interview to see where the problem was if the results were bad. Normally we concentrate on when the results are bad. If they are good, then we look on the strengths. What did the teacher do that he maintained the good results and or even exceeded what he did? *134*
Then From there, after looking at the results, then we ask for assistance from other schools. We normally write letters to top achievers in different subjects to come and help our weak teachers and that is done on cluster level and school level including even the circuit. Sometimes you can borrow one teacher from another circuit to come to your school and assist. *139*
Like I have an incidence of a life science teacher when he has a problem in Life science, then I asked one teacher from … school, she came to my school for a week and inducted my teacher on how to go on with assessment and with few topics of presentations. Then, from there, the subject picked. And that is how I do it with teachers to develop them professionally. *144*
But with learners, we normally have common tests. I will go to the nearby school during the day. I pick a question paper from a different teacher, who is not teaching them, and I give them to write and I will assess after the teacher marks.
Then I will go back to the marking scheme and see how the learners performed.
If there is something that goes wrong, then I will go back to the learners and ask why are the results bad? When it is the same syllabi that is used at the same school where we took the paper from.
And then from there, they will tell us what went wrong then from there we will know how to assist them and make a plan on how they can build on and help themselves towards achieving what is expected of them. *154*

14. What other systems do you employ to supplement the school or teacher self-evaluation system to continuously improve the professional development of your teachers?

SP1: With Grade 10, we normally encourage teachers to use examiners' reports as one tool that they should use to assess their learners. And by reading the examiners' report they will really have a know-how on how to assess learners, how to help learners to answer questions during the examinations and how to do their practical activities for those subjects that involve practical activities because some of the questions comes in the examinations. *160*
So if they are aware from the beginning then they will not face problems during examinations and during the year how they were assessed learners they will be having that knowledge of what is expected of them as they meet every objective of the syllabi. *164*

15. What leadership style do you use as a school principal to motivate your teachers? Why?
SP1: That one depends to the situation and circumstances that comes in. There is no specific one that you can use.

So, a situation will tell whether you become autocratic because of the nature of the staff that you have. If they don't comply, unless you impose laws, that's when they will comply. *169*

So you can not specify that this is the same one that I use throughout but the nature of problems that comes, the nature type of people that you have, that will tell you which style to use and then see whether you can meet what is expected of you at the end of the day. *173*

16. Do teachers at your school prefer to work in isolation or in teams? Explain!
SP1: But not all of them. Some prefer to work alone. That is how they are. *174*

17. Do you award the best performing teachers at your school? How?
SP1: So, we do it at school level it will be more expensive than if we go through the other ones. We have developed award ceremonies at different levels, i.e., at school, cluster, circuit, and regional levels.
So, we are limited at a school level, we only motivate them. And then praise those who did well amongst others while we are together as a staff; or as learners, we bring them in front and we tell them these are the best performers that we have, and if we have small tokens such as instrument sets we provide to learners just to encourage them to work more. *182*

18. Do you reprimand the non-performing teachers? How?

SP1: That one is obvious, because you really need to know what went wrong if every support was given; the professional development was done, why should the results become bad at the end of the day?

So, one should be reprimanded of whether it is good or bad towards whatever has come upon from the person. But normally, with bad results, that is where we concentrate. Sometimes, it is the negligence of the teacher. You help throughout the year but the teacher will opt to do something else, just to bring your name down. There are people with that motive. *190*

So, to avoid it, unless you bring something else to reprimand the person and then see his fault and work his weakness. That the next time it shouldn't be him or her to improve and work on it … For example, sometimes … we normally call the person in front of the school board and inform the school board why the results are bad. Then him as the teacher should explain to the school board what went wrong. What assistance does he want? We call in the school board for the purpose maybe parents were not supporting. Then the school board will have a say towards parents. And us as management will talk to the teacher. *198*

Then from there, a warning letter can be given, and that warning letter serves as something he might recall on it every time, read through it and see why did he get that warning because that will be a mirror to show him, this thing is not good. So you need to work on it. *202*

19. Do you think your teachers prefer to work more closely with their departmental colleagues in their grade phases, (e.g. Lower Primary, Upper Primary, and Junior Secondary) rather than working with teachers having the same fields of specialisation? Why?

SP1: We normally we have a situation where all teachers work together. It doesn't matter whether it is a lower primary teacher or junior primary teacher. There are issues where Grade 10 teachers will require support from a Lower Primary teacher, like if for an example, let me talk of English, there are things that we talk like phonics, the sounds of words, if an English teacher in grade 10 and finds it that his learners doesn't have the knowledge, then the grade 1 teacher will be called in grade 10 class to come and teach that part. *209*

Whether it is a mathematics topic in grade 7, and the teacher doesn't have the know-how, we will call in any teacher, whether it's a lower primary, or junior primary or senior secondary teacher to come and assist within the school to help for that particular topic to be tackled. *213*

So, it is an integration of any, as long as the person has got the skill and the person has the knowledge, and is free by the time you are ask for assistance.

That can be done. There is no limit. *216*

20. Do your teachers compete against one another in producing good results? Yes/No. How do you motivate your teachers to excel in producing good results?

SP1: Yes.
We provide certificates on the school level for those who do well ... We just buy and print on a school level to show that.
For example, if it is grade 10, if Silozi gets 92% and then that will be position number one in a particular subject you got 92% up to the last one for each grade just to motivate the teacher that they should feel acknowledged for what they have done throughout the year. *223*

No it doesn't really come to that point. I haven't seen it, because everyone fights towards excellence at the end of the day, it is the duty of the teacher to motivate the learners during his own period, teaching time. And normally what I see with my teachers … we developed programs that are beyond government regulations. Sorry, education regulations. We have issues such as morning-shows, where learners come to school half past five to half past six. *229*

Then teachers will teach just to make the syllabus move faster. That, they have extra time for revision. And that one is really helping. For those teachers who are motivated and willing to use that time, they normally excel.
And those who are not using that time at the end of the term when they fail and reflect on the results that normally motivates that by the time come to the second trimester they also join others and at the end of the day the school performs because everyone is involved. *236*

21. Do you use staff performance appraisal systems to encourage teachers to work very hard? Yes/No. Why?

SP1: Yes, normally the HoD first comes as the Head of Department of a particular department, then, the report that is given.
I also have mine where I monitor teachers directly without the involvement of the HoD, I sometimes go in the class to do a formal observation and then I will have a formal one and from the formal one, that is where I involve the HoD and the teacher if there are issues that I see needs change and improvement on, that the HoD should be aware of and then assist the teacher while am doing my part as the principal of the school. And then from there, a recommendation will be written to the advisory teacher to come in and assist as earlier before things goes wrong towards the end of the year. *246*

22. How do you regard the relationship that exists between you and your staff? Is it that of supervisor vs. subordinate? Why?

SP1: I regard them as my subordinates because I also need assistance from them. I can't only supervise people who are not close to me.
It is not everything that I do as principal that is good. And that they will appreciate. But as supervisor again, I will still learn from my subordinates, and through their advices of what they want the school to be, we can prosper as we work together because we are having one mission to have good results at the end. *252*

23. Do you agree or disagree with the following statement:
School principals alone cannot accomplish the realisation of quality education enhancement in a school without the support of all its members.
Explain.

SP1: I agree. I'm not the teacher for the whole school. And, if I have support and I have full establishment of the staff that is when we can realise the goal of the school. And, I cannot work alone, as an individual to bring good results without others being involved in. *256*

24. Some schools make use of self-assessment strategies such as the following:

- **Survey mode**
- **Guided assessment workshop mode**
- **Questionnaire mode**
- **Reflection journal mode**
- **Matrix mode**
- **Award simulation mode**
- **Prof forma mode**
- **Departmental self-review mode**

Are you using any of the self-assessment strategies stated above? Yes/No! Which ones have you used? Did they bring any noticeable improvement? Explain!

SP1: Yes. There is one for the department. Where I will require the departmental head to review the results within the department, and then a report will be written, every member of the department should sign, to show that they contributed towards the resolutions in it and problems they faced within the department. *260*
And then from there, we normally have a reflection that we do termly or monthly, that we reflect on the results.
If, tests were given, home works were given, and class works were given then we reflect on how learners performed and where teachers need assistance and build on towards the end. *264*

25. Do you think that schools can use self-assessment strategies to enhance quality education in the Zambezi educational region? Why?

SP1: It is very important to assess the school itself, we do not only look at the education in class but the facilities that we have around the school. Does it cater for the education that at the end of the day will prosper? And then the type of teachers that we have mostly the young ones they are not willing to do as the old people used to work in the past. *269*

So, it is the duty of the school that it should have a motivating strategy to keep them in the profession and to develop them that they understand that teaching is a calling. It is not something that should just come to get money at the end of the day you don't worry about your work. So if they have that interest, if they have the love and the zeal of working extra, then things will run smoothly and education will improve in the Zambezi region. *275*

Allow me to sincerely thank you for your valuable time spent with me during this interview.

APPENDIX G: PROOF OF EDITING

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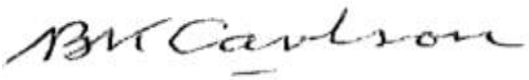
19 June 2018

TO WHOM IT MAY CONCERN

I hereby confirm that I have proofread and edited the following doctoral thesis using the Windows 'Tracking' system to reflect my comments and suggested corrections for the student to action:

The enhancement of quality education using self-assessment strategies in the Zambezi region of Namibia by VINCENT MUBIANA MATAKALA, a thesis submitted in fulfilment of the requirements for the degree of DOCTOR OF EDUCATION in the subject of EDUCATION MANAGEMENT at the UNIVERSITY OF SOUTH AFRICA



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Disclaimer: Although I have made comments and suggested corrections, the responsibility for the quality of the final document lies with the student in the first instance and not with myself as the editor.

BK & AJ Carlson Professional Editing Services