

UNIVERSITY OF ZULULAND



THE LESSONS LEARNT FROM THE ADMINISTRATION OF THE ANNUAL NATIONAL ASSESSMENT DURING IMPLEMENTATION IN THE UMKHANYAKUDE DISTRICT

For the fulfilment of the degree of

DOCTOR OF EDUCATION IN EDUCATIONAL MANAGEMENT

in the

FACULTY OF EDUCATION

UNIVERSITY OF ZULULAND

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2020

DECLARATION

I, **FRANK JOSEPH MENSAH**, hereby declare that this Dissertation on “The Lessons Learnt from The Administration of the Annual National Assessment During Implementation in The Umkhanyakude” which is submitted to the University of Zululand in fulfilment of the academic requirement for the award of Doctor of Education, is my work, both in conception and in execution. I also declare that the work has not been presented for the award of any degree at any other university. All the sources that I have used or quoted have been indicated and acknowledged both in the text and in the list of references.

Signature:

Date:.....

DEDICATION

This thesis is dedicated to the almighty God who was the champion in me and has brought me this far. The adventure is only beginning as testified in Scripture: “.... *Yet amid all these things we are more than conquerors and gain a surpassing victory through Him Who loved us*” Romans 8:37.

Secondly, a very special dedication to my wife Freda Mensah for her love, patience and support, my dear mom, Anna Olivia Asmah, my late grandmother Auntie Lucy Asmah as well as my supportive parents, Mr. and Mrs. Amos.

ACKNOWLEDGMENTS

I wish to express my sincerest gratitude to the following people:

- Professor A.P. Kutame for his patience, good advice, encouragement and consistent support which made it possible for me to complete this work.
- Dr. I.S. Kapueja, for her advice, support and interest in this project.
- Professor D.C. Sibaya, for her direction and assistance in ensuring that I was allocated very capable supervisors for this project.
- Mr. Admire Chibisa for technical advice and data analysis.
- Mr. Ndlovu, and the management team at the Ubombo Circuit Cluster Management at the Umkhanyakude District, for providing very important and up to date reports and statistics to be included in the study.
- Mr. Ntombela and the management team at the GET section-Umkhanyakude District for support and advice as well as up to date information towards this project.
- Dr. Pravina Pillay, for her advice, interest and guidance.

I also want to thank all my friends at the University of Zululand, for their support, encouragement and advice throughout this journey.

ABSTRACT

The Annual National Assessment (ANA) is the largest roll-out of any standardized test within the South African education system especially at the General Education and Training (GET) phase. Teachers generally appreciated ANA as low stakes and a diagnostic assessment when it was implemented, while education officials commended the assessment for making schools and teachers much more accountable. As a result of an increased demand for accountability from policy makers in later years, ANA seemed to have replaced the core teaching and assessment practices of teachers and schools. Teachers through their respect unions bemoaned the assessment for becoming high stakes instead of diagnostic. The assessment was therefore put on hold in 2015 pending further discussions with the relevant stakeholders before re-introduction. This study investigated the lessons learnt from the administration of ANA during implementation in the Umkhanyakude district. Mixed methods approach was adopted for this study. Results from this study indicated that ANA had both positive and negative impacts. Some of the positive impacts were that some teachers understood the ANA administration processes because of the workshops attended, and also appreciated ANA's contribution to exposing them to current trends in assessment. Education officials agreed that ANA was an effective accountability and diagnostic tool and helped to improve the test construction abilities of teachers. Conversely, other teachers were not favorably disposed towards the effect of ANA on schools. Some of the Issues raised were that, ANA exposed schools negatively, put pressure on teachers and was a waste of time. The lack of parental involvement in the assessment was a sore point for teachers as well. This study acknowledges the substantial impact that ANA has had on teachers, schools and the teaching and learning process. Further, the study recommends stakeholder involvement and ownership of any future assessment process. The need for test and curriculum alignment is advocated, in addition to that, ANA must be recognized as a diagnostic test instead of a high stakes test.

Keywords: administration, assessment, evaluation, high stakes, implementation, management, standardised testing, test construction

LIST OF ABBREVIATIONS AND ACRONYMS

ANA	ANNUAL NATIONAL ASSESSMENT
CAPS	CURRICULUM ASSESSMENT POLICY STATEMENT
CMC	CIRCUIT CLUSTER MANAGEMENT
CRC	CURRICULUM REVIEW COMMITTEE
CTA	COMMON TASK ASSESSMENT
DBE	DEPARTMENT OF BASIC EDUCATION
DHET	DEPARTMENT OF HIGHER EDUCATION AND TRAINING
DOE	DEPARTMENT OF EDUCATION
EFA	EDUCATION FOR ALL
ELAA	EDUCATION LAWS AMMENDMENT ACT
ETS	EDUCATION TESTING SERVICES
FET	FURTHER EDUCATION AND TRAINING
FFLP	FOUNDATIONS FOR LEARNING PROGRAMME
GET	GENERAL EDUCATION AND TRAINING
HSRC	HUMAN SCIENCES RESEARCH COUNCIL
IAEP	INTERNATIONAL ASSESSMENT OF EDUCATION PROGRESS
IEA	INTERNATIONAL ASSOCIATION FOR THE EVALUATION OF EDUCATIONAL ACHIEVEMENT
IAEP	INTERNATIONAL ASSOCIATION OF EDUCATIONAL PROGRESS
IIEP	INTERNATIONAL INSTITUTE FOR EDUCATION PLANNING
KMO	KAISER-MEYER-OLKIN
LTSM	LEARNER TEACHER SUPPORT MATERIAL
MCQ	MULTIPLE CHOICE QUESTIONS
MDG	MILLENIUM DEVELOPMENT GOALS
MLA	MONITORING LEARNING ACHIEVEMENT
NAPTOSA	NATIONAL PROFESSIONAL TEACHERS' ORGANISATION OF SOUTH AFRICA
NAEP	NATIONAL ASSOCIATION OF EDUCATIONAL PROGRESS
NATU	NATIONAL TEACHERS UNION
NBER	NATIONAL BUREAU OF ECONOMICS RESEARCH
NCS	NATIONAL CURRICULUM STATEMENT
NCTE	NATIONAL COUNCIL OF TEACHERS OF ENGLISH
NEA	NATIONAL EDUCATION ASSOCIATION
NEPA	NATIONAL EDUCATION POLICY ACT
NHRDS	NATIONAL HUMAN RESOURCES DEVELOPMENT STRATEGY
NIPR	NATIONAL INSTITUTE OF PERSONNEL RESEARCH
NPA	NATIONAL PROTOCOL FOR ASSESSMENT
NQF	NATIONAL QUALIFICATION FRAMEWORK
NRC	NATIONAL RESEARCH COUNCIL
NRS	NATIONAL READING STRATEGY
NSA	NATIONAL SKILLS AUTHORITY

NSC	NATIONAL SENIOR CERTIFICATE
NSF	NATIONAL SKILLS FUND
OBE	OUTCOMES – BASED EDUCATION
OECD	ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
PIRLS	PROGRESS IN INTERNATIONAL READING LITERACY STUDY
PISA	PROGRAM FOR INTERNATIONAL STUDENT ASSESSMENT
QIDS	QUALITY IMPROVEMENT DEVELOPMENT STRATEGY
SACMEQ	SOUTHERN AND EASTERN AFRICAN CONSORTIUM FOR MONITORING EDUCATIONAL QUALITY
SADC	SOUTHERN AFRICAN DEVELOPMENT COMMUNITY
SADTU	SOUTH AFRICAN DEMOCRATIC TEACHERS UNION
SAOU	SUID-AFRIKAANSE ONDERWYSERSUNIE
SAQA	SOUTH AFRICAN QUALIFICATIONS AUTHORITY
SASA	SOUTH AFRICAN SCHOOLS ACT
SEP	SYSTEMIC EVALUATION PROGRAMME
SETA	SECTOR EDUCATION AND TRAINING AUTHORITY
SPSS	STATISTICAL PACKAGES FOR SOCIAL SCIENCE RESEARCH
TIMSS	THIRD INTERNATIONAL MATHEMATICS AND SCIENCE STUDY
UIE	UNESCO INSTITUTE FOR EDUCATION
UNESCO	UNITED NATIONS EDUCATIONAL CULTURAL AND SCIENTIFIC ORGANISATION
USCOTA	UNITED STATES CONGRESS OFFICE OF TECHNOLOGY ASSESSMENT
UZREC	UNIVERSITY OF ZULULAND RESEARCH ETHICS COMMITTEE

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Over the last few years, there has been an increased demand for a national assessment by education planners in South Africa. The need for the administration of a national assessment arose from the serious deficits in literacy and numeracy revealed in national and international comparative tests (Howie et al., 2016; Nkambule & Amsterdam, 2018; Reyneke, 2016; Taylor, 2011; Van der Berg, 2015). This situation ushered in an era in which assessment administration became a key policy indicator of the standard of the South African education system, as well as debates as to its direction.

South Africa has participated in three main international tests of educational achievements namely: Trends in International Mathematics and Science Study (TIMSS), the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ), and the Progress in International Reading Literacy Study (PIRLS) (Spaull, 2015). South African students participated in these tests between the periods 1995 to 2011. The background of these assessments' dates back to the era of the systemic evaluations conducted in 2001, 2004, and 2007, and organized under the direction of the erstwhile National Department of Education. The main aim of the assessment was to determine the competence of intermediate phase learners in literacy and numeracy (Department of Basic Education [DBE], 2011). After undergoing these assessments, the DBE came to the realization that, students' result in the intermediate phase systemic evaluations were no different from those conducted by independent education research institutions within the same period and beyond. As more information accumulated about the dire state of student performance, educational planners came under increasing pressure to close the achievement gaps within the education system.

To address this challenge, the DBE introduced the Annual National Assessment (ANA) to serve as a diagnostic tool as well as a formative assessment which would help in further diagnosing and tracking weaknesses inherent in the teaching and learning process with respect to literacy and numeracy. The goal was to improve learner performance (DBE, 2014). In pursuant of this objective, ANA was officially introduced nationwide in 2011 by the DBE, with the aim that the quality and levels of educational outcomes would only be monitored through the administration of a national assessment (DBE, 2011).

In 2014 ANA became a major component of the South African Department of Education's sector plan, with the assumption that, large scale assessments would generate a national benchmark towards an overall improvement in the quality of education for both primary and secondary stakeholders (Frempong, Reddy & Mackey, 2013; Kanjee & Moloi, 2014).

In 2015, the administration of ANA was put on hold, after teachers, led by their respective unions, raised the concern that the assessments were more accountability driven than on standards. This implied that teacher unions did not see the ANA as a form of systemic assessment which served their interest. In addition to that, some stakeholders were pessimistic about the assessments in general. For example, the (South African Democratic Teachers Union [SADTU], 2015), the largest teacher union within the South African education system in a press statement contended that, not only had ANA lost its purpose, but that the results also served as an unfair judgement on teacher performance. SADTU was also displeased that ANA had become a tool for an ill-informed classification of schools. Further, SADTU posited that, the already overburdened classroom teacher had little space for efficiency and effectiveness due to the toll that the ANA exerted on their practice, thereby hampering the smooth running of the teaching and learning process.

Given the perplexing nature of ANA to teachers and their respective unions, and the increasing public interest in student achievement at key points within the education system, the lessons learnt from the administration and implementation procedures of this assessment has become central to the discussion on a standardized assessment benchmark at the primary school level.

1.2. PROBLEM STATEMENT

The Department of Basic Education established ANA in 2009 with the aim of addressing the gaps in educational outcomes relative to assessment standards at the primary school level. Since then, ANA has been tested for four consecutive years in 2011, 2012, 2013 and 2014 respectively. In 2015, the assessments were put on hold pending negotiations between the DBE and its social partners, particularly teachers and their respective unions.

Although the DBE has shown consistency in the organization of the assessment since its inception and reported an upward trend in terms of student performance, these reports increasingly contradicted well-established findings from most studies conducted in the foundation, intermediate and senior phase. For example, the 2016 PIRLS report revealed that almost 80% of South African grade 4 learners were functionally illiterate (Howie et al., 2016). Another challenge to these assessments being put on hold has been the concerns of teacher unions. SADTU, the National Professional Teachers Organization of South Africa (NAPTOSA), and the National Teachers Union (NATU), vehemently opposed the yearly ANA cycle and proposed a re-engineering of the assessment to allow for proper analysis and feedback (SADTU, 2015; Wolhuter & Magubane, 2016).

It is worth noting that although numerous studies have been conducted on ANA, notably, its diagnostic nature (Van der Berg, 2015), limitations (Maphalala, & Dhlamini, 2017), design (Bansilal, 2017; Howie et al., 2016), teacher understanding of the assessment (Kanjee & Moloi, 2014; Thulare, 2018) as well as trends and comparison with school based and international assessments (Chetty, 2016; Gustafsson, 2018; Howie et al., 2016; Thulare, 2018; Taylor, 2011), none of them have focused on the administrative lessons learnt from ANA since its inception.

It is possible that there are lessons that researchers could learn from the issues related to the problems which are not documented regarding the successes or failures of the ANA especially from teachers to guide other related assessments. This is because, documented lessons may be beneficial in assisting teachers improve upon their teaching and learning skills as well related assessment practices.

Furthermore, a study of this nature may assist education planners and stakeholders to better understand the weaknesses in the targeted phases of this program as well as mobilize the right resources and capacities to address those challenges. This study therefore seeks to document the lessons learnt from the administration of ANA during implementation with specific reference to the Umkhanyakude District.

1.3 OPERATIONAL DEFINITION OF CONCEPTS

To avoid contradiction of terms, and to fully understand the implications of the main concerns of the thesis and assessment administration, it is essential to give a clear and concise operational definition of key concepts used throughout this thesis. Also noted was that some key concepts or words are used interchangeably in textbooks, journal articles and government publications. Therefore, the concepts “learner” and “student”, “teacher” and “educator” as well as “assessment” and “test” are used interchangeably in this study.

Administration

Administration refers to the installation and execution of the procedures by which a programme is laid down and communicated. It is prescriptive and may be typified as involving command and control approaches for the achievement of administrative and functional objectives. (Rutgers, 1996).

Assessment

Assessment is the central process in effective instruction which allows teachers and students to monitor and measure learning in real time, as well as give feedback (Murchan & Shiel, 2017).

Educator

An educator within the South African context refers to a person with multiple teaching and learning related functions. These include professional educational services, therapy, and psychological services. Such persons are appointed in a post on any educator establishment and can work either from the classroom or can be office based (Employment of Educators Act [EEA], 1998).

Evaluation

Evaluation considers all aspects of teaching and learning and looks at how educational decisions can be made by the results of alternative sources of assessments. Some of these sources of assessment include, but not limited to anecdotal records, interviews, questionnaires, rating scales, individual pupil profile, class records, cumulative records and case study (Braun, Kanjee, Bettinger & Kremer, 2006).

Exemplars

Exemplars refer to samples of test items composed as either a booklet or a worksheet to assist in monitoring the performance of test takers on various score points on a scale (Organisation for Economic Cooperation and Development [OECD], 2013).

Learner

A learner within the South African context means any person of school going age who is either receiving education or is obliged to receive education (South African Schools Act [SASA], 1996).

Management

Management is the active and purposive utilization of resources to the best effect and relates an organization and its environment. It is principally concerned with the determination of an organization's overall policy (Rutgers, 1996).

Open-ended questions

Open-ended questions are questions that do not have a specific answer and may require more than a simple 'yes' or 'no' to a question or a one-word answer. Such questions usually begin with a how? what if? Or what? They are subjective, can be complex and may involve multiple standards and criteria in their analysis (Frederiksen, 1994; Maree, 2010).

Standard

Standard refers to registered statement on expected outcome in education and training together with the requisite assessment criteria (National Education Policy Act, [NEPA], 1996).

Testing

Testing refers to the process of administering an instrument to measure one or more concepts usually under standardized conditions. A test specifically measures such concepts as knowledge, skills and values that have been reached at the end of a learning cycle. Testing is also limited and has a narrow focus mainly on the effectiveness of a program or course of study (Braun et al., 2006).

Umkhanyakude District

For this study, the concept Umkhanyakude will be defined geographically. Umkhanyakude is in the northernmost part of the KwaZulu Natal province with the district code DC27. KwaZulu Natal has a total of 11 districts. The seat of the district government is in Mkuze. It is a rural district with the largest town being Mtubatuba in the South. To the north are towns such as Hluhluwe, Mkuze, Jozini, Kwangwanase and Ingwavuma. The district is predominantly IsiZulu speaking. (Umkhanyakude Integrated Development Plan, 2017).

1.4 AIMS OF THE STUDY

The aim of the study is to explore the lessons learnt from the administration of ANA during implementation.

1.5 RESEARCH OBJECTIVES

The study was guided by the following research objectives:

- To explore the lessons learnt from the administration of ANA during implementation.
- To examine the effects of the administration of ANA in schools in the Umkhanyakude District.
- To establish the extent to which the administration of ANA impacted on teaching and learning.

1.6 RESEARCH QUESTIONS

A considerable amount of knowledge has been gained through educational programmes and research as well as deficiencies and inequalities within the education system. However, most of these programmes have either failed or hang in the balance with ANA being no exception. This study will be guided by the following research objectives:

- 1.6.1 What were the lessons learnt from the administration of ANA during implementation?
- 1.6.2 What were the effects of the administration of ANA in schools in the Umkhanyakude District?
- 1.6.3 To what extent did the administration of ANA impact on teaching and learning?

1.7 INTENDED CONTRIBUTIONS TO THE BODY OF KNOWLEDGE

This study takes place at a crucial period in South Africa's education system and should therefore be considered a point in time study. According to the National Research Foundation records, this research would be the first academic study on this topic in the Umkhanyakude District in South Africa. Given the trans-disciplinary and comparative nature of the work, it should make an innovative and worthwhile contribution to the field of education.

The findings may also contribute to the following:

- Knowledge on test construction and assessment standards
- Awareness on the different approaches to assessment
- Knowledge on the application of concessions, taking into consideration the abilities and potential of learners by teachers.
- Knowledge on item analysis to be able to appreciate student understanding of test items.

1.8 DELIMITATION OF THE STUDY

The study was confined to Umkhanyakude district. Specifically, the population and related sample was drawn from the Ubombo circuit management cluster. An adequate sample size of 108 teachers and 4 district education officials took part in the study. Although the Ubombo circuit is homogenous in context to other circuits within the district, a larger sample size would have established a higher ecological validity of the findings. Nevertheless, the sample size of 108 was considered adequate by my data analyst.

1.9 RESEARCH DESIGN AND METHODOLOGY

Research design and methodology is briefly discussed in this section. A detailed overview of the methodological framework of the study is given in Chapter 3.

1.9.1 Research design

The study presented and interpreted data from seemingly contradicting approaches, namely a mixed methods approach. This required collecting quantitative data through a survey instrument and qualitative data through a semi-structured interview schedule. The use of the mixed methods approach and the concurrent nature of my survey instrument necessitated the adoption of the concurrent triangulation design. A thorough discussion of the research design is given in Chapter 3 of this study.

1.9.2 Quantitative approach

1.9.2.1 Population and Sampling

The population consisted of 108, primary school teachers who took part in the ANA, within the Umkhanyakude district. Stratified random sampling was used to sample 108 primary school teachers from three circuits in the Umkhanyakude District.

1.9.2.2 Instrumentation

Questionnaire was used for the quantitative aspects of the study. The questionnaire comprised five (5) sections. These were Sections A, B, C, D and E. Section A, elicited biographical information from respondents. Section B explored the first research question on ANA administration and implementation. Section C explored the second research question on the effect of ANA on schools, while Section E, explored the third research question, which is the impact of ANA on teaching and learning. Section E comprised open-ended questions to elicit free responses from teachers on their perception about ANA. The questionnaire was therefore concurrent.

1.9.2.3 Data collection procedures

I sought and received permission from the provincial head of education department (HOD), as well as ethical clearance from the ethics committee of the University of Zululand. I also included permission letters and consent forms highlighting the principles of voluntary participation, confidentiality, no-harm to participants and anonymity to the respective schools I visited. I personally visited all the schools sampled for this study and introduced myself as well as distributed the questionnaires to them. I also assured them that findings will be communicated to them after the completion of my research report.

1.9.2.4 Data Analysis

The questionnaires were taken through a process of data reduction to a format suitable for analysis. All the items contained in the questionnaire were coded into a spreadsheet and entered into Statistical Package for Social Science (SPSS) research version 25 for ease of analysis. Frequencies and frequency percentages were generated and used to analyse data.

1.9.3 THE QUALITATIVE APPROACH

1.9.3.1 Sampling

The purposive sampling procedure was used to select four district education officials for interviews. Two of the officials were subject advisors each in charge of literacy and numeracy in the district. The third official was the head of the General Education and Training (GET), in the district. While the fourth official was the circuit cluster manager in charge of the Ubombo circuit cluster. These officials were purposively chosen because of the depth of their knowledge and experience in assessment administration within the Umkhanyakude district.

1.9.3.2 Instrumentation

A semi-structured interview schedule was used for interviews with the four officials from the department of education in the Umkhanyakude District. Sample probing questions were included in the interview schedule to serve as a guide and also contain the interview process within the earmarked one hour per interviewee.

1.9.3.3 Data collection procedures

I phoned each of the district education officials to schedule appointments with them prior to the day of interview. Before the interview commenced, I presented the ethical clearance letters both from the provincial head of department (HOD), and the University of Zululand Research and Ethics Committee (UZREC) to facilitate the process. Letters on the scope and nature of the study as well as informed consent were presented. a semi-structured interview schedule was used for the interviews. I sought permission from each of the officials to record each interview session. Voice notes from the interviews were later transcribed verbatim for thematic analysis.

1.9.3.4 Data analysis

I employed thematic data analysis through the identification of themes, guided by the research objectives.

1.10 ETHICAL CONSIDERATIONS

Permission was sought and granted by the KwaZulu Natal provincial head of education department as well as the UZREC before data collection commenced.

1.11 KNOWLEDGE DISSEMINATION

Knowledge dissemination is an important ethical requirement in the conduct of a study. To make it easier for respondents to appreciate the content of my study findings, I will harvest articles from the finalized research report for communication to respondents.

1.12 CHAPTER DIVISION

This thesis has six main parts or chapters. Chapter one outlines the background of the study, while chapter two discusses the theoretical aspects. Chapter three details the methodology used, while chapter four discusses the results. Chapter five expands on the findings and recommendations with chapter six proposing an assessment implementation model through stakeholder partnership and involvement.

Chapter One

Chapter One gives a preview into the study context: the emphasis is on the introduction as well as the context of the problem. This chapter also sheds light on the factors that played a role in ANA being put on hold. Chapter one also includes the following:

- A discussion on the statement of the problem focusing on the purpose of the research, its focus, justification and definitions of key operational concepts used within the study context.

- Intended contributions of the study to the body of knowledge is discussed as well as the scope and limitations.
- The research design and methodologies adopted to gather and analyze data in two stages are discussed in this chapter.

Chapter Two

Chapter Two defines and discusses the theory related to assessment management and administration. A historical overview of assessment, globally, regionally and ultimately within the South African context is also highlighted. Thereafter, policy documents and frameworks leading to the establishment of ANA as a national benchmark assessment within the South African education system is discussed.

Chapter Three

Chapter three presents a detailed discussion of the methodological framework. This includes the separate and integrated processes of quantitative and qualitative data collection processes. The reasons for the adoption of a preferred paradigm, approach and design is explained. The strong points of using a pragmatist paradigm is also enumerated. Description of the research instruments, as well as its merit is highlighted.

Chapter Four

Chapter Four presents, analyses, discusses and interprets the quantitative data gathered through the instruments employed, as well as the themes generated from the interviews conducted. Quantitative as well as quantitized data on the perceptions, experiences and personal accounts of respondents is discussed. Conclusions are drawn from the integration of the findings

Chapter Five

Chapter Five, restates the aims of the study and shows how findings in Chapter Four relates to the aims of the entire study. Conclusions covering the whole study are made and recommendations for an improvement in a future assessment administration and management is made. Finally, suggestions for future research discussed.

Chapter Six

Chapter six briefly highlights the findings of the study, thereafter an assessment administration and implementation model is proposed. The model also integrates the concept of Fayol's theory to enhance the implementation of any future assessment on a scale such as the ANA.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1. INTRODUCTION

This chapter begins with the theoretical framework underpinning the study together with related literature. It specifically explains how the theory brings understanding to administrative principles such as planning, organizing, leading and control in assessment administration and management.

Other important aspects of discussion in this chapter will be to give a historical overview of assessment from a global, regional and local context (i.e. South Africa). Furthermore, essential policy documents related to assessment management relevant to this study is discussed. Finally, the history of the ANA, the administration and implementation of standardized tests, together with its effect in schools as well as teaching and learning concludes this chapter.

2.2 THEORETICAL FRAMEWORK

The theoretical framework in this section focuses on four main areas namely; an introduction to theory; context in which the preferred theory emerged; relevance of the theory; and the application of the theory in assessment administration relative to ANA.

According to Ferdous (2016), theories stimulate certain changes in organizations that may develop their performances. In addition to that, they specify certain arrangements of conditions, rationale and purpose which can be translated into a principle when confirmed (Emekanihebe & Agu, 2013; Ferdous, 2016; Grant & Osanloo, 2014). A critical perspective on assessment administration informs the choice of management theory.

The three well known classical management theories that stood out during the industrial revolution were the scientific, administrative and bureaucratic theories (Anichebe & Agu, 2013). For these three theories, Taylor, Fayol and Weber are famous all over the world (Ferdous, 2016). This study is informed by the theoretical

underpinnings from a classical management perspective [linked to the work of French management theorist, Henry Fayol].

Henry Fayol (1841 – 1925), is one of the formative thinkers in the development of a general theory in administration management (Shakir, 2014). In his master script the *Administration industrielle et generale* published in 1916, Fayol enumerated 14 principles of administration that he postulated as common to all organizations. These are, specialization and division of labour, authority with corresponding responsibility, discipline, unity of command, unity of direction, subordination of individual interest to the general interest, remuneration of personnel, scalar chain, centralization, order, equity, stability of tenure, initiative and *esprit de corps* (Fayol, 1949). He also conceived that sound management practices fall into certain five main functions namely; plan, organize, command, coordinate and control (Emekanichebe & Agu, 2013; Ferdous, 2016; Wren, Bedeian & Breeze, 2002).

Fayol began to conceptualize his administrative theory as early as 1900, and his ideas gained popularity after being translated into English in 1949 (Wren et al., 2002). A brief look at the relevance of Fayol's theory to this study draws on arguments and discussions put forward by researchers such as (Drucker, 1954; Godwin, Handsome, Ayomide, Enobeng & Johnson, 2017; McNamara, 2009; Rodrigues, 2001; William, Swee-Lim & Cesar, 2005; Witzel, 2003; Wren et al., 2002) within the administration and management domains. The discussion refers to articles and books related to this theory as well as the researcher's voice, thus making the theoretical discourse context specific. The use of Fayol's functions of management presents an opportunity to look at the similarities, differences and situated knowledge through the research process, thereby giving meaning to the long-held view that effective management functions and related principles can be replicated in other organizational situations.

Fayol's functions of management in this study, may have the potential of influencing administrative practices relative to assessment. Based on this background, it must be noted that theories are not homogenous constructs, but rather based on its principles. It will suffice to say that different theories of organizations are in use and continue to evolve (Onday, 2016). Furthermore, every organization has set objectives. In recognition of set objectives, acceptable forms of principles and practices can be prescribed as a check on the actions of actors, interested parties, employees and other stakeholders within the organization which may impact what it aspires to achieve or it

stated mission (Amadi, 2008; Onday, 2016). Assessment administration for example requires a system of relationships among functional groups to ensure stability, continuity and predictability.

Neoclassical critics such as Simon (1946) and Gray (2015) have argued that the principles advocated by Fayol must be given subjective interpretations based on the fact that they are unclear, ambiguous and not based on any empirical scientific research. Taking a cue from Adam (2000), it is fair to say that Fayol's theory does present a breakdown of the functions of management into units which can be practically effected in an organization. To the pragmatist, this is feasible on the other hand the positivist will need a direct cause, effect relationship to be established in this regard. Before a sufficient discursive thought is brought to the applicability of Fayol's management functions to this study, it will be reasonable to give meaning to the often contentious and binary definitions given to management and administration. This will be understood by operationalizing Fayol's theory and definition whose application transcended from a mechanistic system to an organic one. Fayol explains administration as the management of people and related available resources towards set objectives (Wren et al., 2002).

Education administration as a field of study and practice was derived from management and commerce in Europe and the United States. According to (Wren et al., 2002), the widespread tendency in most English-speaking countries was to draw a distinction between management as an activity confined to conducting industrial or commercial undertakings, and public administration as the art of conducting governmental activities. According to Fayol, the attempt to sub-divide the study of management or administration in accordance with the purpose of the activity is untenable. This can be understood in a sense that his intention was to develop a theoretical analysis appropriate to a wide range of organizations

Theory development largely involved the application of industrial models to educational settings (Bush et al., 2012). The later parts of the 20th century and the 21st century have seen an adaptation of these theories from industrial models to meet specific requirements in education. Various definitions of administration and management have been given by researchers in this regard.

For example, Amadi (2008) defined educational administration as the process of bringing people and resources together toward set objectives. Amadi (2008), further explained management as a social process designed to ensure cooperation, participation, intervention and the involvement of others to complement administration. Assessment administration can be viewed as the relationship between Fayol's five functions of management. These are planning, organizing, commanding, coordinating and controlling. As the theory evolved, modern management theorists such as (Conkright, 2015; Schraeder, Self, Jordan & Portis, 2014; Zhang, 2009) contended that, similarities in the theme of management have led to the merging of the functions to four, namely Planning, organizing, controlling, with commanding and coordinating subsequently merging into the function of leading. As noted by (Dumez, 2018), some of Fayols' ideas on the principles of management have fallen into oblivion over time. This is because although Fayol, spoke a lot about personnel management (performability), he did not come up with the function of human resources (Dumez, 2018). Furthermore, the evolution of management and administration means that his theory opens perspectives which can still be explored.

2.2.1 Fayol's theory on planning in assessment management

Planning is primary to all the management functions and logically precedes all other functions. Planning involves setting objectives and developing appropriate course of action to achieve these objectives (Dawson, 2009; King, 2009). Planning provides a rational approach for achieving predetermined objectives. In other words, all members, stakeholders or participants within an organization work together towards achieving organizational goals through planning. Planning in relation to assessment management details the assessment purpose, design, resources available and flexibility of personnel. In furtherance of this, an implementation strategy is developed to guide the planning process. An implementation strategy or plan allocates responsibility for each element of an assessment process as well as specific milestones (King, 2009). It also serves the purposes of reporting or giving feedback. Within the framework of implementation exists a variety of processes. Notable among them is the creation of test items, field testing, the administration of the test, scoring and reporting. In the intervening processes are several players, whose interests, ideas and concerns must be carefully weighed (Schraeder et al., 2014). Planning also holds

in check the validity and the reliability of the whole assessment process. In recent past, some of the concerns raised by teachers and their respective unions has been the timing of national assessments which is inconsistent with the DBE annual curriculum delivery programme.

Planning is therefore important to reduce the risk of uncertainty, avoid overlapping functions, facilitate decision making as well as provide direction (Ufartiene, 2014). Ufartiene (2014) emphasises the connection and possible integration between pre and post decision activities and emphasizes the continuing nature of the whole assessment process in the planning stage.

2.2.2 Fayol's theory on organizing in assessment management

Organizing can be termed a preparatory stage. It is the process of bringing together ideas and resources to implement decisions that result from the planning process. In other words, it is the establishment of the structure in which the work gets done (Dawson, 2009). The rules of engagement and the parameters within which key actors in the whole assessment process is managed is defined at this stage. In addition to the rules of engagement and defined parameters, it is necessary for assessment planners to know what human and material resources they have before allocating them to ensure that set objectives are achieved (Dawson, 2009; French et al., 2009; Stretton, 2015). After human and material resources are taken stock of, the next step is delineating tasks and establishing a framework of authority and responsibility for the performance of tasks (Stretton, 2015). Allen (1964) identifies and summaries the activities of organizing in management into three primary components. He posits that, an organizational structure can be defined as a mechanism which links and coordinates individuals within the framework of their roles, authority and power (Kanten, Kanten & Gurlek, 2015). The highly formalized, standardized and centralized nature of ANA calls for a mechanistic organizational approach synonymous to that advocated by Fayol. A mechanistic organizational structure creates conditions where individuals within an organization have a clear understanding about their job responsibilities and are expected to follow certain guidelines specified by policies, practices and procedures (Kanten et al., 2015). Conventions to be followed, must have a structure beginning from the national, provincial, district, circuit and the school levels with designated personnel and mandated responsibilities. Giving mandated

responsibilities is delegating. Delegating on the other hand goes with authority. When a person is given certain duties to perform, the necessary authority must be given otherwise objectives cannot be achieved.

A teacher for example cannot deliver or reach his or her full potential or prepare enough towards an assessment if there are no Learner teacher support materials (LTSMs), including exemplars or the means to get them. Students will be able to be directed and coached if these resources are readily available. In situations where priorities are established, work delineated and authority for each unit enforced, accountability can be demanded (Stretton, 2015).

Accountability is the process of ensuring that leaders or persons allocated a responsibility takes ownership and is guided by the standards and expectation of the organization they are representing (Dawson, 2009). Convention has it that, responsibility goes along with authority, therefore a teacher or an official with delegated responsibility has some level of authority to ensure task compliance and completion. On the other hand, if authority is not clearly defined, it can be weakened in its application. To ensure effectiveness, authority must be augmented with attributes such as expertise, credibility, leadership skill, persuasiveness and influence (Dawson, 2009).

2.2.3 Fayol's theory of leadership in assessment management

Leadership is a multi-dimensional process that includes motivation and positive influence of employees in an organization (Schraeder et al., 2014). In every group or organization, one person is often more influential than others and may probably be referred to as a leader. The tasks of the leader then are directing, motivating and communicating with employees, individually and in groups (Lekganyane & Oosthuizen, 2006). The management task of leading means motivating people to be high performers. In addition to motivation and positive influence, skilled leaders can articulate a roadmap with their teams to focus on achieving desired goals (Khoshhal & Guraya, 2016).

There are various perceptions of leadership, it is therefore difficult to establish an all-inclusive definition. Whereas others perceive leadership role as a pure management

activity, for some, leadership is synonymous with power (Lekganyane & Oosthuizen, 2006). In this discussion the concept of leadership and leading is considered within the context of management in an organization.

According to Khoshhal and Guraya (2016), what distinguishes a leader from a manager is that a leader has the capability and is tasked with the responsibility to create milestones for future action plans and to inspire employees to perform through collaborative work. Apart from that, good leaders are skilled communicators, who reliably and skilfully communicate functions to employees (Ahmed & Bach, 2014; Schraeder et al., 2014). Lekganyane and Oosthuizen (2006) explain that, a leader has an influence in an organizational setting and this influence has a distinct impact on and facilitates the achievement of relevant organizational goals. In the same vein, Silva (2016), suggests that the use of power by a leader influences the thoughts and actions of other people. Therefore, through effective leadership, an organization receives prompt returns or feedback from all employees through shared responsibility and accountability (Vliet, 2011).

2.2.4 Fayol's theory of control in assessment management

The fourth function of management by Henry Fayol, is control. Control establishes a system of verification which determines whether the activities carried out by an organization conform to management plan (Vliet, 2011). This includes managerial efforts directed toward monitoring both organizational and employee performance and progress toward goals (Schraeder et al., 2014). Organizations and managers make use of this strategy to keep their focus towards set objectives. Control has its foundation and application in mechanistic environments where the perception then and even now is that people are lazy and have the tendency to show a lack of interest in work and responsibility. Therefore, work must be planned and controlled in detail through constant monitoring (Andersson, 2006). It is therefore essential that tight restrictions and control be put in place in order to counteract people's supposedly innate laziness and destructive instincts. To achieve this objective, managers may utilize a variety of methods and strategies related to control (Schraeder et al., 2014). Some of these methodologies range from control mechanisms such as to watch, monitor, check, audit and timely feedback (Shakir, 2014). According to Vliet (2011),

control takes place in a four-step process through the following: 1) established performance standards based on organizational objectives, 2) measurement and reporting on actual performance, 3) comparison of results with performance standards, 4) taking corrective and preventive measures if needed. Performance standards describe what students must know and be able to do (Moss & Schutz, 2001). This cannot be done in a vacuum. Teachers must be guided by a set of achievable targets taking into consideration contextual factors (language barrier and socio-economic situation). Since ANA encourages better targeting of schools at the district, provincial and national levels (DBE, 2011), It is important that teachers understand the performance standards by which they will be judged. On the other hand, there is no consensus as to the proper definition of standards. According to (Sosibo & Nomlomo, 2014) the term 'standard' has no specific universal definition. Where a definition is given, it is mostly in relation to the national curriculum of respective countries, states or provinces (Moore, Jensen & Hatch, 2003). Within the South Africa education system, many official documents and curriculum policies tie objectives to standards, but none of them gives a comprehensive definition of the term (Sosibo & Nomlomo, 2014). The 2014 threshold for the Annual National Assessment was determined by the DBE to be 60% (DBE, 2011). The 60% threshold as determined therefore became the standard and the target for all schools that participated in the ANA. After standards have been established, a measure or score on student actual performance can be reported on, thereby enabling a comparison between student's actual performance and the standards determined by a statutory authority.

2.3 History of International assessment

The history of assessment can be categorized into four chronological periods and a span of different duration. These are the many years of the primordial period and historic time preceding the 1800s and energized by the industrial revolution, the nineteenth century, the half century between 1900 and 1950 and the short period from 1950 to the present (Gerberich, 1963). The earliest record of widespread use of educational assessment occurred in China more than 3000 years ago (Gerberich, 1963). Back then, variables measured were problem solving, visual spatial perception, divergent thinking and creativity (Kaukab & Mehrunnisa, 2016).

A national system of examination was developed under the Sui Dynasty between the periods BC-581 – 618. This system of examinations had three broad aims. These were cultural knowledge, planning and administration as well as martial arts (Kaukab & Mehrunnisa, 2016). In the mid-nineteenth century, Horace Mann introduced the concept of testing (Edward, 2006). The aim of introducing tests by Horace Mann was to change assessment practices which was based on exhibitions and only required students show off their oratory, singing and memorization skills towards outcomes. According to Kaestle (2013), there was opposition to the assessment practice of exhibitions being changed. Reforms to do away with the system of exhibition in place of assessments proved difficult to achieve due to the autonomy schools enjoyed and the lack of accountability by school masters. Hitherto, the system of exams was strongly opposed by school masters because they viewed them as a threat to their autonomy. Apart from that, by allowing state Boards free hand in academic and administrative matters of their schools they will be more accountable to state authorities and less independent in the management of schools. According to Cureton (1971), the outcome of the first assessment organized during the mid-nineteenth century was very alarming. The result of the assessment showed that only 35.5 percent of students reached an acceptable outcome and were able to answer questions asked of them correctly (Maranto, 2014). The below average performance also highlighted the tendency for students to resort to rote learning towards meeting the pass requirement.

The ideological debate on the importance of assessment led to the introduction of standardized tests (Maranto, 2014). Standardized test was understood to be fair in terms of admitting children in American schools (United States Congress Office of Technology Assessment [USCOTA], 1992). Within the same period, French psychologist Alfred Binet introduced different perspective in assessment and testing. After discarding phrenology, handwriting and palmistry, as viable methods of assessment, Binet developed measures of judgment, reasoning and comprehension to assess enduring mental abilities (Becker, 2003). These measures were instrumental in various applied setting including education (Oakland, Poortinga, Schlegel & Hambleton, 2001). Alfred Binet's pioneering work in the field of standardized assessment was continued by Stanford, leading to the development of the Stanford-Binet Intelligence Test (USCOTA, 1992).

The first half of the twentieth century witnessed a dramatic rise in assessment as a primary method of evaluation of students in schools by educational researchers on a national scale (Maranto, 2014). During this period, the National Education Association (NEA) endorsed achievement testing in 1914. Between 1918 and 1932, the number of standardized assessments administered in schools grew from 100 to more than 1300 mainly in the United States of America (USCOTA, 1992). This was partly due to the recruitment drive towards the First World War. The Army Alpha and Beta Tests, a form of aptitude test was conducted for soldiers joining the U.S army during World War 1 (Kankab & Mehrunnisa, 2016). However, by 1930, the test had evolved into two parts with a section on verbal or communication English and Mathematics (Kaukab & Mehrunnisa, 2016).

The period from 1950 to the present witnessed several factors leading to both a rise and an interest in international comparative assessment. Numerous studies point to the fact that the ever-increasing technological advancement which began in the twentieth and the twenty first centuries had rekindled the need for investment in human capital. Human capital was seen as becoming the driving force in ensuring better qualification, initiative and education within the current information age (Stroev, Bliakhman & Krotov, 1999). Other factors contributing to the rise in international comparative assessments were technological progress, increased international trade and competition, speed of communication as well as globalization and the increasing awareness of the role that human capital plays in furthering economic development (Ben-Simon & Cohen, 2004).

2.3.1 International Association for the Evaluation of Educational Achievement (IEA)

The UNESCO Institute for Education (UIE) founded in 1951 in Hamburg Germany, was established with the aim of raising educational standards internationally (Elfert, 2013). As part of its goals, a platform was created for educational researchers mainly from Europe and North America to share ideas and experiences in assessment (De-Landsheere, 1997). Through this platform, educational researchers recommended that in order to overcome challenges experienced in their respective countries relative to assessment, there was the need to move from descriptive assessment methods to

an evidence (empirical) method with much more quantitative indicators. This idea began the movement towards empirical comparative education (Genova, 2015). Empirical comparative education was to take on a cross national nature. In order to achieve desirable results, in its measurement, two main objectives were established as follows:

- ascertain the extent to which achievement in various subject areas vary between and within countries
- find out which variables (input and output) were related to achievement (De Landsheere, 1997).

These objectives revolutionized the reality of empirical comparative education between and within countries. This initiative considered education deficit factors in countries in Africa and Latin America who were woefully underrepresented in the association at the time. A consensus was reached given the economic situation of countries in these continents on the need to give priority to educational activities other than their inclusion in comparative assessments (Elfert, 2013). Since its inception, the IEA has covered many disciplines with a focus on the following age groups; 9 – 10 and 13 – 14-year-old students and also attempted to facilitate comparison by grade as well as age group (Postlethwaite, 1966). Prior studies factored in the 17 and 18-year age group for assessments. The challenge encountered with these assessments was the differences in graduation age, school enrolment and subject specialization especially at the senior secondary levels. These challenges undermined conclusions that could be drawn from the results.

Over 30 international studies have been carried out since IEA's founding in 1958 (Postlethwaite, 1966). These cover a wide range of subjects including mathematics, science, reading, civics, foreign languages and information technology. Prominent among them is the Third International Mathematics and Science Study (TIMSS). The TIMSS assesses performance in mathematics and science whiles the Progress in International Reading Literacy Study focusses on reading literacy achievement. IEA studies are followed by student, teacher and principal questionnaires which collect data on values, attitudes, social background and school features (Fattu, 1967).

Information from these survey instruments are hypothesized to explain the causal relationships between differences in educational achievements across participating countries. Presently, there's been a shift in the use of assessment from the exploration

of differences between education systems to evaluation of education service delivery and outcomes (Tobin, Lietz, Nugroho, Vivehanandan & Nyamkhuu, 2015). The shift to evaluations with other education systems has led researchers to design test with a high degree of specificity and popularly referred to as standardized test.

Edward (2006) explains that standardized tests can be categorized into different groups based on the purpose. These are test of achievement, aptitude, and comparability (Kaukab & Mehrunnisa, 2016). According to Kaukab and Mehrunnisa (2016), achievement tests are built to measure knowledge, skills and academic progress. Aptitude tests are more specific and used to evaluate ones' ability in a particular field or aspect relative to performance. Comparative tests on the other and are administered to samples of population to study trend.

2.3.2 Program for International Student Assessment (PISA)

The program for International Student Assessment (PISA) was launched under the auspices of the Organization for Economic Cooperation and Development (OECD) in 1997 (OECD, 2013). Governments that participated in PISA assessments, committed themselves to monitor the standards as well as their related outcomes within their respective countries. This was to be done through the adoption of an internationally accepted common framework. One of the objectives of PISA, was to provide a platform for policy discussion and collaboration in defining and implementing educational goals in innovate ways that reflects judgement and skill relevant to adult life. It also aimed to provide a basis for policy dialogue and for collaboration in defining and implementing educational goals in innovative ways that reflect judgments about the skills that would be needed in future (OECD, 2013). In other words, PISA sought to provide evidence on student capacities to continue learning throughout their lives to stakeholders such as parents, the general public and education policy planners.

PISA assessments are not curriculum aligned. Test content is independent of the participating country's school curricula and targets aspects of curriculum unique to one country or a small number of countries. PISA measures knowledge and skills in three main domains; reading, science and mathematical literacy (OECD, 1999)

The target age for PISA assessment is 15 years. According to (OECD, 1999) at the age of 15years, most school going children will be nearing the end of compulsory

schooling especially in advanced industrialized countries. The assessments therefore placed emphasis on student proficiency in the assessment related subject, which included their understanding of concepts and their ability to function in various situations in each of the three domains increasingly seen as vital to a nation's economic growth.

PISA assessments are triennial; therefore, it accords researchers the opportunity to observe trends over time. In each of the assessments conducted since its inception, one of the three domains were in focus. For example, in the year 2000, reading literacy was assessed, and repeated again in 2009. Further, other gateway subjects such as mathematics and science have been included. For example, in 2003 and 2012, mathematics was assessed. While the years 2006 and 2015 focused on assessment in science.

2.3.3 Regional assessments in Southern Africa (SACMEQ)

The Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ) is the most prominent regional assessment organized in Sub-Saharan Africa. SACMEQ is a large-scale cross – national research study which has countries in Southern and Eastern Africa as participants (Ross & Saito, 2008). SACMEQ began as a country specific project in Zimbabwe in 1990. This initiative began in the same year as the UNESCO Education for All (EFA) conference in Jomtien, Thailand which highlighted the need for assessment comparability between different education systems within and beyond regions (Postlethwaite & Ross, 1992). SACMEQ was initiated in conjunction with UNESCO's International Institute for Education Planning (IIEP). The program had three main aims. The first aim was to determine the standard of education in Zimbabwean schools. The second aim had staff at the Zimbabwe's Ministry of Planning department involved in integrated research activities as well as training. The third aim was the provision of advisory services around policy planning (Postlethwaite & Ross, 1992).

Training needs of workshop participants towards SACMEQ was discussed in 1992. Participants discussed the IIEP training needs for strengthening the capacity of staff members of their respective education planning units to be able to monitor and evaluate the standard of their education system. A consortium of education ministries was later established. The consortium formally began the processes towards

SACMEQ assessments by ensuring quality of participating countries education systems. This further led to the establishment of a consortium of ministries of education known as SACMEQ (Murimba, 2005). The consortium of ministers took the decision to make SACMEQ, an independent assessment body. SACMEQ was therefore registered as an international non-governmental organization (Ross, 1998). After the registration and expansion of the SACMEQ project, a number of countries committed themselves to be part of the project. SACMEQ I recorded 14 countries. This number increased to 15 in SACMEQ II (SACMEQ, 2007a).

Participating ministries of education involved in the SACMEQ project were mostly from sub-Saharan Africa and specifically within the Southern African Development Cooperation (SADC) sub-region. The countries involved were the following; Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. As a quality control measure, the ministries of education of the participating countries invited UNESCO's IIEP to be the sixteenth member of the assessment body due to its long-standing support from the inception of the project (Murimba, 2005). Since it was founded, SACMEQ has successfully completed three cross-national educational projects. The projects completed span the periods 1995 to 2010 as follows (SACMEQ I, 1995 – 1999, SACMEQ II, 1998 – 2004 and SACMEQ III, 2005 – 2010) (Spaull, 2011). The most recent SACMEQ assessment was in 2013. The objective of the assessment included a study of trends, comparisons between participating countries as well as benchmarking with key Millennium Development Goals (MDG) and Education for All (EFA) objectives (DBE, 2017).

The founding aims of SACMEQ, since it was established in Zimbabwe has not changed much, but broadened to achieve the following;

- provide education officials and researchers with training in the technical skills required to monitor, evaluate, and compare the general conditions of schooling and the quality of basic education,
- generate information that can be used by decision-makers to formulate plans for improving the quality of education, and
- widely disseminate and use SACMEQ research results as the basis for policy and practice (SACMEQ, 2007a).

SACMEQ I, was curriculum based and had reading as the focus of the assessment. This was initiated after a thorough review of the structure of other external assessments and related study materials. A study was also made of the curricula, syllabi, exams and text books as pertains to the education systems of participating countries. The scope of SACMEQ I, was threefold. These were reading, narrative prose, as well as expository prose and documents. The three main areas of the scope of assessment was combined with five reading skill levels with competence levels rated and measured from levels 1 to 5. The levels formed the framework for test construction and item analysis of test items (Ross & Postlethwaite, 1992).

Three proposals were made with respect to test construction before SACMEQ II commenced. The first proposal was the addition of mathematics to the testing subjects. Furthermore, three sub-domains like the SACMEQ reading test was included. These subdomains were number, measurement and space-data. In addition to the sub-domains five levels of skills which formed the standard of assessment were combined to construct a mathematics framework for SACMEQ II (Ross et al., 2004).

The second proposal involved the assessment of the performance levels of teachers in both reading and mathematics (Ross et al., 2004). Both teachers and students were assessed according to performance levels in SACMEQ II AND III. Third proposal linked selected test items from previous international assessments. These were the IEA's two main focus areas of assessment in the discipline of literacy (mathematics) and numeracy (reading). According to Ross et al. (2004) an inclusion of the limited items allowed comparisons to be made between the various groups of respondents such as students and teachers within the SACMEQ projects and the TIMSS/PIRLS studies.

Ross et al. (2004), also noted that, including these linked items made it possible to make comparisons between various groups of respondents such as students and teachers within the SACMEQ, TIMSS and PIRLS projects. As a result, SACMEQ III did not undergo significant changes to the structure of the test questions. Grade 6 was the target population for all the target projects. The timing of transition between the use of local and official languages in classrooms was considered (SACMEQ, 2007b). The understanding was that, since most SACMEQ countries start introducing official languages around the third and fourth grade, the sixth grade will be seen as a breakout period when most students will be able to sufficiently express themselves in reading

and writing in the official language. The assessments were followed by questionnaires to students, teachers and school managers to collate information on contextual factors that may have interfered with the outcome of the assessment (Spaull, 2011).

2.3.4 History of assessment in South Africa

To understand the present state of testing and assessment in South Africa it is important to look at the history of education in general and the impact the introduction of tests have had in this field in particular. South African tests, and assessment practices are a direct result of corresponding developments in the United States and Europe (Moletsane, 2004). A review of educational assessments in the past century gives rise to some critical questions. Where did testing start in South Africa? How did it start? What was the motivation? What impact did it have on education in preceding generations? Meaningful answers to these questions will help us understand that the current state of South African education is a product of multiple streams of influences. Pellegrino (2004), explains that the historical antecedent of testing in South Africa is influenced by three major components. These are; psychometrics, the nature of curriculum, and the socio-political context of education.

2.3.5 Historical timeline of assessment and testing in South Africa

The historical time line of events on the development of psychometrics and testing in South Africa gives a fair idea on the three major components of testing and assessment. Each of the three major components has a concomitant effect on the other and as such laid the foundation for separate development based on assessment and testing in many disciplines based on race (Foxcroft, 2004).

The period from 1953 to 1976 was a water shed moment in the educational history of South Africa. The nature of curriculum in use saw a marked shift from a multiracial and multicultural dissemination of academic content to one of separateness (Laher & Cockcroft, 2014). The philosophical and organizational foundations of the Eiselen Commission mirrors Simon Bieheuvel assertion in his psychological report which suggested that environmental variables such as education, poverty, culture and

language score differences were clearly marked and distinctive between and across the different racial groups in the country (Laher & Cockcroft, 2014).

The Eiselan Commission adopted and followed through with the first of its five terms of reference stating that education for natives must be considered separately. Apart from that, the past and present state of natives together with their distinctive characteristics and natural abilities must be factored into any policy on education for natives (Eiselan, 1957). According to Seroto (2013), this arrangement was in line with the belief in the total separation of the racial groups at the time, particularly the Bantu educational development.

2.4 Education policy and assessment in South Africa post-apartheid

The year 1994 witnessed a wave of democratic change in all spheres of South African society. In education, the task of redressing the imbalances created because of separateness for students of the different racial backgrounds became a key policy goal. Regulations, curriculum and funding, as well as very different mandatory levels of education spearheaded reforms (McKeever, 2017). According to Kanjee and Sayed (2008), assessment was back benched by the post 1994 government and given very little attention if any in the transformation mantra of the government of the day. This to an extent showed the lack of interest in assessment dating back to the era of apartheid and entrenched the notion that assessment was secondary to the teaching and learning process. Kanjee and Sayed (2008) contend that, even though assessment formed the basis of the National Qualification Framework (NQF) as well as the Outcomes-Based Education (OBE), which was introduced in the earliest stages within the new educational dispensation, it hardly received attention. Rather a reform of education policy was led by realist and ideologues who maintained that change could be undertaken immediately through political instruments (Jansen, 1998). The euphoria that accompanied change brought in its wake a constitution seen as progressive, which affirmed the basic rights of all South Africans (Constitution of South Africa, 1996). In addition, the promulgation of the South African Schools Act (SASA), sought to ensure that sectoral reforms within the public education sector was enforced.

The South African Schools Act adopted in 1996 provided for a uniform system for the organization, governance and funding of schools. It had the aim of ensuring that all learners have the right of access to quality education without discrimination and made

schooling compulsory for children aged 7 to 14 years (SASA, 1996). With the coming into force of these important legal instruments, the challenge was how to effectively bring about a change from policy instruments and Acts of parliament into practice. Based on the previous discourse, education policy in post-apartheid South Africa could therefore be summed up in three phases namely; policy framework and documents from 1994 to 1999; policy implementation and systems development from 2000 to 2004; improving quality and understanding impact from 2005 to 2016 (Kanjee & Sayed 2008).

2.4.1 Policy frameworks and documents 1994 – 1999

The periods 1994 to 1999 witnessed a range of initiatives introduced by the newly elected South African government with the aim of improving access, equity and quality within the education sector (Jansen, 1998). The need for access was as a result of the disadvantages that a section of the population experienced due to the disparate settlement structures and related socio-economic challenges perpetuated through the apartheid education system. Equity issues were borne out of the racialized education system at the time that purposely denied a majority of the citizenry equal access to human and material resources (Naicker, 2000). Quality on the other hand determined that the outcomes of the education system in terms of achievement met the requisite standards that is comparable both locally and internationally.

The South African Schools Act (1996) introduced school governing bodies to democratize control over schools. In pursuance of these objectives, a teacher redistribution and deployment project in 1996 and the introduction of Curriculum 2005 in 1997 aimed to improve quality (Chisholm, 2004). These initiatives together with the National Education Policy Act 1996 (Act 27 of 1996) sought to provide for the determination of a national policy for education and related matters. Specifically, Section 3 (4) of the National Education Policy Act provides that the Minister of Education determines national policy in respect of curriculum frameworks, core syllabus, education programmes and other relevant matters in relation to an outcomes based education. In effect, the Constitution of South Africa, the South African Schools Act of 1996. Also, the National Education Policy Act 1996, formed the basis for a set of goals, and procedures which was used in negotiation, decision making as

well as intended to guide more detailed set of policies in the future. In line with their long-term objectives in education transformation, the Ministry of Education introduced three major reforms to the curriculum inherited. According to Jansen (1998), the first of these reforms was a purge of the curriculum to remove contents deemed racially offensive. The second was the introduction of a continuous assessment in schools, and the third was the introduction of out-comes based education.

Out-comes based education is described as a learner centred, result oriented approach to education and training that builds on the notion that all learners need to and can achieve their full potential, but that this may not happen in the same way or within the same period (Naicker, 2000). The objectives of the national education policy were to protect the fundamental human rights of individuals enshrined in the Constitution which include: no discrimination; equal access to educational institutions; learners be taught in their preferred language; and freedom to choose an educational institution.

In 1994, Professor Sibusiso Bengu who was the education minister from 1994 to 1999 formally introduced outcomes-based education. His tasks included policy formulation, adoption, advocacy and implementation. On 24, March 1997 Curriculum 2005 was launched in Cape Town and followed a year later with the launch of out-comes based education in January 1998 (Jansen, 1998). At the time, key stakeholders such as teachers, learners and parents were very limited in their understanding of the whole concept of out-comes based education. According to Kanjee and Sayed (2008), assessment was not a core component and focus of the ministry of education in the adoption and implementation of the outcomes-based education.

2.4.2 Policy implementation and systems development 2000 – 2004

In the year 2000, implementation challenges of Curriculum 2005 began to show. This was because of the slow pace of service delivery in the education sector (Chisholm, 2004). The minister of education at the time, Kadar Asmal, made a '*Call to Action*'. His *Call to Action* identified nine priorities. The priorities concerned with the improvement of quality focused on developing the professional quality of the teaching force and promoting active learning through outcomes-based education (DoE 2000).

The nine priorities were organized into five core programme areas in the 'Implementation Plan for Tirisano' launched in 2000 for the period 2000-2004. 'Tirisano' (meaning 'working together') identified key objectives, activities and outputs in the areas of HIV/Aids, School Effectiveness and Educator Professionalism, Literacy, Further and Higher Education and the Organizational Effectiveness of the National and Provincial Department (DoE, 2000). The immediate programme of implementation for 2000-2001 aimed at improving the quality of teaching and the system of education through focusing on the status and quality of teaching and learner achievement.

Furthermore, Jansen (2005) contends that deficiencies in Curriculum 2005 began to show few years after implementation. According to Jansen (2005) the teacher who is the most important resource in the classroom was reduced to the role of a facilitator. Apart from that, the whole concept associated with Curriculum 2005 was misguided and misunderstood by all other stakeholders critical to its implementation and success.

Taylor and Vinjevold (1999) noted that 'curriculum 2005 seemed to have been designed to promote education superficially at the expense of systematic development. The scheme for applying the curriculum in the classroom was quite confusing and difficult to comprehend the scope for achievement. It would seem likely that only the most dedicated, knowledgeable and skilled teachers are likely to achieve South African Qualifications Authority (SAQA) learning goals using this curriculum'. In the same vein, Naong (2005) observed that although there was overwhelming support for the principles of out-comes based education and curriculum 2005, both curriculum implementation projects seemed impracticable in use. According to Naong (2005) the implementation were confounded by the following; i) a narrow curriculum structure and design; ii) lack of alignment between curriculum and assessment policy; iii) inadequate orientation, training and the development of teachers; iv) learning support materials that are variable in quality, often unavailable and not sufficiently used in classrooms; v) policy overload and limited transfer of learning into classrooms; vi) shortage of personnel and resources to implement and support Curriculum 2005; vii) inadequate recognition of curriculum as the core business of education departments. The curriculum was therefore reviewed to come up with a workable document with measured deliverables that will ensure the principles of fairness, equity and quality.

The findings of the Curriculum Review Committee (2000) were that, the curriculum ignored content and the specification of what was to be learned in favor of process; and it was strong on integration of various curriculum parts (horizontal) but was vague about the content demands for progression (vertical) that enable learners to move from one grade to the next. Furthermore, evidence was beginning to show that the vagueness of content and the under-specification of basic learning skills had a damaging effect on the learning performance and cognitive understandings of learners exposed to the new curriculum, particularly among learners in disadvantaged schools. Although a streamlined Curriculum 2005 was adopted and implemented in 2002, it had its own challenges. Whereas mathematics was clear about the progression standards to be achieved by the end of each grade, the language-assessment standards gave teachers little guidance. In terms of how to approach reading and assess students (Jansen, 2005). The will to make the implementation process work through broad-based participation of stakeholder groups was beneficial. Chisholm (2004) notes that by 2004 all these objectives had been achieved and, in some cases, even more than had been anticipated, as in the case, for example of curriculum development for schools in Grades 10-12. Conditions had therefore been set in place for major improvement in the quality of education. Matric results in 2003 confirmed the improvements that had been made since 1994, but the validity of the results and standard of the exams were disputed by prominent analysts. Compared with an overall pass rate of 58.1% in 1994, there was an overall pass rate of 73, 3%, in 2004.

2.4.3 Improving quality and understanding impact, 2005 – 2009

Throughout the educational history of South Africa post-apartheid, it can be observed that ministerial changes are often accompanied by a shift in policy direction with the intention of bringing about positive change. On the 29, April 2004, Ms. Naledi Pandor M.P, assumed office as the Minister of Education (Chisholm, 2004). At the time, the progress made with outcomes-based education became the focus of the media and the court of public opinion. In a speech to the National Assembly on the 19 May 2005, commemorating the Soweto uprising in 1976, Minister Pandor acknowledged the concerns raised with respect to quality service delivery in education (Naledi Pandor, 2005). She further reiterated that her goal for the education sector was not to bring

about a fundamental change to the status quo, but rather to consolidate the policy already in existence.

The Department of Education unveiled a five-year strategic plan from 2007 to 2011 (DoE, 2007) in support of the Quality Improvement Development Strategy (QIDS) programme. The sector plan among other things, laid the foundation for a future plan of assessment on school performance and learner achievement (DoE, 2007). Below is a table on the time line of the strategic plan on assessment from 2007 to 2011

Strategic objectives	2007	2008	2009	2010	2011
Provide regular credible and up-to-date data on school performance and learner achievement.	Systemic assessment conducted on representative samples of schools and learners at grade 3 and grade 6 levels for monitoring achievement in literacy and numeracy.	Findings from the grade 3 national assessment available to guide policy and inform interventions in learning programmes.	Findings from the grade 6 (SACMEQ) international assessment available to guide policy and benchmark learner achievement.	National assessment conducted on a representative sample of schools and learners at grade 6 level for monitoring achievement in literacy and numeracy.	Findings from the grade 6 national assessment available to guide policy and inform interventions in learning programmes.

Table 2.1. Time line of the strategic plan on assessment from 2007 to 2011 (Adapted from DoE Strategic Plan (2007 – 2011, pg 42)

The dismal performance of the 1998 matric results led to calls for a complete review of out-comes based assessment. This call was heeded with a ministerial committee set up in June 2009 and given the mandate to review the implementation of the curriculum revised in 2002 and introduced in 2004. According to Dada et al. (2009), the ministerial review committee recommended the following changes to strengthen the curriculum:

- Discontinuation of learner portfolios.
- Reducing the number of learning programmes from eight to six.
- Giving priority to English as a first additional language.
- Reasserting the importance of text books in schools.
- Increased targeted training for teachers.

The year 2009, witnessed major changes within the South Africa education system. The Department of Education was split into two separate entities with specific

mandates. These were the Department of Basic Education (DBE) and the Department of Higher Education and Training (DHET) (Dada et al., 2009).

The DBE scope covered all schools from Grade R to 12 as well as adult literacy programmes. The DHET on the other hand was responsible for all public and private higher education institutions, colleges and the skills development sectors, which include the Sector Education and Training Authorities (SETAs) and the National Skills Authority (NSA) as well as the National Skills Fund (NSF). In addition, the DHET was given the mandate to coordinate the National Human Resource Development Strategy (NHRDS). Although the reorganization for their separate mandates will seem daunting the split offers an opportunity for both the basic and higher education departments to be sufficiently and effectively catered for. A critical observation of the three phases in the education history of South Africa namely Policy frameworks and documents; policy implementation and systems development; improving quality and understanding impact leads to an appreciation of the current state of affairs with respect to assessment and the outcomes thereof. Although there are many indicators, the discussion will dwell on key factors which have had a concomitant effect with regards to assessments especially at the basic education level. Firstly, at the policy frameworks and documents stage, the NEPA was never specific on the language policy for use in schools. It rather directed that learners be taught in their preferred languages. Secondly, at the policy implementation stage there was a lack of alignment between curriculum and assessment policy. This meant that most teachers lacked direction with regards to the ways and means of assessing learners which is a critical part of the teaching and learning process. Thirdly, improving quality phase presented a challenge because there seemed to be no quality to be improved but rather equity had been ensured with the mass enrolment of pupils in most public schools.

On 20 October 2009, The DoE (2009) announced the decision to implement the recommendations of the Task Team Report. Among other things the Task Team Report recommended the development of a single, comprehensive and concise curriculum and assessment policy statements which will replace, subject statements, teacher guides and subject assessment guidelines in both the General Education and Training (GET) and FET phases (Dada et al., 2009).

The decision by the DoE (2009), on the recommendations of the Task Team Report, led to the implementation of the National Curriculum Statement Grades R-12.

The National Curriculum Statement Grades R-12 consists of three documents, namely;

- i) Curriculum and Assessment Policy Statements for each approved school subject as listed in the policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12;
- ii) The policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12 which describes the number of subjects to be offered by learners in each grade and the promotion requirements to be obtained; and
- iii) The policy document, National Protocol for Assessment Grades R-12 (January 2012) which standardizes the recording and reporting processes for Grades R-12 within the framework.

The changes emanating from the Ministerial Task Team's recommendation were in two categories. These were decisions with immediate effect for implementation, which was to be followed through in 2010, and will lead to the discontinuation of portfolios, Common Task Assessment (CTA) and student projects. Decisions with longer term effect for implementation had a set time line of 2012 to 2014. The decisions with the longer-term effect as outlined can be said to be critical to South Africa's internal assessment processes and subsequent participation in regional and international comparative assessments. These are;

- a) The reduction of the number of subjects in the intermediate phase
- b) The teaching of English as a First Additional Language to be given priority to be taught from Grade 1;
- c) Regular external systematic assessment of Mathematics, Home Language and English First Additional Language in Grades 3, 6 and 9 and
- d) The development of curriculum and assessment policy statements per learning area and subject (DBE, 2012)

This led to the introduction of the Curriculum and Assessment Policy Statement (CAPS). CAPS is aimed at defining what students are expected to learn within specified learning areas or subjects (DBE, 2010).

Over the years, South Africa has participated in regular internal and external systemic assessment in mathematics, reading literacy and science for the key exits grades of 3, 6 and 9. The results of these assessments have ignited a discussion on the inherent challenges within the entire education system post-apartheid. Below is a chronology of international, regional and national assessment in SA.

TIMSS 1995	TIMSS 1999	MLA 1999	Systematic Evaluation Gr 3,6,9, 2000	SACMEQ II 2000
Systematic Evaluation Gr 3, 2001	Systematic Evaluation Gr 3,6,9 2003	TIMSS 2003	Systematic Evaluation Gr 6, 2004	PIRLS 2006
SACMEQ III 2007	PIRLS 2011	TIMSS 2011	ANA Gr 1-6,9 2011	ANA Gr 1-9 2012
ANA Gr 1-9 2013	ANA Gr 1-9 2014	ANA Gr 1-9 2015(R220 million)	TIMSS 2015	PIRLS 2016

Table 2.2: chronology of international, regional and national assessment in SA Howie, (2016)

2.5 Background to the Annual National Assessment (ANA)

In February 2009, President Jacob Zuma set out targets for the education system in his State of the Nation address. These targets stated that by 2014, 60% of learners in Grades 3, 6 and 9 should perform at an acceptable level in languages and mathematics. This achievement rate as articulated was also in line with the governments' policy '*Towards the Realization of Schooling 2025*' (DBE, 2010).

As earmarked in the DoE Strategic Plan 2007- 2011, the goals of the policy '*Towards the Realization of Schooling 2025*' further ignited the interest of assessment within the South African education system. The Annual National Assessments brought

considerable clarity to the value, use, and importance of internal assessment of students at the primary and later high school phase.

With ANA, a new era in education began with some level of accountability. Although with the intention of not being punitive, it created a set of challenges that made it very difficult to get stakeholders, particularly teachers on board. According to Angie Motshekga, the Minister of Basic Education, a top priority of ANA “is to see an improvement in the quality and levels of educational outcomes within the schooling system, and a mechanism to monitor these improvements’ (DoE, 2011).

In a fundamental way, ANA was the next obvious step for a nation already committed to quality and equity in education. The legacy of reform preceding ANA culminated in an opportunity for the country to put real muscle behind what had already been put into place. Funding was tied directly to accountability expectations and underperforming schools. Schools were therefore tasked to ensure that all students acquire the essential literacy and numeracy skills.

2.6 The Annual National Assessment (ANA)

The ANA is a standardized assessment (DBE, 2011; Howie et al., 2016). A standardized assessment requires all test takers to answer the same questions or a selection of questions from common bank questions in the same way and is scored in a consistent manner. ANA offered the opportunity to compare the relative performance of individual students (Feeney & Freeman, 2014; Howie et al., 2016; Rozan, 2013; Tan & Michel, 2011). The ANA began to take operational shape and character in the year 2009 through piloted tests in almost 1000 schools (Spaull, 2015). This had been a work in progress since 2001 when the DBE rolled out the Systemic Evaluation Programme (SEP). Data from the SEP informed policy changes as follows; in the year 2008 the DBE introduced the National Reading Strategy (NRS), a remedial measure to offset the negative findings of the SEP. This was followed by the Foundations for learning Programme (FFLP), in the same year (DBE, 2011).

In the year 2010, provincial departments of education agreed to test all students from grade 1 to 6. Subsequently in 2011, the tests were repeated for grades 1 to 6, but with a difference. Students who took the test in 2011, were tested on 2010 content. In 2012,

grades 1 to 6 were tested and a sample test organized for grade 9. In 2013, the test was conducted for grades 1 to 6 and grade 9. The 2014 tests were expanded to include samples of grades 7 and 8 students in addition to grades 1 to 6 and 9 (DBE, 2011; DBE, 2012; DBE, 2013 & DBE, 2014).

There are meant to be two types of ANA. These are the Universal ANA and the verification ANA (DBE, 2014). The Universal ANA is written by all students' government (and state-subsided independent schools). They are invigilated by teachers within the school and marked by teachers within the school. The verification ANA represents a nationally representative sample of schools selected at random and marked as well as moderated by an independent agent contracted by the DBE. In prior assessments, the Human Sciences Research Council (HSRC) was given the mandate to moderate the tests (Frempong et al., 2013). There was no verification process in 2012 because the tender for service providers went out too late (Spaull, 2015). On the other hand, the verification process was repeated in the year 2014.

According to the DBE's education sector plan, the ANAs were expected to have four key effects on schools namely:

1. expose teachers to better assessment practices
2. make it easier for districts to identify schools in most need of assistance
3. encourage schools to celebrate outstanding performance
4. empower parents with information about their children's performance

The 2011 expanded roll out of ANA, presented the first national baseline assessment to benchmark annual targets and achievement towards realizing the desired 60% threshold of learners mastering the minimum literacy and numeracy competencies by the end of Grades 3, 6 and 9 respectively (DBE, 2011). That said, the objectives of the DBE, relative to the four key effects ANA was expected to have on schools received mixed reactions from teachers led by their respective unions, Non-governmental organizations, and education experts.

2.7 Assessment administration

There are many technical processes and concerns in the administration of a national assessment. The processes include the following: test design and development; sampling; assessment administration; data collection; data cleaning; analysis; reporting and dissemination of results; capacity building of stakeholders (Tobin et al., 2015). According to Childs and Umezawa (2009), there is limited literature on assessment administration with regards to what teachers know about what they should and should not do to prepare their students to take large scale assessment. Childs and Umezawa (2009) attribute this problem to the general assumption that assessment administration is just a formality and therefore uninteresting to put much focus on. The question then is, how does this matter? In a study by Flynn and Anderson (1977), Grade 7 students in California were found to have scored significantly higher on tests administered when the instructions were delivered by teachers without particular interest or in a leisurely atmosphere. Subsequently, a study by Trentham (1979) revealed that distractions during a creativity test given to Grade 6 students led to a drop-in student score. According to Childs and Umezawa (2009) the logical conclusion from both studies suggest that standardized administration is important if scores are to be comparable across testing sites. They contend that the usual way to encourage standardized test administration is through standardized testing materials including detailed instructions that must be followed. These instructions must typically specify a) how students are to be physically arranged in a testing room, b) when and how the materials are to be distributed and collected, c) when and how scripts are to be read to the students taking the test, d) what else a person administering the test (Proctor) or teacher may or may not say and e) the timing of the test sessions. Indeed, most assessments are aimed at the instructions on the test being written rather than administrative procedures or invigilation as popularly called. Again, Childs and Umezawa (2009) explain that, if the meaning of test scores solely depends on the test being administered according to the instructions, without due regard to administrative processes then the meaning of the scores will be compromised in a way. It is observed that, concessions in the area of extended testing time, assisted reading of test questions and writing in some cases is accorded students with disabilities (Sireci, Scarpati, & Li, 2005). Sireci et al. (2005) posit that if

the general assumption that test takers must undergo the same test administration procedures as (being able to work quickly within the stipulated time and having the requisite reading skills) are irrelevant to the meaning of an outcome of a test then changing the administration to remove these requirements for students who have difficulty with them should make the scores for those students more accurate, while not affecting the scores of students without disability.

Lessons can be drawn from the two very similar but contextually different studies by both Childs and Umezawa (2009), as well as Graven and Venkatakrishnan (2014). Whereas the former investigated Grade 3 teacher's experiences in administering Ontario's provincially mandated assessment, the latter observed similar patterns related to the experiences of grade 3 teachers in the administration processes of mathematics in ANA in South Africa. The conclusions from Childs and Umezawa (2009) was that test developers needed to consider the role of teachers in apportioning the role of a proctor or an invigilator. They argued that since teachers had spent the academic year getting to know their students' individual needs and characteristics as well as developing a pedagogical relationship based on trust, they are in a better position to help students do their best through assessment administration processes by means of encouraging, prompting or using cues. Teachers therefore saw the practice of violating assessment administration procedures and instructions as unethical. Graven and Venkatakrishnan (2014) on the other hand observed similar patterns with teachers. Teachers suggested that they be allowed to supervise their own students as they viewed other teachers in charge of their class during assessment as strangers. Teachers also called for flexibility in assessment processes such as allowing learners to ask question, while at the same time assisting learners through the entire test paper especially where language becomes a barrier to their understanding in answering test questions. In as much as the similarities between the two studies are striking, it is important to note that both deal with students in the foundation phase who may need assistance with respect to content and context. As with ANA administration, its implementation has also been fraught with challenges.

For example, Rigby, Woulfin and Marz (2016), contend that implementation structures are generally thought of as either top-down, a traditional hierarchical process with policies passed downwards for implementation or a bottom-up, structure that resembles an inverted pyramid with groups. Van der Berg (2015) explained that the

joint statement by teacher unions (SADTU, 2015) advocated a bottom-up assessment approach since teachers are the primary implementers of the process and therefore their concerns will understandably shape whatever policy is formulated. Furthermore, some of the highlights of ANA implementation challenges have bothered on the following; test construction with language related issues and content coverage (Bansilal, 2012; Graven & Venkatakrishan, 2013; Roberts & Barmby, 2016) and validity as well as comparability issues (Van der Berg, 2015; Spaul, 2015).

2.7.1 Test construction

A properly constructed standardized test can be obtained through reasonable steps in its construction. This requires that test items meet certain measures of fairness and objectivity with the elimination of bias (Gawthrop, 2014). A test that has the characteristics of fairness and objectivity can be passed off as a good test.

Constructing a good test is conditional on the test meeting certain scientifically reasonable and widely accepted standards (Sofendi, 2016). Furthermore, test results must be subjected to an item analysis. An item analysis is a simple yet valuable process and procedure, performed after a test or an assessment (Quaigrain & Arhin, 2017). Item analysis leads to three kinds of information; 1) difficulty of the item, (the proportion of individuals who answer an item correctly), 2) the discrimination index of the item (a measure of how well the item separates two groups with respect to good and poor ones), and 3) the effectiveness of the distractors (how the incorrect responses in a multiple choice item are working (Morgan, 2014; Rao, Prasad, Sajitha, Permi & Shetty, 2016; Sofendi, 2016). Until now, the three kinds of information on the analysis of test items were used as parameters to assess student responses on the quality of multiple-choice questions (MCQ) (Rao et al., 2016). Increasingly, most standardized assessments including ANA expose learners to different techniques of assessing or questioning, combining both open-ended and short answer questions.

Assessing students is not a novel practice. It is part of a teacher's job and a responsibility. On the other hand, how many teachers would be able to clearly state the criteria by which they develop their test items? Conventional practice suggest that a teacher identify the objectives covered over a reasonable period, preferably a week or two and develop appropriate number of related test items (Morgan, 2014). The

sensitivity of test items must also be factored in the development of test items. It is therefore imperative that teachers are conversant with not only the curriculum in use, but also the testing techniques and technicalities which informs a fair assessment or testing process (Quaigrain & Arhin, 2017).

Typically, a teacher weighs and determines the objectives in a subject content area and develops corresponding number of related test items (Quaigrain & Arhin, 2017). Although this process has semblance with procedures used in standardized test construction, the manner in which test items are determined and set are practically not the same. The reason being that standardized tests have broad appeal in terms of coverage and test developers select a specific content area and grade level to device a test which measures constructs that are either commonly taught or expected of students nationally (Morgan, 2014). The 2011 ANA guidelines on model tests reveal that apart from the test not covering all the four academic terms in the year, the test items were merely a sample of important knowledge and skills selected for students to be tested on (Spaull, 2015).

2.7.2 Test items and task

In the development of an assessment instrument, a teacher sets out to develop test items and associated task after the completion of a reasonable amount of classroom-based activity. Thereafter, test items which is eventually built into a task or activity must be based on the objectives in an instruction manual which forms part of the test plan (Foxcroft, 2004). Foxcroft (2004) details the aspects composing a test plan as consisting of the following: a) specifying the purpose and rationale for the test as well as the intended target population, b) defining the construct (content domain) and creating a set of test specifications to guide item writing, c) choosing the test format, d) choosing the item format and e) specifying the administration and scoring methods. It is required that these processes be sensitive to test takers and factor in test takers contextual circumstances, especially in a diverse and multicultural society such as South Africa. In the composition of a fair assessment, Van de Vijver and Hambleton (1996) advocate a score equivalence across the various multicultural groups through a set of guidelines. A score equivalence ensures that a student's score on a test (raw score) can be converted to its equivalent using a rating code or scale (Way, Lin & Kong, 2008). It also certifies the validity of an assessment instrument and makes it

easier for better test outcome interpretation. Apart from the establishment of a score equivalence in test composition, there are other factors which may interfere with the outcome of a test that could possibly lead to a situation where individual test takers react differently, thereby impacting the statistical differences in predictions from the test scores (Cole, 1981). One of such constructs to look out for is test bias. Test bias occurs when score differences in the indicators of a particular construct or a test does not correspond with the differences in the underlying trait or ability (Hambleton & de Jong, 2002; Van de Vijver and Tanzer, 2004).

Among researchers, the issue of bias in test evoke emotions and often lead to polarization, especially where there are observed mean differences among different ethnic groups (Reynolds & Suzuki, 2012; Van de Vijver & Tanzer, 2004). Reynolds and Suzuki (2012) for example divided the most common explanations into four categories namely; 1) genetic influences, 2) environmental factors involving economic, social and educational deprivations, 3) an interactive effect of genes and environment and 4) biased tests that systematically underrepresent minorities' true aptitudes and abilities. According to Reynolds and Suzuki (2012), the last two of these explanations have drawn most attention. The four categories are important within the South African context because when assessments are conducted in a supposedly dominant and privileged language such as English Language which is a first language to some and second to most, the language itself will present a mean difference. As a remedial measure, a review of test items can be conducted to determine whether the mean difference is attributable to a lack of access to high quality curriculum support material and instruction or it is the ability of the student which is a factor (Foxcroft, 2004). Another question worth considering is whether the group or mean differences identified in test outcomes are evidence of a biased test or evidence of differences in student's life circumstances considering the rural-urban divide.

2.7.3 Comparability in assessment

When an assessment is valid, inferences can be drawn, and comparison made to justify the outcome of the assessment (Elliot, 2013; Evans & Lyons, 2017). The comparability of an assessment can therefore be made based on the trustworthiness of the assessment instrument. Elliot (2013) as well as Bramley and Crisp (2017),

observe that many commentators on assessment fail to understand the underlying issues pertaining to validity and comparability. They contend that, this is due to the fact that validity and comparability are complex concepts within the domain of test construction and still evolving. According to Elliot (2013), there exist both general and specific definitions and interpretations of comparability. Among some of the more general definitions according to Elliot (2013) are between awarding bodies, between alternative syllabuses in the same subject, between alternative components within the same syllabus, between subjects over time-year-on year, and overtime-long term. In South Africa, a few commentators on assessment and test design have drawn attention to comparability in assessment. Spaull (2015) and Van der Berg (2015), have highlighted comparability issues in relation to the ANA. Their focus has been on weak calibration and inter-temporal or inter-grade comparability of ANA test scores and their usefulness in measuring learning gains. According to the explanations given by Evans and Lyons (2017), when constructs such as validity and comparability relative to assessment are observed, ANA test scores as they are, cannot be used in the annual determination of the achievement of students no matter the context. Spaull (2015) therefore suggests the use of anchor items as a remedial measure. Anchor items are used in test score equating (Sinharay, Haberman, Holland & Lewis, 2012; Kopf, Zeileis & Strobl, 2015). They account for any ability differences between non-equivalent groups and are necessary for comparability to be inferred (Liu, Zu, Curley & Carey, 2014). According to Yu and Osborn Popp (2005) in all test equating studies, the central question remains the same. Another question worth asking is, could the scores yielded from different tests measuring the same construct be comparable to each other? To answer this question, test items (anchor items) for the following year are included in the current years' assessment in a form of field testing. Students tests are not scored on the anchor items although they are required to answer them. This allows for the checking of the quality and the difficulty index of the test items (Liu et al. 2014). The best items are then kept for the following year's test. Yu and Osborn Popp (2005) explain that, to achieve a desirable outcome, test developers must pick anchor items with desirable attributes such as stability throughout the period of test exposure (when items are field tested). Apart from that, anchor items selected must be representative of the test items relative to content and statistical characteristics (Sinharay et al., 2012).

2.8 Effects of assessment administration on schools

Countries the world over, have placed much hope on school systems to reduce learning gaps and develop the potential of learners, irrespective of their socio-economic backgrounds (Van der Berg, 2015). Increasingly, the effects of standardized tests in schools have become the centre of much debate and controversy. This is mainly due to the fact that the differential quality of education provided for rural and urban schools remains a challenge. The process of evaluating school performance on the basis of student achievement has become the norm within and across countries. Governments are very much interested in the performance of all aspects of their respective education systems using otherwise private sector economic models as a measure of public sector performance (Anderson, 2005; Hanushek, Machin, & Woessman, 2011; Newman, King, & Rigdon, 1997). To this end, schools become the problem and government control the solution. It is not teachers, students and parents who act to address the problem to improve outcomes. Instead, focus is upon the role of government in selecting, sanctioning and implementing the proper teaching methods to teach, and the relevant content to test. The aim is to produce assessment tests that are valid, reliable and norm referenced (Heissel, Adam, Doleac, Figlio & Meer, 2018), on a large scale, because it is cheaper and more efficient. ANA began as a diagnostic test (DBE, 2011), with a focus on improved quality at the foundation and intermediate phases. According to teacher unions, the nature of ANA as an assessment changed over time into one of high stakes (SADTU, 2015). Heissel et al. (2018), explains, a high-stakes test as a test that is used to make critical decisions which affects not only students, but influences a teacher's teaching methodology and a school's philosophy. A high-stakes regime promotes an uneasy relationship between a school, which is represented by teachers, and students, as well as education officials. This relationship is accountability driven. Perie, Park and Klau (2007), explain this relationship as one between two parties in which four conditions apply. The first condition presents a situation in which one party expects the other to either perform a service or accomplish a goal. The performance of a service and goal accomplishment are some of the key accountability measures teachers are responsible for. For example, the Norms and Standards for educators in the National Education Policy (NEPA), Act of 1996, clearly details accountability driven expectations. The second

condition pertains to a party or an individual (teacher), performing an activity (teaching services) and accepting the legitimacy or the right to be accountable and responsible to immediate supervisors within the education hierarchy. Thirdly, the party performing the activity (teacher), benefits from this relationship. In other words, the relationship must not purposely be one of high stakes and sanctions, but accompanied with rewards and commendation, as well as the provision of material resources necessary to achieve the first condition. The fourth condition sets forward a situation in which the party for whom the activity is performed has some capacity to affect the other's benefit. The benefit could be either positive or negative. A positive benefit would be through promotion and rewards whereas a negative may come in the form of sanctions.

An evaluation on the role of accountability within most education systems reveal that among education practitioners and researchers the effects of standardized tests in schools are seen as negative and a practice which has to be canned (Chen, 2018; Cranley, 2018; Saeki, Segool, Pendergast & von der Embse, 2018; Valero & Van Reenan, 2019; Wray, 2016). On the other hand, researchers such as (Benjamin & Pashler, 2015; Brown & Hattie, 2012; Kinay & Ardic, 2017) contend that, there are enormous benefits to standardized tests that are either often overlooked, misunderstood or disregarded.

The debate on the effect of standardized tests in schools is inconclusive. Advocates of standardised assessments such as departmental officials have found comfort in the level of accountability that these assessment presents. On the other hand, some of these officials lose sight of the fact that these assessments are not meant to be punitive but supportive. Concerning the level of accountability in the administration of these assessments, Perie et al. (2007), explain that in an accountability relationship, a person will approve or disapprove these tests depending on his or her role in this relationship.

Nevertheless, there is some consensus in schools concerning the narrowing of curriculum towards designated testing subjects (Cranley, 2018), which is English Language and mathematics in most cases. This practice discourages schools from broadly implementing experiential learning programmes (Scogin, Kingler & Jekkels, 2017), therefore authentic learning experience is lost to rote learning.

Another effect of standardized tests on schools is that it has become the sole determinant in most education circles when decisions must be made about a student, a teacher or a school (Wray, 2016). In some low-income schools that are already stretching resources too thin, there is the pressure not only to teach to the test, but also cheat their way out of what is perceived to be a very rigid, unbalanced and narrow testing regime that is seen as altering the professional character of schools. The state of Atlanta in the United States is an example of schools using unethical teaching practices to escape sanctioning. According to Chen (2018), in 2008, as many as 109 teachers and school heads in the State of Atlanta were involved in systematic cheating with the aim of propping up test scores. Subsequently, test audits revealed erasures on tests and change of test answers. According to Saeki et al. (2018), most teachers are not favorably disposed towards frequent assessment testing, where high stakes is concerned, as this has been known to be associated with a variety of negative psychosocial outcomes for teachers including increased test stress (Chen, 2018; Saeki et al., 2018; Scogin et al., 2017), decreased teacher motivation and morale (Cranley, 2018; Ritt, 2016; Wray, 2016), as well as burnout and attrition (Charlesworth, Fleege & Weitman, 2010; Heissel et al., 2018).

In the study by Saeki et al. (2018), on the influence of test-based accountability policies on primary school teachers, it was found that, apart from test-based accountability policies, and higher stress levels, a school's climate experienced heightened test related stress. A feature, observed among students, teachers and school heads in the schools sampled. On the other hand, Dickinson (2019), explains that the one thing standardized tests have been able to do is to create a level playing field in schools for students. Other researchers such (Benjamin & Pashler, 2015; Brown & Hattie, 2012; Styron & Styron, 2012) have gone further to investigate the benefits of standardized tests on schools with teachers and students as the unit of analysis.

On the benefits of testing, Benjamin and Pashler (2015), contend that there are cognitive benefits to testing that increases the commitment of learners to learn. This is because students learn with speed from tests on how to direct their study to the important examinable materials. One bottleneck to effective student learning is the widespread use of poor learning techniques. Many of the techniques that have been identified as highly effective in basic research on learning memory (Dunlosky, Rawson,

Marsh, Nathan & Willingham 2013) are the ones that learners are uncomfortable with. Therefore, when a test is taken repeatedly, a student discovers which of his or her study objectives have been successful, and which have not (Benjamin & Pashler, 2015). Overall, it has been reported that allowing self-assessment by students enhances performance in the classroom (Papanthymou & Darra, 2018). If this is done in combination with performance tests, self-assessment can help students gain a better appreciation for a) their overall level of competence, b) what they do and do not currently know, and c) which learning technique is effective with them (Benjamin & Pashler, 2015). Tests trials such as exemplars offer one of the many avenues by which students can assess themselves.

Styron and Styron (2012) posit that, students will encounter tests of standardized nature throughout their academic as well as professional careers. While there are some practices and techniques that are alien to assessment, proponents of standardized assessment believe that it is only in the education sector that criticism is made about the development and use of standardized assessment. On the other hand, professional testing can be seen in many fields such as architecture, interior design and the medical field in which understanding effective strategies of how to study, prepare and take such tests are often encouraged (Styron & Styron, 2012). Since standardized tests are aligned to national curriculums in most instances, teaching to the test allows the teacher to set realistic targets with respect to teaching and learning. This is done through increased revision and development of aligned curriculum maps. Standardized tests introduce teachers in a school to the latest trends in assessing learners as well as improved assessment methods. This is because, the assessment instrument is developed by experts in the field, are objective, valid and balanced (Brown & Hattie, 2008).

Apart from that these instruments are pre-tested for control of biases. Teaching instruction leads to assessment. Therefore, the probability that a teacher will align teaching and learning towards assessment is greater. A teacher who is introduced to consistent testing of students inevitably increases his or her effectiveness of the way in which he or she chooses to assess and organize the tested information (Zaromb & Roediger, 2010). These beneficial effects are probably due to the fact that testing promotes a clustering of similar items during the test therefore a retrieval strategy for the teachers' internal assessment becomes effective (Mulligan, 2005). Again, since

the tests come already prepared, this takes undue burden off schools in setting, and printing test papers. Benjamin and Pashler (2015), state that by outsourcing the setting of tests, a teacher is able to set realistic targets for achievement by learners. In addition to that, a test has cognitive benefits which increases learner's commitment to learn. This is because the more a material is studied repeatedly, counterintuitively, there are many cognitive interventions that appear to slow the rate of forgetting (Roediger & Karpicke, 2006).

Education policy makers and officials have been able to better align national standards and economic planning expectations to meet those that will be assessed on the standardized tests (NDP, 2011). This type of curriculum design has also been described by Wiggins and McTighe (2005), as 'backward design'. Backward design means that the curriculum development process has its focus on achieving desired student learning. Generally, a student's social, cognitive and behavioural development is influenced by both school and classroom level factors (Ehrenberg, Brewer, Gamoran & Willms, 2001; Snilstveit et al., 2016). A lot of scholarly writings exist on intervention programs in schools largely predicated on a traditional view of 'chalk and talk' learning in standardized 'one size fits all' institutions, see for example (Jacob & Ludwig, 2009; Van der berg et al. 2011; Khosa, 2013; Cheryan et al., 2014 & Masimo & Nino-Zarazua, 2016). But less on the systems and processes and communication approaches that schools need to effect positive change (Higgins, Hall, Wall, Woolner & McCaughey, 2005). Although there are many definitions as well as interpretations that can be given, school contextual variable, particularly the school climate and its effect on student learning presents an interesting field of study. According to Turhan and Akgul (2017), school climate comprises features of the environment that distinguishes a school from others and affect the behaviors of school members. In other words, it is a characteristic of the school that is experienced by school participants, especially students, and teachers (Turhan & Akgul, 2017). School related factors on student achievement may have both internal and external influences. For example, on the external influences, Kutame (2004) states that unsatisfactory conditions of a school building (poor structures) and the lack of amenities such as electricity and water can have a negative effect on teachers working at a school, resulting in much discomfort to the teaching and learning process. An example of an internal influence is class size. On the other hand, the socio-economic status of a

school or the quintile level in the case of South Africa, can impact the success or otherwise of students' achievements in a school. Hanushek (1997), explains that the successes related to student achievement can be cumulative and may be influenced by primary inputs such as the student's immediate family, peers and the school itself. Over the years, the debate around whether schools' matter and if so, how students' location, parents' background as well as school quality measures can impact student achievement continues to be an issue of fundamental concern to policy makers and researchers (Helal, 2012, Van der Berg, 2015). This debate has persisted even after the Coleman et al., (1967) report which suggested that schools do not exert a very powerful influence on student achievement. Conversely, Savasci and Tomul (2013) explain that although there is a relationship between the educational resources a school does offer and academic achievement, this relationship is limited. They contend that it is still not possible to say that educational resources do not have the strength to diminish the effect of the socioeconomic features.

The South African Schools Act, amended in 2005 promotes a quintile system (Mestry & Ndlovu, 2014). Under this system, schools are categorized into 5 groups (quintiles) based on the relative wealth of their surrounding communities. Schools in the poorest communities are classified as quintile 1 and schools serving the wealthiest communities are classified as quintile 5 (Zoch, 2017). Quintile 1, 2 and 3 schools are not allowed to charge fees and are referred to as no-fee schools. The concept of school funding is to enable under resourced schools in mostly disadvantaged communities match well-endowed schools with the understanding that this will translate into student achievement. Evidence increasingly point to the fact that this policy is not enough for improving student achievement (Hanushek, 1997; Helal, 2012 & Zock, 2017). Llie and Lietz (2003) for example argue that, the intermediating factors to student achievement are not only external or government funding, but also largely rooted in the context within which the students are raised. They contend that generally, the family, not only conveys but also reflects the structures and values of the society in which the student lives which inevitably contributes to the status of the school. Therefore, the impact of school factors relative to student achievement cannot be done without consideration of intermediating factors from the policy levels, family, school and the individual student (Llie & Lietz, 2003).

2.9 Effects of assessment administration on teaching and learning

According to Benjamin and Pashler (2015), there are cognitive benefits of testing that increases the commitment of learners to learn. This is because students learn very quickly from tests on how to focus their study to important materials. One challenge to effective student learning is the widespread use of poor learning techniques. Many of the techniques that have been identified as highly effective in basic research on learning memory (Dunlosky et al., 2013) are ones that learners are uncomfortable with. Therefore, when a test is taken repeatedly, a student discovers which of his or her study objectives have been successful, and which have not (Benjamin & Pashler, 2015). In a study on the effects of test taking on student delayed retention (defined as learning lasting three weeks after instruction), Haynie (2007), found that students who repeatedly took tests retained significantly more information following a three-week delay period. The study found that, when students are threatened with tests, memory retention has no positive effect on them, until the test is actually administered. The study also found that, repeated tests to a large extent increased a students' long-term memory thereby ensuring better results for students at school. Overall, it has been found in educational settings that allowing self-assessment by students enhance performance in the classroom (Papanthymou & Darra, 2018), especially If this is done in combination with performance tests, self-assessment can help students gain a better appreciation for a) their overall level of competence, b) what they do and do not currently know, and c) which learning technique is effective with them (Benjamin & Pashler, 2015). Tests trials such as exemplars offer one of the many avenues by which students can assess themselves.

Styron and Styron (2012), argue that, students will encounter tests of standardized nature throughout their academic as well as professional careers. Styron and Styron (2012) explain that while there are some practices and techniques alien to assessment generally, professional testing can be seen in many fields such as architecture, interior design and the medical field in which understanding effective strategies of how to study, as well as how to prepare and take tests are often encouraged.

Since standardized tests are aligned to national curriculums in most instances, teaching to the test allows the teacher to set realistic targets with respect to teaching and learning. This is done through increased revision of exemplars and development of aligned curriculum maps.

Motivation is a major factor in student test preparation and performance. According to Hanushek (1997), students' performance on tests improves when incentives are offered. A working paper from the National Bureau of Economics Research (NBER), stated that "offering incentives to United States students who generally perform poorly on assessments improved performance substantially" (Chay, Guryan & Mazumder, 2014). Although poor performance is blamed on socio economic factors, school systems and culture, the researchers proposed another possible reason; that is "students have no real reason to do well". Compared to the high stake's consequences on teachers and schools, what is in these assessment for the student? Pass or fail and the situation remains the same. To test their theory, the team set up an experiment in the United States and China. The test involved three schools in China ranked first in the 2012 PISA test and two schools in the United States ranked 36th on the same test. Students had 25 minutes to answer multiple choice and fill in questions. A surprise incentive of twenty-five United States of America (USA) dollars was offered at random for students to do their best. To prevent extra study, the test takers learned about the incentive just before they took the test. The USA students allowed in this experiment were those whose test scores was near the USA average. Nothing about the performance of the Chinese students changed. On the other hand, the scores of the USA students rose dramatically. Relative to high-stakes tests, low-stakes tests do not engage student motivation in the same way and therefore may not accurately reflect students' knowledge (Simzar, Martinez, Rutherford, Domina, & Conley, 2016).

In low-stakes situations, students must value the non-consequential test (i.e. have high test motivation) to put in much effort. Simzar et al. (2016) demonstrated that students value beliefs regarding low stakes exams such as perceptions of usefulness and importance influences their effort, which in turn predicted their scores on low stakes tests. Essentially if students do not understand the importance or usefulness of an exam, their effort suffers and ultimately impacts on test scores. While students' success in schools relies on factors such as study habits, quality of teaching, school attendance, test taking abilities and more, several researchers are showing that

parental involvement has a large impact on student achievement in the classroom (Coleman, 1991; Machen, Wilson, Notar, 2004; McNeal, 2014; Patel, 2006; Topor, Keane, Shelton & Calkins, 2010). McNeal (2014) explains the mechanism behind this success to include the following; parent-child (i.e. discussion and monitoring) and parent-school (i.e. educational support strategies and teacher parent organizations). According to McNeal (2014), these mechanisms will differently affect a student through the following; attitude (educational expectations), behaviors (absenteeism, homework, truancy) and achievement (common core testing subjects). In a study on parental involvement and student academic performance, Topor et al. (2010), demonstrated that increased parental involvement is significantly related to a child's perception of cognitive competence. The study also found a correlation between increased student-teacher relationship and parental involvement. Furthermore, the findings also indicated that increased perceived cognitive competence was related to higher achievement test scores, and that the quality of the student-teacher relationship was significantly related to a child's academic performance.

2.10 Conclusion

Chapter 2 presented the review of literature from various sources relevant to this study. This chapter specifically discussed the theoretical lens with which to view and understand assessment in education. The history of educational assessments both nationally and internationally was discussed as well as South Africa's performance relative to these assessments. Furthermore, this section shed light on the origins of ANA and how educators' appreciation in test construction can assist in the development of assessment instruments that is not only standardised but also measures the construct for which it purports to measure.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter presents a detailed overview of the research paradigm, research approach as well as the research design. The discussion also takes into account the population and sampling procedures, in addition to the research instruments and the reasons for using them. A description of how data was collected and coded is presented.

Finally, this chapter demonstrates the integration of quantitative and qualitative research methods and validate their findings through triangulation. The limitations and strengths of both approaches are highlighted with the proposition that triangulation reduces the risks of systematic distortions inherent in the use of a single method.

3.2 RESEARCH PARADIGM

Research paradigm defines a researchers' world view. Thomas Kuhn (1962), first used the word paradigm to mean a philosophical way of thinking. Khaldi (2017), explains a philosophical way of thinking as the general theoretical assumptions and laws as well as techniques for their application that members of a particular scientific community adopt. Also, an adoption of a particular worldview informs the meaning and interpretation of research data (Kivunja & Kuyini, 2017).

For this study, I followed the pragmatism paradigm. Pragmatism according to Parvaiz, Mufti and Wahab (2016), is an American methodological approach to research which originated from the works of William James (1842-1910), John Dewey (1859-1952), Charles Sanders Peirce (1839-1914); Herbert Mead (1863-1931). Researchers indicate that the mono-methods era was dominated by a single worldview (Creswell, 2009; Ngulube & Ngulube, 2014; Wium & Louw, 2018).

Pragmatism presents a radical departure from age old philosophical arguments about the nature of reality and the possibility of truth, which is viewed as relative. A pragmatist therefore has the freedom to choose different methods towards research objectives.

The aim of this study was to find practical solutions to practical educational problems with respect to assessment administration and implementation. This study is therefore defined by the pragmatist world view. Teddlie and Tashakkori (2009), recommends pragmatism as the best paradigm for a mixed methods research literature. According to Teddlie and Tashakkori (2009), a pragmatic approach gives less influence on philosophical assumptions for the conduct of research methods. In other words, a researcher is less restricted in terms of how he or she carries out a study. Pragmatism therefore can be seen as a world-view, which considers “what works” to answer research questions (Johnson & Onwuegbuzie, 2004; Onwuegbuzie & Johnson, 2006). (Creswell, 2015), also explains that a thoughtful consideration must be key to choosing and integrating the results of the appropriate methods to answer research questions. Furthermore, the definition of paradigms and/or shared beliefs among researchers in a specialty area, means that there is less emphasis on the ontological and epistemological perspective but rather more focus on developing a consensus as to which methods works and can be established by the specialty area. Grover (2015) explains that, a principle of pragmatism is that, it is contextual, time bound and never aims at theory building or theory testing by nature.

3.3 RESEARCH APPROACH

A mixed method approach was adopted for this study. This is because the use of quantitative only approach can reveal generalizable information but fails to provide specific answers, reasons and explanations. Similarly, a qualitative only approach is able to provide data about the meaning and context regarding people but is limited in terms of sample size, thereby making generalizability impossible (Kumar, 2011). A mixed-methods approach on the other hand has the advantage of complimenting the strengths of both quantitative and qualitative approaches. Accordingly, a preferred approach necessitates matching research design and methods towards the objectives

of a research (Creswell, 2015). For instance, when a particular approach is selected, it must match the research design and method adopted. An approach's progression therefore proceeds as follows: first, the researcher selects a paradigm of interest. Second, a particular research approach, (i.e. quantitative, qualitative and mixed methods research) which conforms to the selected paradigm is adopted. The third step is the researchers' preferred design, which must speak to a particular world view. The research design which is the researchers' strategy or plan (Kumar, 2011), calls for either a quantitative, qualitative or mixed methods strategy. A particular research design will necessitate possible methods or range of techniques which comprises data collection tools, analysis, interpretation and validation.

Research approaches are categorized as post positivism, constructivism, transformative and pragmatism (Guba, 1990). Creswell (2009) explains a research approach as the plans and procedures for research that spans the steps from broad assumptions to detailed methods of data collection, analysis and interpretation. This plan involves several decisions that must be carefully considered. Informing this decision is my world view or paradigm which is pragmatism. This is followed by the procedures of inquiry (research design) and specific research methods of data collection, analysis and interpretation. According to Grover (2015), the three main research approaches are quantitative, qualitative and mixed methods. By adopting a mixed methods approach for this study, I was able to collect both quantitative and qualitative data, analyse them separately and then compare the results to see if the findings corroborate or contradict each other. The concurrent use of both quantitative and qualitative data in this study assisted in triangulating, as well as comparing research findings from the main data sources for this study namely questionnaires and semi-structured interviews.

3.4 RESEARCH DESIGN

Research designs are procedures for collecting, analyzing, interpreting and reporting data in a research report (Creswell, 2009). Kumar (2011), defines a research design as a plan conceived by a researcher with the aim of answering a research question or a problem. Denzin and Lincoln (2011) refer to research designs as strategies of inquiry. In summary, a research design is a plan, created and moulded by the

researcher, which takes into consideration, the samples or group, measures of treatment or programs, as well as the control of variance (valid, objective and accurate) to answer the research questions.

The aim of this study is to find out the lessons learnt from the administration of ANA during its implementation. The stated questions for this study are as follows:

- What were the lessons learnt from the administration of ANA during implementation?
- What were the effects of the administration of ANA in schools within the Umkhanyakude District?
- To what extent did the administration of ANA impact on teaching and learning?

I specifically considered the concurrent triangulation design as appropriate for my study, factoring in the four variants of the triangulation design, which are; the convergence model, data transformation model, validating quantitative model, and multilevel model (Creswell, 2007). Since my aim is to integrate and corroborate both data sources i.e. (questionnaires and semi-structured interviews) I preferred concurrent triangulation above the other designs. Of the four variants under the triangulation design I adopted the convergence model in order to integrate my findings during the analysis stage. Regarding the rules on application of these designs, Johnson and Onwuegbuzie (2004) notes that no researcher can easily create a more user specific design that suits a particular research purpose. Rather, most of these designs act as principles or conventions that guides a research.

The concurrent triangulation design consists of two distinct phases; quantitative and qualitative (Creswell, Plano Clark, Gutmann, & Hanson, 2003). In this design, a researcher collects both quantitative and qualitative data concurrently. Both quantitative and qualitative data are then integrated during the interpretation and analysis stage. The rationale for this approach is to provide an integrated conclusion. This involves comparing, contrasting and synthesizing the two (quantitative and qualitative) approaches (Wium & Louw, 2018).

3.5 DATA COLLECTION

3.5.1 Population and sampling procedures

The population for this study consisted of teachers drawn from the Umkhanyakude district. Umkhanyakude district is northernmost of the eleven (11) districts in the KwaZulu Natal Province. It is a very rural district with the largest town being Mtubatuba in the south (IDP, 2019). Other notable towns within the district include Hluhluwe, Mkuze, Jozini, Kwangwanase and Ingwavuma further to the north. The majority of the people in the district are Zulu speaking (IDP, 2019).

Kumar (2011:193), defines sampling as the process of selecting a few (a sample) from a bigger group (the sampling population) to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation or outcome regarding the bigger group. Creswell (2009) explains that, there are factors that needs consideration in any sampling process. Some of these factors include the research objectives and the characteristics of the population to be sampled. In employing the Mixed Methods Research approach, due consideration was given to my study objectives together with the study population who are predominantly school teachers and these were factored into the sampling process.

This study focused on three (3) of the four (4) Circuit Management Clusters (CMCs) in the Ubonjeni Management Cluster. These were the Hlabisa, Ingwavuma and Ubombo CMCs. I also took cognizance of the fact that since the circuits are homogenous in nature (i.e. predominantly rural), the ecological validity of the study with regards to the generalizability to the CMCs not visited would be high.

Other challenges that led to a focus on more than one CMC, were that firstly, staffing had changed in most schools after ANA was put on hold. Secondly, some educators who participated in ANA had either retired, resigned or had sought transfers. Therefore, in a school of about 22 teachers you could find only three or four educators who were competent enough to help in completing the questionnaire. In situations where any of these educators failed to respond accordingly to the questionnaire received, the result greatly impacted on the study.

3.5.2 Sampling method and size

Stratified random sampling was used for the quantitative methods, while purposive sampling was used for the qualitative method. According to Maree (2010), in stratified random sampling, the population is divided into subgroups according to the variables of importance in the study. Stratified random sampling further provided the advantage of representation of particular segments of the study population which in this case is mostly primary school teachers. A total of 22 primary and senior high schools were visited. The total number of teachers within these 22 primary schools according to the principals was 237. The statistician consulted recommended 30% of the target population as a sample size, which represents 71 teachers. However, in the end 108 responded.

I encouraged respective school principals to allow only teachers who taught literacy (languages) and numeracy (mathematics) within the lifespan of the ANA to participate in this study since those were the areas of focus of the assessment. In most schools, the principals determined the number of questionnaires to take in for the teachers based on the staff numbers, staff availability as well as taking into consideration those who participated in the ANA.

I made use of the purposive sampling technique to obtain information rich data from four district education officials. Creswell (2009) explains purposive sampling as a non-probability sampling method that is used to explore and obtain depth of understanding as to the reasons for success or failure to implement evidence-based practice or to identify strategies for facilitating implementation. Four education officials were purposively selected for interviews. They were two subject advisors, one in charge of literacy (languages) and the other in charge of numeracy (mathematics) within the district. The third official was the head of the GET within the Umkhanyakude district, while the fourth official was the Manager in charge of the Ubombo CMC. As the principal researcher, I was also guided by my own experience as a teacher who participated and taught subjects during the inception of ANA.

With respect to the sampling methods, since researchers (Babbie, 2011; Creswell, 2009; Kumar, 2011; Maree, 2010) agree that there are inherent weaknesses in using a single sampling method to justify conclusions in a study, the use of both stratified sampling method (quantitative) and purposive sampling (qualitative) provided a better understanding to the research objectives and the problem statement under consideration.

Table 3.1. shows the number of schools, the questionnaires distributed per school as well as the response rate. The names of the schools are not presented for ethical reasons. On the other hand, the schools are given letter names (A – Z).

Table 3.1 Distribution of questionnaires

School	Questionnaire distribution		
	Number supplied	Number completed	% response
A	6	5	83%
B	25	6	24%
C	14	6	43%
D	2	0	0%
E	8	3	38%
F	14	0	0%
G	7	6	86%
H	15	12	80%
I	7	6	86%
J	6	0	0%
K	15	12	80%
L	7	1	14%
M	14	5	28%
N	15	4	27%
O	10	5	50%
P	8	3	38%
Q	6	0	0%
R	15	8	53%
S	12	6	50%
T	15	12	80%
U	8	5	62%
V	10	4	40%
TOTAL	237	108	46%

3.5.3 Description of procedures

The data collection procedure chosen was designed to use questionnaires (closed and open-ended) and interviews to collect data from educators from sampled schools within the Umkhanyakude education district. Interviews were also conducted with four education officials, who were purposively selected because of their knowledge and experience in assessment administration.

3.5.4 Recruitment of participants

Before visiting the sampled schools, I visited the district education secretariat and obtained a list of all the primary and senior high schools within the district. After sampling, I called the respective school principals to make appointments with them. In some instances, the principals were not available, although they had told me they would be present at school. Some of these challenges were as a result of unscheduled meetings at the circuit and district offices by the principals. On the other hand, others eagerly took in the questionnaires but failed to monitor the distribution and completion as promised. In one school, I had to sit for about three hours waiting for the head of department, who was tasked by the principal to attend to me to return completed questionnaires for the study. Out of 7 questionnaires given to the school only 1 was returned, and a promise was made to look for the others. Table 3.1 confirms the collection rate and percentages accordingly. There were incomplete questionnaires that I had to discard, as they would have impacted negatively on the study.

Based on the pre-test results, the questionnaire completion time per educator was supposed to be 20 minutes. The interviews with the four district education officials took between an hour and an hour and a half for each session.

3.6. Data collection instruments

Research instruments are testing devices that are used for measuring a given phenomenon (Creswell, 2015). These instruments are made up of questionnaires, interviews, and surveys, which are a set of research tools and protocols that serve as

a guideline for data collection (Babbie, 2011). Instruments developed to collect data for this study were the following:

- a) A survey instrument (questionnaire) that contained a five-point Likert scales (quantitative data) and open-ended questions (qualitative data) (Annexure A).
- b) A semi-structured interview schedule with open-ended questions (Annexure B).

Each category of questions in both the questionnaire and the semi-structured interview were linked to specific research questions.

3.6.1 Questionnaire

One of the most widely used surveys for gathering information from people is the questionnaire (Maree, 2010). Leung (2001), defines a questionnaire as a data collection instrument that is well designed and highly structured to allow the same types of information to be collected from many people in the same way and for data to be analysed quantitatively and systematically. These are pragmatic observations of what seems to work and what does not (Babbie, 2011). The questionnaire used in this study was elaborated using a Likert scale and open-ended questions (Annexure A). Babbie (2011) explains a Likert scale as a type of composite measure that uses standardized response categories to determine the relative intensity of different items (Babbie, 2011). Similarly, Willets, Theodori and Luhoff, (2015) contend that, although attitudes which a Likert scale seeks to measure are latent variables and influence behavior, they cannot be directly observed. Attitudes therefore must be inferred through a persons' various actions or pronouncements (Willets et al., 2015).

Likert scale type questions was preferred in order to collect data for understanding teachers views by combining their individual responses to a series of opinion questions. The Likert scale type questions also addressed teachers' understanding on the lessons they have learnt from the administration of ANA during implementation.

I developed a five-point Likert scale for my questionnaire as follows: 1=Strongly Agree, 2=Agree, 3=Not Sure, 4=Disagree and 5=Strongly Disagree. The questionnaire consisted of five (5) sections from A to E, and a total of 47 questions.

Section A required respondents' biographical data. Sections B to E, solicited data about lessons learnt from the administration of ANA during implementation. Sections B to E, was divided as follows: Section B- ANA administration and implementation, Section C- Effects of ANA administration in schools, Section D- Effects of ANA administration on teaching and learning. Section E required open-ended responses from educators. There were three (3) questions in Section E. These were as follows; lessons learnt from ANA, effects of ANA administration on schools and the impact of ANA administration on teaching and learning.

3.6.2 Validity of the questionnaire

The validity of the questionnaire used in this study was tested using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and internal consistency, as well as Bartlett's test of sphericity. According to Maree (2010), the KMO tests how much shared meaning the variables for example (gender, age, qualification etc.), in a given sample are adequate and correlated.

The calculated rate of KMO (0.816) and the value of its Bartlett (1862.988) were significant ($P < 0.001$), this showed a good correlation of variables for factor analysis. As figure 3.1, showed a scree plot of eigenvalues and percentage variance which validates the questionnaire.

With regards to sampling accuracy, Hair, Black and Babin (2010) suggested that sample sizes should be just 100 or larger. In this instance, the sample size of 108, for this study was considered adequate.

Table 3.2. Validity test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of sampling adequacy		.916
Bartlett's test of sphericity	Approx. chi-square	1862.988
	Df	465
	Sig.	0.001

3.6.3 Test for normality

To satisfy the requirement for normality of data collected, I considered the Bartlett's test of sphericity. The Bartlett's test of sphericity tested for the hypothesis, with respect to the null and alternative hypothesis as follows;

H₀: The data are normally distributed

H_a: The data are not normally distributed

The Bartlett's test, tested first for the hypothesis, followed by the significance level of determination. Further, the test statistic calculation and the P-value was determined. The hypothesis test used, made an assumption about the population parameter of this study, and was accepted according to Table 3.2. In addition to accepting the population parameter, the significance level which is the probability of making a wrong decision when the null hypothesis is true was assumed to be correct according to the statistical report in Table 3.2. This is because, the significance level at 0.001, as recorded is a widely accepted level in support of a null hypothesis.

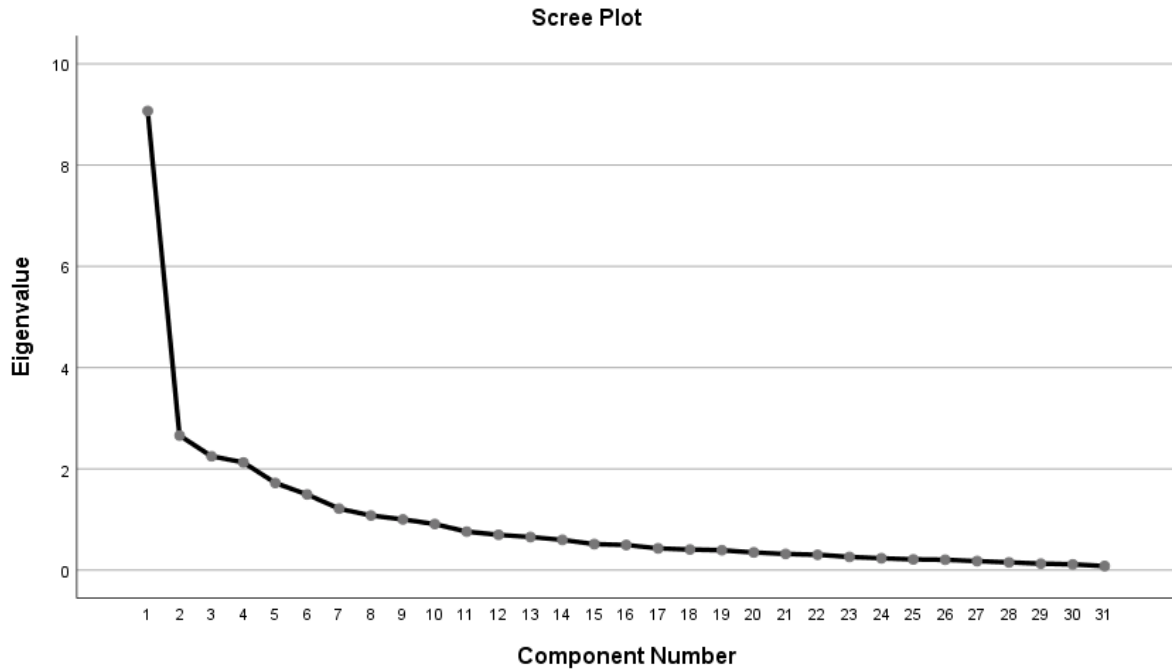


Figure. 3.1

3.6.4 Reliability of the questionnaire

Reliability refers to the constancy or stability of a construct or variable under study (Kumar, 2011). The assumption that the variable to be measured is stable or constant is important to the concept behind the reliability of the questionnaire. I used Cronbach's alpha to determine the internal consistency or the average correlation of the items in my questionnaire to gauge reliability. According to Santos (1999), the criteria for reliability relative to assessment is as follows;

≥ 0.70 = adequate reliability for group comparison

≥ 0.90 = adequate reliability for individual monitoring

Since the adequate reliability for a group is acceptable at greater than or equal to 0.70, and my instrument reliability was 0.898, my research instrument was reliable for this study.

Table 3.3. Reliability test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.898	0.901	31

3.7 PRE-TESTING THE INSTRUMENT

Pretesting is the method of checking that questions work as intended and are understood by individuals who are likely to respond to them (Hilton, 2015). In other words, a pre-test is the process of instrument refinement. I pretested my research instrument (questionnaire and interview schedule) to address issues such as ambiguity of words, mis-interpretation of questions both from the interview and interviewee perspective, sensitive questions, as well as the ease of constructing code categories especially with my data analyst during the analysis stage.

Firstly, I showed my instruments to my colleagues and key decision makers particularly my supervisors to check whether the questions and related responses were appropriate, necessary and sufficient towards validity and reliability. Secondly, I administered the questionnaire to 15 teachers and conducted an interview with a principal in a select school outside my district. The total number of 15 teachers selected for the pre-test was considered acceptable and reasonable as it was not a pilot test. Also, I could quickly and easily check for obvious indications of question order effects and how a respondent's answer influences a follow up question especially with the interview session (Czaja, 1998).

Issues that needed addressing after pretesting were the time it took to complete a questionnaire, which I had to reduce from 30 minutes to 20 minutes. Also, question wording and response categories had to be refined. This was because most of the

teachers within the district have IsiZulu, as their mother tongue and therefore certain questions had to be reworded for ease of understanding.

3.7.1 Validity and reliability in qualitative research

As noted earlier, this study adopted the pragmatist paradigm and therefore used the mixed methods approach. In this instance both qualitative and quantitative approaches are combined in this study. The aim is to avoid systematic distortions in the use of a single approach. As discussed, prior, the principles concerning validity and reliability of quantitative studies have a generally assumptive acceptance using the tools of quantitative measurement. On the other hand, qualitative research is problematic to verify according to the criteria of validity, reliability, generalizability and objectivity (Golafshani, 2003). Denscombe (2010) explains that it is tedious to check the quality of a study and related findings in a qualitative study, by repeating the same study, in same way as a positivist would. Also, researchers are so closely involved in qualitative enquiry such that the prospects of another researcher arriving at the same conclusions with respect to study findings seemed farfetched. Because of the reasons stated above, researchers have proposed means by which qualitative research findings can be accepted by the scientific community (Denscombe, 2010). For examples, trustworthiness replaces reliability. In the measure of trustworthiness, four criteria are used (Lincoln & Guba, 1985).

A research demonstrates trustworthiness when the experiences of the participants are well represented by ensuring data credibility, dependability, transferability and confirmability (Lincoln & Guba, 1985). In qualitative research, credibility is used instead of validity, confirmability instead of objectivity, transferability instead of generalization and dependability instead of reliability (Shenton, 2004). My study discusses the four criteria that was used to measure trustworthiness in my study.

3.7.1.1 Credibility

I ensured credibility in my study by making sure that the participants involved in my study were described accordingly. The schools and teachers in particular had pseudonyms used in place of their names to ensure the principle of confidentiality (See Table 3.1). By employing multiple research methods such as the use of questionnaires and semi-structured interviews to study the same phenomenon, the chances of credibility through triangulation in my study was enhanced.

3.7.1.2 Collaborative work with colleagues and supervisors

I regularly consulted with my colleagues and supervisors during collaborative conferences organized by The University of Zululand in conjunction with the University of Free State and the University of Venda. The quality control of my study began when I first presented my proposal for comments and adoption at the post graduate collaborative conference. I have attended a total of 7 post graduate collaborative conferences. Each conference provided me an opportunity to present and discuss the different chapters of my study and also take in constructive comments to improve upon the credibility of my study.

3.7.1.3 Confirmability

Shenton (2004) as well as Lincoln and Guba (1985) explain that a study can be confirmed if it demonstrates credibility and fittingness. According to Shenton (2004), a researcher must take step to ensure that the findings of his or her research are the result of true experiences and ideas of participants and not what the researcher wants to find out for personal reasons. An audit trail on the procedures used in interviews and data analysis is therefore crucial to confirmability. Creswell (2009), for example proposes that the following outline be followed in establishing an audit trail:

- Recorded interviews
- Jotting down impressions
- Reducing data into chunks of meaning and the

- Explanation of constructed themes, codes and categories.

I audio recorded my interviews, transcribed them and looked for underlying ideas, assumptions and ideologies in order to generate themes.

3.7.1.4 Transferability

Transferability is difficult to determine in a qualitative study (Denscombe, 2010; Creswell, 2009; Golafshani, 2003; & Shenton, 2004). None the less, Descombe (2010) posit that a certain measure of transferability can be obtained if there is a thick description available about the sending and receiving contexts to make a reasoned judgement on the findings of a study. Researchers may also relate when they find out that the contextual study situation is similar. The area of study (Umkhanyakude District) as well as the socio-economic patterns within the district was briefly highlighted in Chapter 1. Therefore, the context with respect to low quintile levels of schools within the district and the depth of the interviews I conducted with the district education officials will allow for some level of transferability in a research context similar to one within the study district.

3.7.1.5 Dependability

Dependability describes how consistent the findings of a study would be if repeated using the same methodological framework (Golafshani, 2003). There are similarities between credibility and dependability in practice (Lincoln & Guba, 1985). On the other hand, dependability reports the minutiae of the whole research process with much emphasis on the methodological framework. In this study, I ensured dependability by giving a detailed step by step account of all the processes and steps embarked upon in the final research report. This will allow readers to examine and appreciate the rigor with which this thesis has been conducted.

3.8 Semi – Structured interviews

An interview is a verbal exchange often face to face and sometimes through the use of a telephone in which an interviewer tries to elicit information from another person (Burns, 1997:329). Similarly, Maree (2010) defines an interview as a two-way conversation in which the interviewer asks participants questions to collect data and to learn about the ideas, beliefs, views, opinions and behaviors of participants. In summary, interviews are skilled performances through casual conversations that accords a researcher the opportunity to understand a phenomenon from the perspective of an interviewee. According to Kumar (2011), the process of asking questions in an interview can be either flexible or rigid. Flexibility is ensured, where the researcher has the freedom to think about and formulate questions as they come to mind. On the other hand, a rigid format demands that the interviewer keeps strictly to a set of prepared questions to ask the interviewee.

The second data collection method adopted for this study was interviews and specifically semi-structured interview. A semi-structured interview schedule was used to gather data from four (4) district education officials. A semi-structured interview schedule has the advantage of corroborating data emerging from multiple sources (Maree, 2010). Another advantage is that, this data collection method seldom spans a long time period compared to an open-ended interview session and requires interviewees to respond to a set of pre-determined questions (Burns, 1997). Upon giving consideration to the busy schedules of the district officials who I had to interview and their tight schedules due to the nature of their work, I considered this interview technique appropriate.

3.8.1 The Interview schedule

The semi-structured interview schedule for this study consisted of a set of pre-planned questions under the three main objectives of the study which are i) ANA administration and implementation, ii) the effects of ANA on schools and iii) the effects of ANA on teaching and learning. The first objective had 13 questions, while the second and third objectives had 9 questions each. Each question under an objective had an accompanying probing question. The accompanying probing question acted as a

guide towards a follow-up question and served as a reminder and a check to keep the interview in focus. The interview schedule can be found in Appendix C.

3.8.2 The role of the researcher

As a researcher, my role was important because I was the primary research instrument in this process (Lincoln & Guba, 1985), therefore the credibility and dependability of this study depended on the qualitative aspects of my study. I made every effort to reduce bias to the barest minimum (Brink, 1993).

One of the steps I took to mitigate the effects of excessive bias on my part as a researcher was to submit my interview schedule to my supervisors for face validity. After objective remarks and comments were given by my supervisors, I fine-tuned my schedule and pretested in a school outside my district five months prior to my scheduled dates for data collection according to my research time-table. The schedule was corrected a second time for credibility and dependability.

3.9 QUANTITATIVE DATA ANALYSIS

Two approaches were adopted for the quantitative data analysis. In the first approach, data was analysed using descriptive and inferential statistics. This was mainly done through tables and graphs. Data from sections A, B, C and D in the 5-point Likert scale was analysed quantitatively using SPSS version 25. After, section E, of the questionnaire which contained 3 open-ended questions was analysed separately. Data from the open-ended questions was analysed thematically and then quantitized. On average, each respondent in section E, of the questionnaire provided 2 answers to each of the 3 questions posed to them. Therefore 2 multiplied by 3, gives 6 answers per questionnaire. Given that 108 questionnaires were returned, when the total responses from each questionnaire, i.e. 6 is multiplied by 108 we arrive at 648, as the total number of responses to thematically analyse.

To ensure data reduction and ease of reporting I followed a 2-step approach in the analysis of data from section E of the questionnaire. The first involved using Braun and Clarke (2006) process in thematic analysis. This involved preparation and organization, reading through the data for trends and patterns, coding the data based

on similar categories, representing themes and findings in a narrative passage and interpreting the data. The second step involved quantizing the data. Driscoll, Appia-Yeboah, Salib and Rupert (2007) explain quantization of data as the process of converting qualitative data in a study into quantitative data. According to Driscoll et al. (2007) quantizing occurs when qualitative codes or themes are identified in textual data. Quantitized data was presented using frequencies and percentages.

3.10 QUALITATIVE DATA ANALYSIS

The use of semi-structured interviews resulted in the generation of large quantities of data from the district education officials. Consequently, the collated data in this study was analysed using content analysis. Krippendorff (2004, p18) defines content analysis as a “technique for making replicable and valid inferences from texts for their use”. The four stages in content analysis advocated by Bengtsson (2016) were adopted for use in this study. In the first stage, which is decontextualization, I listened intently to the tapes from the interviews and transcribed the content. After transcribing I familiarized myself with the text through multiple readings. Second, I recontextualised the text to check whether all aspects of the content had been covered and used a coloured pencil to distinguish each meaning unit in the original transcript. Third, I categorized the shaded text through data reduction without losing the content of each unit. Patterns and themes identified through data reduction consisted of the respondents’ knowledge, beliefs, experiences as well as their opinions in response to the research questions. Fourth, I compiled, and did my write up after generating categories and themes towards data integration.

All interviews were tape recorded with the consent of participants, as this enabled me to concentrate on listening and responding to the interviewees. Hence, no interruption was caused by trying to write down what had been said. Recording also ensured that the whole interview was captured and provided complete data analysis so that cues that were missed the first time, could be recognized when listening to the recordings. (Meulenbergh-Buskens, 1997).

3.11 ETHICAL CONSIDERATIONS

Ethical issues are present in any kind of research. According to Orb, Eisenhauer and Wynaden (2001), the research approach and processes create tension between the aims of the research to make generalizations for the good of others and the rights of participants to maintain privacy. Ethics therefore deals with the conduct of people and guides the norms and standards of behavior of people and relationship with each other (Akaranga & Makau, 2016). In other words, ethics relates to social norms for conduct that distinguishes acceptable and unacceptable behavior (Babbie, 2010; Maree, 2010).

Vuban and Eta (2019) contend that negotiating access to research sites and participants are of utmost ethical importance. According to Vuban and Eta (2019), a general principle is a workable strategy in approaching participant and this is specific to institutions. I therefore followed ethical principles such as voluntary participation, no-harm to participants, the principle of anonymity and confidentiality as well as the avoidance of deception were considered when designing the questionnaire. Introductory letters (Annexure E) to the respective schools were accompanied by informed consent forms.

3.11.1 Permissions

Before I began my data collection process, I sought permission from the provincial Head of Department (HOD) to conduct research in the sampled schools. I also had to apply for an ethical clearance certificate from the University of Zululand research ethics committee. In addition to these letters, I prepared informed consent letters as well as introductory letters to the respective schools and officials sampled for this process. The letter from the HOD made it possible for the principals of sampled schools to cooperate with me during the data collection process. The ethical clearance certificate from the University of Zululand gave further information that it was an educational research and the ethical processes had been vetted by the ethics committee of the university as appropriate.

The introductory letters accorded me the opportunity to introduce myself and the purpose for which I was visiting the schools. It also stated clearly the research topic, purpose and objectives.

3.12 LIMITATIONS TO THE STUDY

The first limitation can be attributed to the sample size which was a little over 100. Although (n=108) as used in the study is considered adequate, a larger sample size would have improved the ecological validity of the study to a greater extent. It must also be noted that with regards to the sample size (n=108), not all teachers in primary schools that I visited taught ANA related subjects. Apart from the areas of focus, being only literacy and numeracy, some of the experienced teachers who taught under ANA had either resigned or transferred.

Second, memory effect may have impacted on the data collection and analysis process. This is because, ANA was put on hold in 2014, therefore, the intervening period from that time till now meant that some teachers may have forgotten about some of the administrative processes they underwent during the lifespan of the assessment process

Third, a matrix question format survey instrument was used to collect and analyse data. Some respondents may have developed the pattern of either agreeing or disagreeing strongly, just to get the questionnaires done away with. Although open-ended sections of the survey instrument can bridge this gap, such answering patterns on the part of respondents are likely to impact on the study.

3.13 CONCLUSION

Chapter 3 details the research methodology as briefly outlined in Chapter 1. The details included the research paradigm, approach and design and the reason for the selection of a specific paradigm, approach and design for this study. Further, the population and sampling procedures as well as data collection and instrumentation are highlighted. Quality control measures such as the validity and reliability of research instruments are established and clearly explained. In addition, pre-tests of the instruments, and validation, ethical considerations as well as limitations of the study are stated.

Chapter 4 present results and discussions. Findings from the research questions and related objectives from chapter 1, are discussed. These findings are compared to literature expounded in Chapter 2 in order to substantiate them. Contradicting and correlating texts are explained further and synthesized.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 INTRODUCTION

This chapter focuses on the results from the quantitative and qualitative data presented with the help of tables as well as remarks from participants. The results are also discussed in relation to the study objectives as stated in Chapter 1, and literature reviewed in Chapter 2. Highlights from the tables are given, followed by an in-depth discussion, supported by remarks from the study participants. In this section, both quantitative and qualitative data are triangulated, analyzed and interpreted with existing literature. 108 respondents' opinions, views, perceptions and experiences are discussed in this study.

4.2. DEMOGRAPHIC INFORMATION

Descriptive statistics of the sample' demographic profile is provided in this section. The results and the observations obtained from the single variables used in the ANA administration questionnaires are presented schematically followed by relevant discussions.

4.3. DESCRIPTIVE STATISTICS OF DEMOGRAPHIC INFORMATION

4.3.1 Gender

Table 4.1. shows the gender distribution of the sample. In the distribution, a total of 60 percent of the respondents were female and 40 percent were male.

Table 4.1. Gender distribution (n=108)

Gender	Frequency	Frequency %
Male	43	40.0
Female	65	60.0
Total	108	100.0

Based on the gender distribution of the national population of South Africa which is 51% female and 49% male (Statistics South Africa, 2018), this sample was considered a fair representation of South Africa's general population, although it is noted that the gender distribution recorded in this study is slightly higher than the national average recorded by Statistics South Africa. Another significant observation on the differences in the gender distribution of this sample is the generally held view that teaching, especially in the primary schools is an extension of a woman's child care responsibilities (Mensah, Pillay & Sibaya, 2017). This view is reinforced on the fact that ANA was organized as an assessment to mainly benchmark primary school performance in literacy and numeracy. Therefore, the gender distribution as recorded reinforces the generally held view that primary school teaching is the domain of females.

4.3.2 Age in years

Age of the respondents is one of the most important variables in research. Table 4.2 indicate the age distribution of quantitative study participants.

Table 4.2. Age Distribution (n = 108)

Age distribution	Frequency	Frequency %
20 to 29 years	10	9.3
30 to 39 years	32	29.6
40 to 49 years	39	36.1
50 to 59 years	27	25.0
Total	108	100.0

The sample with respect to age according to Table 4.2, indicate that the majority of the teaching force were between 40 to 49 years with a population percentage at 36.1%. This is followed by the 30 to 39 years age range at 29.6%. The 20 to 29 years age range is 9.3% of the sampled population while teachers within the 50 to 59 years age range, were 25%. While it is presumed that teachers within the 20 to 29 years age range may not have experienced the full impact of ANA, It is observed that the age range of 30 to 49 years, cumulatively constituted 65.7% of the sampled population which is very significant. The 30 to 49 years age range also form a large majority of the prime working age of teachers within the profession. It must also be noted that in this context, a teachers' age cannot be independent of his or her performance within the teaching field relative to standardised assessment. In relation to a teachers' age, You, Kim and Shin (2019), contend that there are both advantages and disadvantages to a teachers' relative performance where age is concerned. Armstrong (2015), Buddin and Zamarro (2009), Rice (2010), and You et al. (2019), suggest that, there is a curvilinear age function with respect to a teachers age. According to (Armstrong, 2015; Buddin & Zamarro, 2009; Rice, 2010; You et al., 2019), a teachers' age has an effect on the teaching and learning process. This effect could be positive or negative. Armstrong (2015) as well as Buddin and Zamarro (2009) contend that normally a teacher performs well within the first few years on the job, after which performance tends to level off with age. Contrary to the aforementioned findings, (Fakeye, 2012; Harris & Sass, 2006) argue that, a teachers' age may have a positive impact on students' achievement.

4.3.3 Category of school

The category of school presumably has an effect on the type of problems, challenges and demands that relates to assessment administration. Table 4.3 presents category of schools.

Table 4.3. Category of school (n = 108)

Category of school	Frequency	Frequency %
Quintile 1	23	21.3
Quintile 2	67	62.0
Quintile 3	6	5.6
Quintile 4	12	11.1
Total	108	100.0

Majority (almost 83%), of the schools sampled were between quintile 1 to 2. Quintiles 3 and 4 schools represented 18% of the sampled population. No school was in the quintile 5 group. The quintile system introduced with the National Norms and Standards Act in 1998, rank schools according to their infrastructure and limited resources (Mestry & Ndlovu, 2014). Therefore, schools with a quintile range of 1 to 2 are deemed poorer, often with substandard infrastructure and resource constrained. It is therefore presumed that, most schools within the Umkhanyakude District lack proper resources for effective teaching and learning as a result of the low levels of literacy and widespread poverty in most parts of the district.

4.3.4 Years of experience as an educator

Years of experience was one of the biographical data collected for this study. Table 4.4 shows years of experience of participants as educators.

Table 4.4. Years of experience as an educator (n=108)

Years of experience	Frequency	Frequency %
1 to 5 years	16	14.8
6 to 10 years	24	22.2
11 to 15 years	23	21.3
16 to 20 years	11	10.2
Over 20 years	34	31.5
Total	108	100.0

The empirical data in Table 4.4, revealed that 85.2% of respondents had between 6 to over 20 years teaching experience. Most teachers in this category presumably experienced ANA from its inception and therefore may have an understanding of the impact it had on themselves as well as their respective school situations. About 14.8% of respondents who had between 1 to 5 years teaching experience may have witnessed ANA in the final years before it was put on hold.

Relative to the years of experience of teachers, it is important to note that experience is a critical and an important measure of teacher quality. Experience is widely seen as an advantage to competency and effectiveness within the teaching profession. Experience gained overtime enhances the knowledge and skills of a teacher (Rice, 2010). On the other hand, Rice (2010), Buddin and Zamarro (2009), also reported that, high poverty and mostly rural schools tend to have experienced teachers who lack the rigour for standardised assessments on a scale such as ANA. Rice (2010) attributes this lack of rigour within the profession in most cases to teachers not keeping abreast with the latest curriculum and pedagogical advances or may simply be a case of burnout.

4.3.5 Highest qualifications attained

This section required respondents to give information pertaining to their highest academic and professional qualifications. The responses are tabulated in Table 4.5.

Table 4.5. Highest qualifications attained (n=108)

Qualification	Frequency	Frequency %
Matric only	7	6.5
Teacher's certificate	4	3.7
NPDE/NDE/ND	30	27.8
Bachelors/PGCE	39	36.1
Honours/PGDE	27	25.0
Master's degree	1	0.9
Total	108	100.0

In this category, approximately 93.5% of the sampled population were professionally qualified according to the qualification distribution. The table also showed that 61.2% of the respondents possessed post diploma certificates, which are, bachelors and or Post Graduate Certificate in Education (PGCE), honours and or Post Graduate Diploma in Education (PGDE), as well as a master's degree. With respect to qualifications, research by (Zuzovsky, 2008; Hammond, 1999; Hanushek, 2010), have established that teacher incentives to upgrade their qualifications through certification and providing opportunities for professional development (Zuzovsky, 2008; Hammond, 1999; Hanushek, 2010) are essential prerequisites to teacher quality. Contrary to findings in advanced countries, there is limited research on teachers' qualifications relative to students' achievement in less developed countries (Mensah, Pillay & Sibaya, 2017), therefore, the tendency to evaluate teacher quality on the basis of student achievement takes precedence over teacher qualifications.

Hanushek (2010) explains that the 'outcome' question has been the main motivating factor that drives teacher education research and policy making. Since the outcome factor is also the motivating factor in sub-Saharan Africa, and South Africa in particular, teachers are rated on their ability to achieve set provincial and national benchmarks relative to ANA as an assessment.

4.3.6 Workshops attended

The government has offered ANA workshop during the implementation process. Table 4.6 indicate workshops attended by respondents.

Table 4.6. ANA workshops attended by educators (n=108)

ANA workshops attended	Frequency	Frequency %
Yes	74	68.5
No	34	31.5
Total	108	100.0

The survey item on workshops attended showed that the majority of teachers, 68.5% attended ANA workshops. Survey respondents who did not attend ANA workshops were 31.5%. According to Shirell, Hopkins and Spillane (2019), workshops in general offer professional learning opportunities and predict changes in their instructional practices and beliefs. It is therefore presumed that the majority of teachers who attended workshops might have impacted the assessment administration and implementation process positively.

4.3.7 ANA reports read by educators

After ANA was conducted, the report was compiled and send to schools. Figure 4.7 indicate the number of respondents who have read the ANA report.

Table 4.7. ANA reports read by educators (n=108)

ANA reports read	Frequency	Frequency %
Yes	80	74.1
No	28	25.9
Total	108	100.0

The data revealed that the majority (74.1%), of teachers had read ANA reports. Respondents who had never read ANA reports were almost 25.9%. It is presumed

from the analysis that a majority of teachers followed feedback and diagnostic reports on ANA to adapt and improve their teaching methods, as well as methods of assessments with the aim of ensuring successful assessment outcomes.

4.3.8 Sources of ANA reports?

Respondents received ANA reports from different sources as displayed in Table 4.8.

Table 4.8. Sources of ANA reports (n=108)

Source	Frequency	Frequency %
Internet	6.5	6.5
School	28.7	28.7
Workshop	23.1	23.1
Circuit office	6	5.6
More than one source	13	12.0
None	26	24.1
Total	108	100.0

The majority (28.7%) of teachers, accessed ANA reports from school. This is closely followed by workshops at 23%. Reports accessed from a combination of sources was 12%, while access from internet sources and the circuit office stood at 6.5% and 5.6% respectively. The percentage of teachers who never accessed ANA reports from any of these sources was significant at 24.1%. The percentage of teachers who never read ANA reports is second only to the majority percentage of 28.7%. Teachers within this percentage would have impacted the general outcome of the assessments negatively because ANA reports provided item analysis of student responses and techniques to correct these responses in preparation towards planned assessment the following year. The high percentages recorded for school and workshops is understandable because these venues offer the easiest means to reach teachers and to have assessment related interactions with them. Subject advisors would certainly visit and offer support to schools that are geographically remote and deliver these reports to them. Teachers rarely visit the circuit office for reports unless members of the school management team on official assignment. This may explain the reason why the

percentage of teachers accessing ANA reports from the circuit office was low. A low percentage for reports being accessed from the internet may be as a result of most teachers not being favorably disposed towards using the internet as a professional development tool, apart from costs that may be involved in acquiring data to download ANA reports.

4.3.9 Educators' affiliation to teacher unions

Affiliation of union by the respondents is one of the variables that was assed. Table 4.9 displays the educators' affiliation to the teachers' union.

Table 4.9: Educator affiliation to a teacher union (n=108)

Member of a union	Frequency	Frequency %
Yes	106	98.1
No	2	1.9
Total	108	100.0

The majority (98%) of sampled teachers belonged to a union, while 2% of teachers did not belong to any union. Presumably teachers view joining a union as a means of protecting their rights, sound alarm against detrimental policies that hurt their interest, as well as to advocate for sound education practices. In some instances, it may be a way to insulate teachers from government control and interference within the teaching profession.

4.3.10 Educator affiliation to a particular union

There are several teachers' unions in South Africa. This gives educators choice regarding the union they want to be affiliated to. Table 4.10 displays the educator's opinion to different unions.

Table 4.10. Educator affiliation to a particular union (n=108)

Teacher union	Frequency	Frequency %
NATU	48	44.4
SADTU	58	53.7
None	2	1.9
Total	108	100.0

Table 4.10 shows that the majority (53.7%) of teachers sampled belonged to South African Democratic Teachers Union (SADTU), while 44.4% belonged to the National Teachers Unions (NATU). Two percent of sampled teachers did not belong to any union. The percentages recorded for both SADTU and NATU is significant. This is because, SADTU is the largest teacher union in South Africa with more than 80% membership (Mafisa, 2017). NATU on the other hand is not in the top three unions in South Africa i.e. (SADTU, NAPTOSA and NATU), yet it represented 44% of sampled teachers. It is therefore presumed that NATU has a large membership base within the KwaZulu Natal Province.

4.3.11 Educators' subject specialisation

One of the variables collected was educators' subject specialisation. This is displayed in Table 4.11.

Table 4.11. Educators' subject specialisation (n=108)

Subject	Frequency	Frequency %
English	42	38.9
Mathematics	43	39.8
English and mathematics	13	12.0
Other	10	9.3
Total	108	100.0

The percentages per subject recorded was 40% and 39% for mathematics and English Language respectively. This data gives credence to the direction of the ANA as assessments which focused on literacy and numeracy. Apart from that, the researcher stressed during the distribution of the questionnaires in schools that preferably teachers who taught ANA related subjects be allowed to complete the questionnaires. Teachers who taught both English Language and mathematics were 12% of the sampled respondents. This is understandable because in such rural contexts, few teachers have the competency in both numeracy and literacy. Teachers who taught other subjects and were co-opted to assist in teaching ANA related subjects were about 9% of sampled respondents.

4.3.12 Teaching grade of educators

The grades which educators are teaching were part of data collected. Educators indicated different grades as displayed in Table 4.12.

Table 4.12. Teaching grade of educators (n=108)

Grade	Frequency	Frequency %
Grade 1	7	6.5
Grade 2	8	7.4
Grade 3	13	12.0
Grade 4	13	12.0
Grade 5	10	9.3
Grade 6	27	25.0
Grade 7	8	7.4
Grade 9	13	12.0
More than one grade	9	8.3
Total	108	100.0

Twenty five percent (25%) of teachers taught Grade 6. Grades 3, 4 and 9 followed with 12% each respectively. ANA was an assessment for the key exit grades of 3, 6

and 9. The percentages in Table 4.12 presumes that the exit grades were given particular attention and focus in line with the objectives of the assessment.

4.4 DESCRIPTIVE STATISTICS ACCORDING TO RESEARCH OBJECTIVES

This sub-section presents the over-all results of the research objectives from the Likert scale used for the analysis. A five-point Likert scale was used in this study. The items on the scale ranged as follows; strongly agree, agree, not sure, disagree, and strongly disagree. Table 4.13 shows the statement of agreement with respect to the first research objective which sought to explore ANA administration and implementation in schools.

Table 4.13. ANA Administration and implementation (N=108)

Item	Agree	Not sure	Disagree
It was compulsory for teachers to attend orientation workshops on how ANA processes are managed	75.0	13.0	12.10
Teachers received administration guidelines towards ANA management at school	81.40	9.30	9.30
Through training, teachers understood the processes of verification of ANA according to the ANA administration	63.90	15.70	20.40
Teachers received the relevant test papers and memoranda in time before each assessment session	77.70	7.40	14.80
Teachers were provided guideline documents on the invigilation process	81.50	8.30	10.20
Teachers were allowed to invigilate their own grades throughout the whole assessment process	14.90	11.10	74.10
Teachers were allowed by the chief invigilator to explain concepts that the learners did not understand in test papers as they wrote the actual test paper	19.40	7.40	73.20
All learners with special needs were allowed additional time according to the ANA guideline document	36.20	15.70	48.10
There were instances where the need arose for photocopies of the test papers to be made	58.30	15.70	25.90
Anomalies were recorded in the whole assessment process	44.50	43.50	12.0
Teachers were given enough time to discuss the memoranda before marking	39.9	12.00	48.20
Only the relevant subject teachers were allowed to mark the scripts	81.50	6.50	12.0
Teachers were allowed to take test papers home for marking	54.70	18.50	26.90

Since the difference between strongly agree and agree is often subtle and influenced by an individual's interpretation, the rating scale strongly agree and agree was captured as agree. The same semantic interpretation of the scale was used for disagreeing and strongly disagree. Percentages were reported for the Likert scale statements. Table 4.13 presents a general understanding and appreciation of ANA administration and management implementation procedures. Most of these procedures were outlined in the ANA administration manual as well as policies and related circulars at workshops for teachers and schools.

The results of the descriptive statistics in this section shows that 75% of teachers agreed to the statement 'it was compulsory to attend ANA workshops. This explains the national nature of the whole assessment process. In addition to that, 81.4% of teachers received administration guidelines towards ANA management at school. Verification of ANA, which is a process to determine the validity and reliability of the assessment through sampling by an independent body for quality control purposes was understood by 63.9% of the teachers sampled. On the statement of the timely dispatch of test papers and memoranda before the start of the assessment, 77.7% of teachers agreed that this was ensured during the assessment process. The percentage of teachers who agreed to being provided with guideline documents on ANA invigilation was 81.5%. This percentage is very much in line with the number of teachers who received administration guidelines towards ANA management at school, which was 81.4%. On the level of agreement with respect to teachers invigilating their respective grades, 14.9% agreed. On the other hand, 74.1% of teachers disagreed, this means teachers did not invigilate the grades that they taught. The disparity in terms of percentages in this statement presumes that the ANA administration manual was followed. Also, because the manual specifically stated that, only teachers in the foundation phase were allowed to invigilate their respective grades. The 73.2% of teachers who disagreed may be teachers in the intermediate and senior phases, that is: grades 4, 5, 6, 7 and 9, who were not permitted by the ANA manual to invigilate their respective grades in both universal and verification ANA.

On the statement concerning teachers being allowed to explain concepts to learners during the assessment process, 19.4% of the teachers sampled agreed, while 73.2% disagreed. This is also in line with the statement on invigilation. According to the ANA administration manual, only learners in the foundation phase were allowed basic

explanations on instructions and related concepts. On the statement of special needs learners being allowed enough concessions as recommended in the ANA administration manual, 36.2% of teachers agreed, while 48.1% disagreed.

The following response was provided by the manager in charge of General Education and Training (GET), In the Umkhanyakude district of education with regards to concessions:

“Initially we did not consider concessions to learners very much, since educators in respective schools did not raise them up with us. I think this could be a situation where educators did not want to either burden themselves more with the administrative aspects of the process or simply did not know much about the process to let us assist them.”

About, 58.3% of teachers agreed that the need arose for photocopies to be made in their respective schools because the number of test papers received were less than student numbers. On the other hand, 25.9% of teachers experienced situations where the right quantities of papers were delivered to their respective schools.

The preceding statement on the copying of test papers concurs with the statement on anomalies being recorded in the whole assessment process. 44.5% of teachers agreed to experiencing anomalies in their respective schools while 43.5% were not sure of anomalies recorded. On the other hand, 12% of teachers disagreed with this statement. The percentage of sampled teachers who agreed to being allowed ample time to discuss test memoranda before marking was 39.9%, while teachers who disagreed constituted 48.2%. A high percentage of subject teachers, 81.5% agreed to being allowed to mark the test papers after the assessment compared to 12% who disagreed on this statement.

Regarding photocopies and anomalies recorded during the assessment period, the manager in charge of GET, disagreed with the majority view expressed by teachers. He recounted the situation as follows:

“Yes, there were few incidents of shortages but not widespread and this was detected in time. Actually, they were very rare. On the other hand, verification ANA prompted more copies in this instance, but not universal ANA from school visits.”

In addition to the comments on photocopies, the subject advisor for mathematics had this to say:

“There were few incidents of shortages from my perspective. Shortages were detected in time and the problem rectified.”

On the statement of being allowed to take test papers home for marking, 54.7% of teachers agreed, while 26.9% disagreed. It is presumed that since ANA was in most cases written after the internal assessments of respective schools, it allowed teachers ample time at home during vacations to complete marking and submit test scores the following term.

The manager in charge of GET agreed to the statement on allowing teachers to take test papers home for marking but said this was specific to the types of ANA as was written. The manager recounted the following:

“I agree that the possibility existed for test papers to be taken home by teachers for marking, but this happened under universal ANA in most instances and schools were strictly advised in this instance.”

Table 4.14 Summary of the results on the second research objective which seeks to determine the effects of ANA on schools. (n=108)

Item	Agree	Not sure	Disagree
ANA increased the commitment to learn by students	70.40	10.20	19.50
Teachers were encouraged to set realistic targets for achievement by learners	64.70	18.50	16.70
Teaching methods improved as a result of ANA	59.30	15.70	25.00
The process encouraged teachers to take interest in current trends in assessment	59.20	21.30	19.40
Underperforming schools were identified through the assessment	70.40	17.60	12.00
ANA motivated teachers towards giving attention to teaching and learning	70.40	14.80	14.80
ANA encouraged schools to improve the standard of learning	77.80	8.30	13.90
ANA results provide data on the educational standards of schools that participate	63.90	20.40	15.80
ANA results are a good indicator of a schools' overall performance	58.30	14.80	26.9

The highest level of agreement 70.4% was recorded on the statement “ANA increased the commitment to learn by students”. Also, from this statement, 10.2% of teachers were not sure, while 19.5% of teachers disagreed.

With regards to students' commitment to learn the CCM in the district remarked as follows:

"I observed that apart from the FET, teachers in the foundation, intermediate and senior phases took their work much more seriously when ANA was introduced than before. The level of commitment from teachers in primary schools were now reaching that of teachers at the exit level in the FET and this positively impacted on students as well."

The Manager at the GET phase observed the following:

"Consistent visits by my team saw a marked increase in literacy and numeracy in the foundation and intermediate phases respectively. Home Language (HL) as well as the First Additional Languages (FAL), improved. Mathematics also saw a marked improvement."

Proponents of standardized tests argue that regular testing of students combined with meaningful accountability assist students in improving test outcomes. According to Kinay and Ardic (2017) this concept motivates teachers towards learning. The second, third and fourth statements in Table 4.14. saw teachers agree that ANA encouraged the setting of realistic targets for students (64.7%), improved teaching methods (59.3%), as well as encouraged teachers to take interest in current assessment trends (59.2%).

Similarly, the second, third and fourth statements in Table 4.14, are also in agreement with Styron and Styron (2012). Styron and Styron (2012) explain that standardized tests introduce teachers to current trends in assessment. It also helps teachers improve upon their assessment methods. Teachers are able to accomplish these because assessment instruments for standardized tests are developed by experts in the field and therefore are objective, valid and fair (Brown & Hattie, 2012).

The fifth, six and seventh statements in Table 4.14. concerned the identification of underperforming schools, teacher motivation and school standard improvement.

The positive response to these statements reflected in the percentages of 70.4%, 70.4% and 77.8% respectively. As explained by Dickinson (2019), the one thing standardized tests have been able to do is to create a level playing field in schools for students. On the eighth and ninth statements the majority of sampled teachers (63.9% & 58.3%) agreed that ANA provides data on educational standards of schools as well as serves as a good indicator of a school's overall performance.

The subject advisor in charge of numeracy summarized the effect of ANA on schools as follows:

“Teachers tended to know what to emphasize when they taught, as well as most were able to ensure curriculum coverage with the district being able to exceed the national target set for ANA in mathematics.”

Similarly, the subject advisor for literacy remarked as follows:

“I think teachers realized that they were teaching towards specific goals and not just anything. Honestly it is more like the game of sports where the aim of a team is to score goals and win in the end and not just kick shots, and we do not know whose shot that is and for what purpose.”

The remarks by both subject advisors raises the question of accountability in assessment.

In relation to accountability, Peri et al. (2007) states that data on educational standards is mostly accountability driven. furthermore, accountability is one of four relationships. One of these is where a party (education officials) for whom the teaching activity is performed has some capacity to affect the benefit of the other (teachers). The benefit can be in the form of further teacher development programs and promotions (Peri et al., 2007).

Table 4.15. Summary of the results on the third research objective which seeks to determine the effects of ANA on teaching and learning in schools. (n=108)

Item	Agree	Not sure	Disagree
Teachers increased time on test preparation compared to the allocated time for other subjects to ensure better results	61.10	13.00	25.90
The exemplars were useful in test preparation, because they gave a scope that was easy to follow	71.30	13.90	14.90
Teaching was modelled on the ANA exemplars for ease of teaching and learner understanding of subject concepts	63.9	18.50	17.60
ANA helped improve the internal test practices of teachers in class	67.50	19.40	12.90
ANA tests were important in identifying weak links in the teaching and learning process	74.10	11.10	14.80
ANA tests should have been written in the fourth term for student progression to the next grade	37.10	13.90	49.10
Teachers became confident about the processes of assessment for positive teaching and learning	43.50	22.20	34.30
Students were confident about the processes leading to the writing of the ANA	38.90	29.60	31.50
Feedback from students indicated that parents encouraged them to learn at home towards the assessment	29.70	22.20	48.10

Findings from the statement on the third research question “the effects of ANA on teaching and learning” suggests that 61.1% of teachers agreed that they increased time on test preparations compared to allocated time for other subjects for better results. Conversely, 25.9% of teachers disagreed, while 13% of teachers were not sure about the statement. This finding is supported by the National Council of Teachers of English [NCTE] (2014), which observed that most teachers are compelled to spend an increasing amount of time on practice test or drill sessions to prepare students towards standardized tests. Again, since these tests are of a high stakes’ nature, there is a collective understanding among other teachers and school

management for the testing subjects to be allocated more periods on the time table towards meeting district or national targets.

On the statement about the usefulness of exemplars in test preparations, 70.3%, of sampled teachers agreed whiles, 14.9% disagreed. The percentage of teachers who were not sure about this statement were almost 13.9%. From the data, it is assumed that exemplars were an important factor in preparation as well as affecting the outcome of the tests. By using exemplars, teachers were introduced to prepared materials which they did not develop (NTCE, 2014), but in their view addressed the needs of learners towards the tests. Since the ANA exemplars offer different sets of techniques in answering questions (Benjamin & Pashler, 2015), they help not only teachers, but students as well to evaluate their overall level of competence and question attack skills.

The majority of teachers, representing 63.9%, agreed to the statement that they modelled their teaching towards the ANA exemplars for ease of teaching and learner understanding of concepts, compared to 17.6% who disagreed and 18.5% who were not sure. Presumably, this is in line with the second statement on the usefulness of exemplars in test preparations by teachers. Also, since the ANA is aligned to national curriculum expectations, teachers may assume that teaching to the test will allow them set realistic targets with respect to test preparations from the exemplars towards teaching and learning.

With respect to exemplars, the circuit cluster manager was of the opinion that it was not beneficial in the long term. He stated his views on the use of exemplars as follows:

“Exemplars deprived learners of key concepts in the teaching and learning process from my observation, although it offered a guide of some sort.”

Sampled teachers who agreed to the statement that their internal test practices improved as a result of ANA were 67.5%. Teachers who disagreed with this statement were 12.9%, whiles 19.4% of teachers were not sure about the statement.

The manager in charge of the GET, was of the view that teachers' assessment practices were positively impacted by the ANA. He stated this as follows:

“The quality of test questions as well as the standard of the test paper enhanced teachers' assessment practices. Also, the cognitive levels in setting test papers was a major win.”

The majority of teachers in agreement with this statement confirms (Brown & Hattie, 2008; Styron & Styron, 2012; Zaromb & Roediger, 2010), findings that, standardized tests introduces teachers to best practices in assessment generally.

About 74.1%, of teachers agreed to the statement that ANA tests were important in identifying weak links within the teaching and learning process. 14.8% of teachers disagreed, while 11.1% of teachers were not sure about this statement. The high percentage of teachers in agreement to this statement suggest that most teachers were either not aligning their teaching and learning strategies towards the ANA assessment process or had a problem with how they assessed their learners, which may not have been in line with the standards of the ANA test papers.

On the statement of proposing that ANA tests be written in the fourth term for progression purposes, 37.1% of sampled teachers agreed, while 49.1% disagreed and 13.9% were not sure. Most teachers disagreed with this statement because presumably the purposes of assessment such as ANA, run counter to internal assessment processes. For example, ANA was diagnostic in nature and its findings goes to address specific teacher and student concern. On the other hand, assessment for promotion and progression is based on the cumulative marks of the student from the first to the fourth term, therefore, by using a single assessment, such as ANA in place of a cumulative assessment may not properly reflect the potential of a student.

The views expressed by both subject advisors for literacy and numeracy on ANA being used for progression and promotion run contrary to that expressed by teachers.

When asked about this statement, both subject advisors stated the following:

“Yes! Most of us think that ANA should have been used for promotion and progression purposes rather than just being a diagnostic tool. We pushed for this idea but for the teacher’s unions we could not go far on this and there was no support from the respective school principals as well.”

The percentage of teachers who agreed to the statement concerning their confidence and positivity about the processes of ANA was 43.5%. Teachers who disagreed with this statement were 34.3%, while 22.2% of teachers were not sure. Since the percentage of teachers who agreed is below 50% and not significant enough, it presupposes that teachers were not favorably disposed towards ANA, possibly because of an increase in the administrative load as well as other assessment related pressures.

The manager in charge of the GET reiterated that, some teachers became negative towards ANA because of the attitude of some subject advisors in the district. He remarked as follows:

“District officials were supposed to offer support and not raise the stakes for teachers or the school as a whole. The impression has always been that, if the stakes are not raised for teachers or schools then, they might underperform. That may partly be the case of teachers and schools and later unions not being in favor of ANA.”

On the statement concerning students’ confidence about the processes leading to the writing of ANA, it was found that 38.9% of teachers agreed, 31.5% disagreed, while 29.6% were not sure. This presupposes that, neither teachers nor learners were happy about the process leading to ANA. For learners this could have come in the form of repeated test preparations towards ANA with exemplars and teacher aligned tests to check student’s preparedness. In effect, this may have negatively impacted on factors such as students study habits, teacher’s quality of teaching and school attendance (McNeal, 2014).

The percentage of sampled teachers who agreed to the statement concerning parental involvement in encouraging students towards the assessment was 29.7%. Conversely, 48.1% disagreed, while 22.2% of teachers were not sure about this statement. Since most of the schools sampled are quintile 2 and basically rural in nature, the findings may suggest that their parents lack the requisite understanding and basics of the testing subjects.

It seemed evident that the manager in charge of the GET, shared his view on the lack of parental involvement in the whole assessment process by recounting the following:

“Because of the rural nature of most schools within the district, most parents were not acquainted with the aims and objectives of the whole assessment process compared to some schools in the urban areas. I also observed that ANA reporting especially where report cards had to be filled in and given to parents were not done by most schools. In fact, there was no communication in most cases observed between the home and school.”

Concerning parental involvement in student learning, Mutodi and Ngirande (2014) found that the educational level and gender of parents played a vital role in students' performance. The findings further suggest that there is a high probability that educated parents know the learning requirements of their children and are better able to assist them.

4.5 RESULTS OF THE QUALITATIVE COMPONENT OF THE STUDY (OPEN-ENDED QUESTIONS)

Sections A, B, C and D of the questionnaire, offered a quantitative measure for understanding the lessons learnt from the administration of ANA during implementation. Section E, which comprised three open-ended questions complemented this analysis by providing a sense of the way in which teachers understood the administration and implementation of ANA if ever it were to be introduced. There were over 648 views in total expressed by educators in all three open-ended questions.

There were both positive and negative comments from teachers. These were rated accordingly to generate themes from the comments given. This section therefore focuses on the main differences and themes generated from views, and opinions of educators which were quantitized.

4.5.1 Quantitized findings of lesson learnt from ANA

Quantitized results from the qualitative section of the questionnaire showed that 52% of teachers were positive about ANA improving their assessment methods. 31% of teachers credited ANA with an improvement in their curriculum coverage. On the other hand, 6% of teachers faulted ANA for being poorly timed. 7% of teachers were of the opinion that ANA disadvantaged rural learners, while 4% of teachers were of the opinion that too much focus was given to the testing subjects (literacy and numeracy).

The quantitized data responses confirm most of the statements in the second objective which sought to determine the effect of ANA on schools. In the second objective from table 19, most teachers were positive about ANA's ability to increase their commitment to students, encourage realistic targets, improve teaching methods, increase trends in current assessment methods, motivate as well as improve overall school standards.

Table 4.16. Qualitative comments from teachers on lessons learnt from ANA

Theme	<i>n</i>	%	Sample comments
Improved assessment method	56	52	'I have learnt how to set question papers' 'I was encouraged to match the standard and method of my assessment to the ex-model C, schools'.
Improved curriculum coverage	33	31	'I learnt that all the work which is entitled to be done by the teacher should be completed early' 'ANA made teachers to ensure that they cover the scope on time and prepare learners in all parts of the test'

Poor timing of the assessment	6	6	'I have noticed that ANA was allocated for the improvement of English language understanding to learners and also covers work of the whole year. It is better to be written in the fourth term'. 'Learners were supposed to write in the fourth term, not in the first term especially foundation phase and grade 4. Transition between grade 3 and grade 4 is a problem. A lot of new terms, more subjects added and language'
Disadvantaged rural learners	8	7	'ANA is good on its own, but for learners in our environment which is rural, it is not easy because parents leave learners at home going far places looking for jobs' 'urban schools benefited as questions were much of modern based information and rural schools will write through imagination especially the comprehension'
Too much focus on testing subjects	5	4	'time consuming for English and mathematics teachers, other subjects were not taught' 'brought negative attitude to those teachers that taught English and mathematics because some grades were not included'

4.5.2 What were some of the effects of the administration of ANA in your school?

Quantitized results on the second qualitative question in section E of the questionnaire showed a divided opinion on the effect of ANA on schools. Whereas 44% and 6% of teachers positively opined that ANA respectively improved their school performance and diagnosed challenges their schools faced, other teachers had opposite views.

For example, 28% of teachers thought ANA put undue pressure on them, 12% were of the opinion that ANA exposed their schools negatively and 10% saw ANA as a waste of time. On the other hand, a similar question posed in the Likert scale in Table 4.14. showed very positive responses from teachers concerning the effect of ANA on schools. It is therefore presumed that when given the opportunity to air their views on a subject matter teachers are able to express their feelings and experiences compared to when given a rigid structure such as the Likert scale to express feeling and experiences.

Table 4.17. Qualitative comments from teachers on the effect of ANA administration in schools.

Theme	<i>n</i>	%	Sample comments
Improved school performance	48	44	‘It encourages school to improve the standard of teaching’ ‘ANA improved the results of the school and encouraged learners to learn and seek information’
Diagnosed school challenges	6	6	‘ANA made it easy to identify where learners are lacking and underperforming’ ‘I discovered a need of considering learners with barriers as early as possible’
Exposed school negatively	13	12	‘The HOD and the principal were intimidated by circuit officers because they were always told that if learners fail, they are going to be fired’ ‘if school do not do well lots of report and turnaround strategy to present to circuit’
Pressure on teachers	30	28	‘Educators unable to finish marking on time and end up giving learners marks’ ‘It put pressure on educators as the marking was given short period to execute’
Waste of time	11	10	‘spending more time marking where you have a big class instead of teaching learners’ ‘Was a waste of time because the learners did not take ANA assessment serious because there was a wide range of topics to be covered in a short period of time’

4.5.3 To what extent did the administration of ANA impact on teaching and learning patterns in your school?

Quantized data on the extent to which ANA impacted on teaching and learning patterns in respective schools yielded both positive and negative responses. On the positive response theme, teachers cited improved literacy and numeracy (66%), while the negative response was pressure to teach to the test (34%). Compared with the responses in the Likert scale questions, in Table 4.15, it is noted that some teachers differed on the impact of ANA on teaching and learning. As a result, most teachers were not in agreement that ANA be used for promotion and progression purposes, they were not positive about the processes of assessment towards positive teaching and learning as well as confidence about the processes leading to ANA.

Table 4.18. Qualitative comments from teachers on the extent of the impact of ANA administration on teaching and learning

Theme	<i>n</i>	%	Sample comments
Improved literacy and numeracy	71	66	'The powerful impact it had in my school, limited late coming and absenteeism, it also motivated learners to read and to compete in their grades especially foundation phase' 'learners improved in each ANA subject'
Pressure to teach to the test	37	34	'I was teaching the exemplars only to help my learners pass and they did well' 'better to follow the exemplar than teach CAPS and ANA, too much work for teachers.'

4.6 THEMES GENERATED FROM THE INTERVEIWS CONDUCTED

Two main themes were generated from the interviews with the four officials from the district department of education. The first theme was accountability and the second theme was an improvement in the test construction ability of teachers.

4.6.1 Accountability

ANA was built on helping reform the education system at the primary school level through improvements in standards and accountability at the local level. A basic perception that motivated the move towards accountability policies is that the system of public schooling at the GET phase in South Africa is fragmented and incoherent (Spaull, 2015). In particular schools in the lower quintile group i.e. (quintiles 1 and 2), that are under resourced and serve at risks students. Hanushek (1997) explains that, accountability policies are considered on the assumption that a focus on the basic function of schools which is teaching and learning, will lead to student achievements and an improvement in general outcomes. In addition, there will be behavioural change among students, teachers and school managers. The assumption is that, the change will ensure that the objectives of the system as set by the provincial and national departments of education are met.

The theoretical framework implicitly suggested in the accountability relationship between schools and education officials with respect to assessment administration could be the principal-agent model. In this model or framework, the agent (education officials) makes decisions and take actions on behalf of principal (schools). Education officials therefore make input decisions that determine the type of accountability relationships. Some of these input decisions are meant to steer the state of teaching and learning along departmental policy directives and can be either performance-based, sanctions or rewards (Hanushek, 1997). Arguably, some of these input decisions have led to the character and nature of ANA changing to become a high stakes assessment.

Although appreciated by education officials, the growing criticism of accountability-based reforms associated with assessments of this nature is the self-interest of some education officials to resort to sanctionable and intimidatory policies in an effort to reach set provincial and national department benchmarks.

One of the notable comments from the manager in charge of GET was that ANA assisted in agenda setting, policy formulation, policy implementation as well as monitoring and evaluation of teaching and learning programmes within the district. These notable objectives were realised in some instances because a section of the officials from the circuit were dedicated and assisted greatly in achieving some of the objectives of ANA.

4.6.2 Improvement in test construction

The second theme generated from the interviews was an improvement in the test construction capacity of teachers through the use of exemplars and departmental workshops. Foxcroft (2004), explains that teacher made tests are means of evaluating student learning outcomes. It is also an evaluation of how successful a teacher has been in the teaching and learning process (Rivai et al., 2019). Lohman (1993), contends that the transfer of knowledge is an important educational endeavour therefore, the basic function of a test should be to estimate how students can transfer knowledge. Frederiksen (1994) cites six properties that tests of the future should have.

One out of the six is particularly relevant to the discussion in this chapter. Frederiksen (1994) argues that, it would be ideal if tests collectively assessed all of the important aspects of learning, not just factual knowledge. This means that tests should assess problem solving skills which is expected of a learner after the teaching and learning process in addition to the relevant underlying skills and abilities that are involved.

Similar statements about the need to assess thinking skills are often found in literature. See for example (Mohamed & Lebar, 2017; Research into Practice Project, 1984; Rivai et al., 2019; Serevina, Sari, & Maynastiti, 2019; Setyarini, 2019). According to Serevina et al. (2019), new trends in education focuses on the improvement of reasoning skills. Serevina et al. (2019) further explains that one of the key successes

of these skills will be each individual teachers' ability to measure thinking skills in a valid and reliable manner. In a study on the thinking skills of learners, Harpster (1999) reported that a review process on test construction in higher order thinking generated information about the technical aspects of 342 (8800 test questions) teacher made tests in four subjects areas including mathematics from grades 1 to 12 over a two-year period in Cleveland education district in the United States of America. Within the same period, a second review process classified test questions according to behavioral categories delineated by Bloom, Madaus and Hastings (1981) as follows; knowledge of terms; knowledge of facts; knowledge of rules and principles; skills in using processes and procedures; ability to make translations; and ability to make applications.

From the same tests, eight observations about teachers' test construction abilities emerged. These were:

1. Teachers use short-answer questions most frequently in their test making.
2. English teachers, generally avoiding essay questions.
3. Teachers use of more matching items than multiple-choice or true-false items.
4. Teachers devising more test questions to sample knowledge of facts than any of the other behavioral categories studied.
5. When categories related to knowledge of terms, knowledge of facts, and knowledge of rules and principles were combined, almost 80% of the test questions reviewed focused on those areas.
6. Teachers developing few questions to test behaviors that can be classified as ability to make applications.
7. Comparison across school levels showing that junior high school teachers use more questions to tap knowledge of terms, knowledge off acts, and knowledge of rules and principles than elementary or senior high school teachers (94%, 69%, 69% respectively).
8. At all grade levels, teacher-made mathematics and science tests reflect a diversity of behavioral categories, since they typically feature questions in all six behavioral categories.

The findings also indicated that teachers generally were unable to recognize particular skills being tested by individual test items. These eight observations indicated that teachers were unable to recognize particular skill being tested by individual test items. This has been the situation with the ANA. The second theme generated in the interviews confirms the quantitative findings of research question 1, in which most teachers indicated that ANA helped improve their assessment practices.

4.7 CONCLUSION

This chapter dealt with the findings in relation to three research questions, which are: what were the lessons learnt from the administration of ANA during implementation? What were the effects of the administration of ANA in schools? To what extent did the administration of ANA impact on teaching and learning? This chapter further revealed the majority view of teachers, i.e. those who are not sure and those who disagree to the respective research questions posed concerning ANA administration and implementation. The respective views expressed was also backed up with the relevant literature from chapter 2.

CHAPTER FIVE

FINDINGS AND RECOMMENDATIONS OF THE STUDY

5.1 INTRODUCTION

This chapter summarizes and highlights the major findings of the research. Furthermore, this study is reported in the same sequence as they appear in the study objectives in Chapter 1. Finally, this chapter makes suggestions and recommendations for future research. The following research questions guided the study:

- What were the lessons learnt from the administration of ANA during implementation?
- What were the effects of ANA administration and implementation on schools?
- To what extent did the administration and implementation of ANA impact on teaching and learning?

5.2 SUMMARY OF FINDINGS

Research question 1: what were the lessons learnt from the administration of ANA during implementation?

With respect to research question 1, based on the evidence gathered from the descriptive statistics as well as, quantitized data and interviews it could be said that the administration and implementation of ANA was modestly executed. There was a general understanding that workshops were organized to conscientise teachers about the importance of the assessment. Conversely some challenges were noted by teachers and department officials. Some of these challenges bothered on the inability of the assessment administration process to properly identify and assist students with barriers to learning. This was especially prominent in the area of offering concessions to learners who were academically disadvantaged and needed support. Also, noted were anomalies recorded during the process of the assessment.

These anomalies occurred due to a coordination breakdown between some schools and the district. Therefore, some schools under-reported student enrolment figures to the circuit office. Department Officials also failed to pre-empt some of these occurrences, so they could increase the number of test papers for such unforeseen situations. This necessitated photocopying of some test papers to make up for the short fall.

Research question 2: what was the effect of ANA administration and implementation on schools?

The responses from the descriptive statistics in Table 4.14. as well as interviews indicated that ANA greatly enhanced the capacities of teachers as well as provided the means by which accountability could be demanded from non-performing schools. These positive responses were in line with three of the four key objectives of ANA which are to expose teachers to better assessment practices, make it easier for districts to identify schools in most need of assistance as well as encourage schools to celebrate outstanding achievement (DBE, 2011).

On the other hand, quantitized results as well as remarks from the open-ended sections of the questionnaire presented mixed opinions from teachers regarding the effect of ANA on schools, (Table 4.17). Whereas, 50% of teachers commended ANA for improved school performance and being able to diagnose school challenges, 50% of teachers recounted that ANA exposed their schools negatively, put pressure on teachers and was a waste of time. These findings especially from the questionnaires are significant and could be interpreted within the context of a limitation in this study. This is because the expressed opinions of respondents (teachers), tended to differ from the scores, that they attributed to statements asked of them on the matrix type questions in the Likert scale. Quantitized responses in this section therefore offered a balanced understanding on the opinions of teachers and what they really felt were their most pressing concerns with regards to the effect of ANA administration and implementation in schools.

Research question 3: To what extent did the administration and implementation of ANA impact on teaching and learning?

The views of teachers with regards to the impact of ANA on teaching and learning showed mixed results according to descriptive statistics in Table 4.15. Whereas teachers generally agreed to most of the statements concerning the positive impacts of ANA on teaching and learning they did not support ANA as a promotion and progression test. Also, teachers were not confident about the processes of ANA to assist teaching and learning and also felt that students were unhappy after all. Since the most important function of a school is teaching and learning, it presupposes that teachers were not favorably disposed towards ANA especially within the classroom context. Another reason could be that ANA interfered with the normal professional teaching and learning methods that teachers were trained to execute. From the descriptive statistics in Table 4.15 it could also be seen that teachers were unhappy about the level of parental involvement in the assessment process. Similarly, education officials interviewed lamented the lack of parental involvement in the teaching and learning process. Quantitized results (Table. 4.18), also showed that a majority of teachers agreed to improved literacy and numeracy during ANA implementation conversely a noticeable percentage (34%) of teachers were not positive about the impact of ANA on teaching and learning.

5.3 RECOMMENDATIONS OF THE STUDY

Assessment in education in South Africa takes many forms. These are the mostly informal and teacher made tests at the GET phase which contributes to promotion and progression at the end of a school's academic year. The other form of assessment is at the FET exit grade, which is the National Senior Certificate (NSC) examinations. The NSC is more pronounced and often seen as a check on the health of the entire South African education system. This is because these assessments are standardized at best and are planned, organized, controlled and executed following well laid out protocols in assessment administration in most instances.

Currently the state of assessment in South Africa after ANA was put on hold has become a complex and interconnected web of all forms of school based, teacher made tests which lack proper test construction principles and cannot be considered standardized enough for either criterion or norm referencing (Howie et al., 2016).

This section provides a road-map describing how South Africa can develop a robust, resilient, self-improving and adaptive assessment system, and as well taking into consideration the history and context of education in South Africa. This section will also recommend an assessment system that will be able to produce the results South Africa needs and wants both now and in the future under changing economic, social, political and external circumstances.

Also, in this chapter, a summary of the current system is given and strategies to enhance them is provided thereafter. The current assessment system under six headlined descriptions are given as follows:

1. In practice, little priority is given in classrooms to matters that are closely aligned to the demands of a standardized assessment.
2. ANA as an assessment did not show significant and continuing trends in education as well the link between classroom assessment and changes in policy and practice.
3. There are significant issues of access, equity and quality which continues to affect outcomes to a large extent.
4. Much of the assessment strategies currently in use by individual teachers hypothetically lack standardization.
5. A reintroduction of any kind of standardized assessment will present challenges in the current education climate because of the experience with ANA.
6. Many parents look to schools for ways to ensure that their children improve their levels to get into the next stage of education but on the other side take a back seat in critical educational matters.

Findings from this study also suggest that although ANA was a viable programme, it had critical implementation challenges. Recommendations to this effect draws on strategies and guidelines on setting the stage for the smooth take-off of any future assessment to be implemented.

Findings also suggest that, although ANA was generally commended by teachers, the assessments key results and reports were given very minimal attention by most

teachers. Arguably this will fail to inform current assessment practices now that ANA has been put on hold. Most of the challenges as reported by teachers reflect the features described under these headlines and their interaction, include:

- The adoption of a “one size fits all” teaching and learning approach with a focus on realizing provincial and national set targets and less on the mastery of the relevant skills and knowledge aligned with current and future needs of students in particular. Therefore, year on year results indicated an increase in pass rates, but when a particular cohort were subjected to the PIRLS literacy test after the last ANA assessment in 2014, the performance of students was below average (Howie et al., 2016)
- Educational debates by most stakeholders and researchers focuses more on scores than on what is learned and its alignment with the needs of individual and community success now and in the future; and
- ANA reports often do not lead to a coordinated action at district, provincial and national level.

In acknowledging some of the administrative lapses and challenges, it is observed also that ANA was set up to achieve the results that public office holders needed to hear and wanted achieved. The design of the whole assessment process required an understanding of the current realities within the South African education system and why and how they interact to produce the results obtained, but this was ignored.

The study findings further revealed that quantitatively teachers generally approved of the assessment, but qualitatively serious objections to the conduct of the assessment were raised. This brings to the fore the need to enhance any future assessment administration and implementation process. An enhanced assessment system will therefore be one with:

- clear, explicit and published standards for the processes and products of key stakeholders involved, as well as responsibilities within the assessment system;
- open, honest and transparent reporting against set standards;
- a system in which reporting against standards is used for continuous improvement rather than blame or sanctions; and

- positive and negative incentives institutionalizing and reinforcing appropriate practices in schools.

The steps involved in making changes under the enhanced system I propose are:

1. partnership among stakeholders in education
2. using ANA assessment reports to correct critical deficiencies within the teaching and learning environment with specific reference to the testing subjects.
3. Making use of critical deficiencies as identified towards interventions and improvement plans that will have significant impact;
4. Implementing proposed interventions
5. Reviewing the impact of interventions; and
6. Adaptation, adjustment and refinement in school-based tests relative to learnt techniques in test construction.

Most of the challenges that exist under South Africa's current assessment system are complex, multi-faceted, and difficult to solve. Also, an effort to solve one aspect of the problem leads to other, unexpected, difficulties. As an example of such challenges, changing teacher practices in assessment will not be achieved by simply issuing instructions or by organizing a widespread programme of teacher professional development. What teachers currently do in assessment in South African classrooms reflects not only their individual abilities and capacities but also, predominantly, the complex set of multiple interacting factors and influences identified post-apartheid. Effective action to change teacher assessment practices will need to be built on a clear understanding of the current situation, including the factors leading to teacher appreciation in test construction, agreement amongst stakeholders about the importance of working together towards expected outcomes through the agreement and active contribution and engagement of all stakeholders (including parents, teachers and the community), through well-designed interventions or changes, through a review of their effectiveness and through further adaptation.

5.3.1 Strategies and guidelines with respect to Assessment administration

The term strategy means planning activities that links with the goal setting process of an organisation. It is also the formulation of more immediate objectives to move an

organisation towards its goals and the identification of specific actions (or strategies) required in the deployment of the requisite resources to achieve set objectives (Steiss & Nwagwu, 2001). The emphasis in strategic planning is on an orderly evolution—from a broad mission statement or concept, to statements of more specific goals and objectives consistent with the organization's mission, to more explicit policies and implementing decisions. This emphasis seeks to reinforce linkages that often are missing or disjointed, in critical decision-making processes. Strategic planning towards assessment management should be a continuous process that includes performance evaluation and feedback from stakeholders and not necessarily high stakes. Alternative courses of action should be examined, and the impacts and consequences that are likely to result from their implementation should be evaluated.

5.4 SUGGESTIONS FOR FUTURE RESEARCH

The following topics are suggested for future research;

- The effect of ANA on students' socio-emotional outcomes.
- Teacher unions' perceptions about the re-introduction of standardized assessment at the GET phase in South Africa
- The future of standardized assessments within the South African education system.

5.5 CONCLUSION

The tasks of assessment administration and implementation are complex. It requires in-school management teams, principals, school governing bodies and education officials to lead the implementation of change in the school as an organization.

For change to occur, assessment administration procedures must begin in the classroom with teachers taking the lead in translating every day concepts into activities, tasks or tests. Teachers must also embrace new teaching programmes and methodologies while providing a broader range of learning experiences for students.

The introduction of a standardized assessment such as ANA marked a significant development in the history of the South African education system and especially at the

GET phase. As a national assessment, ANA presented the opportunity for teachers, schools and education officials to engage in professional development, improve learning outcomes and prepare learners for the challenges and opportunities as they progress towards the FET level.

Findings from this study suggest that the majority of schools and teachers successfully implemented most aspects of ANA and this assisted many teachers and schools to adopt new approaches to teaching, learning and assessing. The same findings also highlighted areas of concern that need to be addressed in the administration and implementation of ANA if ever it is to be reintroduced. In effect teachers must gain ownership of the process, be trained to have in-depth knowledge about test construction and assessment, be able to apply appropriate teaching methodologies and approaches as well as become familiar with specific content objectives for the testing subjects.

The responsibility for the quality of the assessment administration and implementation therefore rests with key stakeholders such as teachers, school management teams led by principals, school governing bodies as well as circuit and district education management officials and parents.

CHAPTER SIX

RECOMMENDATIONS ON THE FINDINGS OF THE STUDY

6.1 INTRODUCTION

Chapter 5, presented a summary on the recommendation of the study, together with suggestions for future research. This chapter proposes a model to address the challenges encountered during the administration and implementation of the ANA.

6.2 PROPOSED MODEL TO ADDRESS THE CHALLENGES IN ASSESSMENT ADMINISTRATION AND IMPLEMENTATION

The findings in this study revealed mixed opinions from teachers concerning their experiences with ANA administration and implementation. Whereas findings from questionnaire responses showed that teachers were generally satisfied with the ANA. Quantitized findings from open-ended questions on the other hand revealed opposing views on similar questions asked of teachers in the questionnaire. The mixed views from teachers differs from that of district education officials interviewed. All district education officials interviewed commended ANA for making schools more accountable and as well making their work easier with respect to them being able to obtain critical information regarding the strengths and weaknesses of schools within the district.

The findings and observations also revealed that stakeholders in education within the district have different objectives with respect to assessment administration and seem to be divided on an all-encompassing approach towards the objectives of the assessment. In addition to the recommendations, the proposed model integrates stakeholders, as well as steps in refining an effective assessment management system within the framework of Fayol's' functions of management. The proposed assessment administration and implementation model, Figure 6.1, presents four interconnecting steps. The first step is the over-arching aim, which is assessment administration and implementation. This is followed by the main stakeholders in

assessment, i.e. district officials, teachers and parents. Fayol's management functions of planning, Organising, leading and control is the third step, and the fourth step is the processes involved in test development and administration.

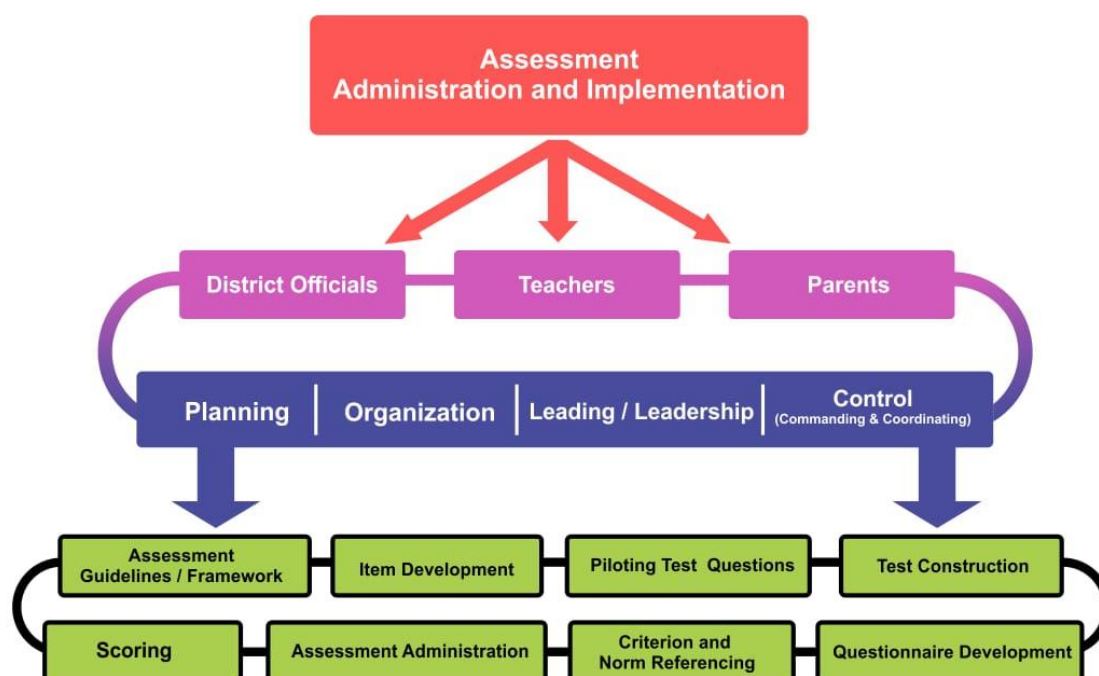


Figure. 6.1. Assessment administration and implementation model

STEP 2. KEY STAKEHOLDERS IN ASSESSMENT ADMINISTRATION

District officials

School districts are the agencies directly responsible for teacher education and professional development matters. District education departments and are likely to have more current information about both performing and underperforming schools within the district. In effect, one of the main responsibilities of a district education official is to ensure accountability in education. hierarchically, district officials work through the various circuit offices to schools. With respect to the ANA, although it was a program of national importance the provincial, district and circuit-based teams had to work hand in hand for the execution of the assessment. District based education

officials therefore have the responsibility to ensure the following prior to an assessment:

- understand how to make assessment reports accessible, understandable, and actionable for schools particularly teachers during the usual subject advisor visits.
- District officials can work with teachers to develop strategies for sharing data with schools in timely and appropriate ways and emphasize how data-sharing efforts help create meaningful opportunities to enhance parents' ability to support their child's learning during the period of assessment
- Emphasize the district's strategic plan the importance of data sharing. Make use of professional development trainings to help teachers understand effective data-sharing practices. Identify ways to organize and communicate assessment results particularly through school information systems and a parent portal in possible.
- Set expectations for teachers about their roles in assessment administration and implementation with achievable targets within the whole school development school framework.
- Stressing the importance of parent teacher meetings or SGB as a communication tool to support student learning. Emphasize that these meetings provide families and teachers with an opportunity to develop positive working relations as they discuss student performance and co-create an action plan to help students achieve key assessment goals.
- Work with teachers to develop effective and culturally appropriate tools for sharing data with families noting that not all parents and guardians are competent in the assessing subjects. These tools, such as reporting forms, can be tailored to different grade levels or content areas and can serve as useful ways to help teachers save time when communicating with families.

Teachers

Teachers play a particularly important role in assessment administration. This is because the day to day teaching and learning cycle falls within a teachers' responsibility. It is therefore pertinent that the role of a teacher in assessment

management is not underestimated. Teachers act as the bridge between the home and the school. This is because they are more often than not the first point of call for parents seeking information about the academic performance or otherwise of their children. Through family-school partnerships teachers can help put a focus on identifying students' strengths and address related challenges. Furthermore, the execution of the pre-assessment guidelines such as the frameworks for tests and the relevant test preparation is done by the teacher. As a point of contact between the home and the circuit or district office, a teacher can help develop a joint action plane to achieve learning goals.

Teachers role in assessment administration includes but not limited to the following: Ensuring that students' progress is more than the sum of test scores or attendance records by supplementing this information with daily classroom observations. These might include the child's social and problem-solving skills and contributions to class discussions.

- Maintaining accurate and timely data on student progress, and ensure that this information is accessible to both district officials and the home for support
- Talking with other teachers to determine the best ways to share different types of data especially in the testing subjects. Teachers must also ensure subject integration as this would help them more.
- giving students an opportunity to talk to their parents about their assessment and allowing students to develop a greater sense of responsibility for their school progress.
- Using exemplars as guidelines whiles following assessment framework so that teachers are not tempted to teach to the test.
- Pacing student work to ensure that curriculum targets are met.

Parents

Parents need to feel heard and that their input in assessment administration be taken seriously. Parents and guardians can support their child's learning in a number of ways. Firstly, parents can provide teachers with information about their child's interest and challenges so that they are better assisted towards test preparation. Such

discussions will also help the teacher in co-creating action steps to help improve students learning at school and in the home.

Parents must regularly ask the teacher to show samples their child's work to get a full understanding of the child's performance. This information will help parents see whether their child is on track to achieve assessment related learning goals.

The following guidelines will therefore assist parents to be part of a school's learning community:

- Making it a point to share information about their children with teachers. Especially what the children do after school, specific behaviors or interests as this has an effect on a child's learning and growth.
- Making available relevant medical and psychological information concerning students is critical to any long-term success in assessment.
- Attending meetings with child's teachers and other school staff, such as meetings organized by the school governing body, if the school allows this.
- Letting students play an active role in discussions about their progress can help foster their sense of ownership over their learning and enhance their motivation to succeed.

STEP 3. APPLICATION OF FAYOLS' THEORY OF MANAGEMENT

Planning

Planning means making projections into the future. Planners at this stage take into consideration the current or existing situation and what they seek to achieve within the life span of the project. Planning therefore requires the active participation of an entire assessment system. With respect to time and implementation, planning must be linked to and coordinated on different levels. Planning also takes into consideration the available resources that an organisation has. In the case of assessment administration both human (teachers, district officials, parents) and material (LTSMs) resources will be factored into the planning stage. A well-planned assessment programme reduces risks, uncertainty and avoids confusion (Ufartiene, 2014).

Planning also involves the need for the following actions;

- Understanding the need for action; This arises out of the dismal performance of south Africa in both regional and international comparative tests. The need for a standardized assessment to address such a challenge therefore becomes critical.
- Having clear objectives; the aim of the whole assessment project is determined. ANA was aimed at bridging the literacy and numeracy divide. Therefore, the need for a strategic plan for the teachers of the testing subjects as a critical and long-term priority must be factored in the planning process
- Factoring in uncertainties; one area that has seen constant change over the years has been in education and curriculum management in South Africa. Planning must therefore take into account the likelihood of a change in government or a ministerial change, so that the smooth running of an assessment project is not derailed.
- Identification of alternatives and subject integration; since teachers trained for the primary school section have a mandate to teach almost all subjects, teachers not teaching testing subjects under an assessment project can be workshopped as substitutes towards unforeseen situations
- Assessment implementation and management plan; this encompasses all the management functions put together. At this stage of the assessment project, the procedures, policies, budget and standards are set and actualized.

Organizing

Organizing is a system in which component parts of a system are required to work together. It is also noted that the relationship between the parts is crucial. In assessment management, the component parts are the main stakeholders around which the whole assessment revolves. Establishing the right relationship between the district, school and home, through communication and feedback geared towards efficiency.

After planning the next stage is organisation of both human and material resources as well teams to that action plans can be implemented. Stakeholders must therefore be

informed and planned with in the event of a future assessment project to ensure its success.

Organizing entails the following:

- Listing all the activities needed to achieve an objective. These activities form the management plan for the take-off of an assessment project
- Grouping work into units or departments and designating leaders for each group together with responsibilities.
- Establishing a formal reporting relationship, within the assessment plan. This helps avoid misunderstandings, confusions, disloyalty and lethargy. All stakeholders will execute their assigned roles if a cordial formal relationship towards the stated goals are established.

Leadership (commanding and coordinating)

Leadership pertains to clear assessment administration directives as well as harmonization of all processes. In every organisation, a person stands out. This could be the person most experienced, most educated or most effective at task. Leadership therefore identifies an educator to direct the different units of an assessment project. The leaders in the various units must work together to ensure a smooth management process through coordination. Coordination aims at stimulating motivation and discipline within groups or units in a working relationship. District officials must therefore command and coordinate the assessment management plan through clear communication channels and positive motivation. Some of the leadership functions required by team leaders especially from the district education department will include the following:

- promote district and school wide forum for discussions of teaching and how it impacts on student achievement
- provide active oversight and coordination of the teaching programme in schools, especially underperforming ones.
- ensure systematic monitoring of student progress and use of assessment results for programme improvement.

- promote collective responsibility and accountability towards student achievement and general outcomes.
- developing continuities and coherence across teaching programmes through the use of exemplars.
- ensuring effective transitions from one school to the other

Control

Control concerns the checks and balances within the assessment management plan. Monitoring is done at this stage to check whether everything is going according to plan. Activities that were beyond the scope of the assessment management plan such as delays in getting exemplars or test papers to venues in time due to unforeseen circumstances or a miscalculation are resolved at this stage. Control refers back to the contingency plan put in place at the planning stage with respect to factoring in uncertainties. Vliet (2011), lists the four-step process in control as follows:

- establishing performance standards based on organizational objectives
- measurement and reporting on actual performance from the assessment especially after a trial using exemplars
- a comparison of results with performance standards as stated in the national curriculum framework and the assessment framework.
- Taking corrective and preventive measures if needed in the case of a miscalculation.

STEP 4. GENERAL FRAMEWORK FOR TEST CONSTRUCTION

The fourth step can only be achieved when each of the preceding three steps as discussed are efficiently and effectively implemented. This step highlights the eight processes generally considered in test construction and management. These are assessment guidelines or framework, item development, piloting of test questions, test construction, scoring, administration, criterion and norm referencing and questionnaire development.

First, assessment guidelines or framework provides the basis of each assessment. the framework gives a description of the cognitive levels of test questions, in order to give concessions to learners with special needs. The framework also serves as a guide to how teachers must coach students in approaching each test question. It is also a gauge and a basis for the comparison of test papers and questions relative to other similar education systems. coordination and control from stakeholders will ensure that district officials, teachers and parents know and understand the foundations of the test questions before they are written.

Second, the CAPS policy document is the foundation of the current assessment framework in South Africa. Therefore, test item development must be in line with CAPS requirement. In order to ensure participation from the schools, circuits, districts and province, teachers must be involved in the item development process and their views sought. This is because some educators remarked that in the findings of this study that the tests items suited students who lived in urban areas.

Third, field testing allows the use of anchor items with two or more alternative forms within the test given students. The anchor items are embedded and will not count in a student's actual score. They will only check the difficulty level of the test questions and whether it will be safe to repeat them. Another reason for this is to check for comparability of test items over time. Researchers such as Spaul (2015) raised the issue of assessment comparability and the marked fluctuation in the performance of students on ANA.

Fourth, the current scoring system under ANA was not consistent. This is because there was not no centralized marking centre, and schools took charge of the scoring process. There were instances as reported in this study that teachers took test papers home for marking. This practice compromises the whole assessment process in terms of benchmarking as schools may manipulate test scores to avoid sanctions. The lack of control in the management of the ANA scoring processes led to widespread dissatisfaction with the process.

Fifth, a number of factors must be considered in test construction, these include item fairness and difficulty level. Also, demographic consideration must be given to avoid item bias and stereotypical questions. A balance in subject content and pedagogy is

very important. control can be exercised at this stage to make sure tests meets all the requirements of fairness.

The sixth stage is the actual writing of the test. Prior to this stage, stakeholders will have the assessment management plan in hand, that details the procedures for the assessment are consistent and fair. Also, invigilation and the conduct during invigilation is spelt out at this stage.

Seventh, ANA offered the basis for comparison between schools and for schools and students to celebrate their achievement. Although ANA report cards were introduced when ANA was organized in 2012, some schools never bothered to communicate individual test scores of students to parents. Hence stakeholder involvement was affected as some teachers complained about a lack of parental involvement although they also on their part failed to make available the results of students to parents. Criterion referencing allows students' performance to be judged according to a certain standard expected of students relative to national curriculum standards. Norm referencing on the other hand measures a student's performance in comparison with students in his or her age group

The eighth stage allows for feedback from stakeholders through the distribution of assessment related questionnaires. Feedback well received and acted upon will ultimately help in improving subsequent assessments.

6.3 CONCLUSION

The results of this study suggest that ANA never gained overwhelming acceptance from teachers. Its implementation, effect on schools as well as teaching and learning as investigated in this study revealed mixed opinions and the need to re-evaluate any new assessment implementation project. Quantitized results also pointed to the fact that teachers see their domains of teaching and learning as areas where, less accountability must be demanded of them. This mainly emanated from the approach adopted by some education officials who were in charge of the ANA. For example, support towards the attainment of the objectives of ANA became one of high stakes. Parents on the other hand had very minimal role to play in the whole assessment implementation process with no proper way of them receiving feedback as well as

being able to make constructive contributions to better the assessment. All said, it seemed obvious that the public-school system and especially teachers in the GET phase are responsible to the public and have a duty to show the public the effectiveness and the quality of their inputs through educational outcomes. And the best way to do this is through standardised assessments.

A re-introduction of a future national assessment is possible. On the other hand, its success will depend on how the needs and concerns of the main stakeholders are addressed. As outlined in the assessment administration implementation model, any future assessment must be consultative, participatory and rewarding. The assessment administration model in this chapter therefore presents an approach by which stakeholders, particularly education officials, teachers and parents can adopt and implement a smooth assessment process.

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ANNEXURE A: Questionnaire

QUESTIONNAIRE TO EDUCATORS

The purpose of this questionnaire is to explore lessons learnt from the administration of the Annual National Assessment during implementation

[SECTION A – DEMOGRAPHIC FACTORS]

For each of the following items, indicate what applies to you by making a **mark** in the appropriate box:

1 GENDER

Male	1	
Female	2	

2. AGE IN YEARS

20 to 29 years	1	
30 to 39 years	2	
40 to 49 years	3	
50 to 59 years	4	
More than 60 years	5	

3. CATEGORY OF SCHOOL

Quintile 1	1	
Quintile 2	2	
Quintile 3	3	
Quintile 4	4	
Quintile 5	5	

4. YEARS OF EXPERIENCE AS AN EDUCATOR

1 to 5 years	1	
6 to 10 years	2	
11 to 15 years	3	
16 to 20 years	4	
Over 20 years	5	

5. HIGHEST QUALIFICATIONS

Matric only	1	
Teacher's Certificate	2	
NPDE/NDE/ND	3	
Bachelors/PGCE	4	
Honours/PGDE	5	
Master's degree	6	
Doctoral degree	7	

6. DID YOU ATTEND WORKSHOPS ON ANA ADMINISTRATION?

Yes	1	
No	2	

7. DID YOU EVER READ ANY ANA REPORT?

Yes	1	
No	2	

8. IF YES, WHERE DID YOU ACCESS THE REPORT?

Internet	1	
School	2	
Workshop	3	
Fellow educators	4	
Circuit Office	5	
More than one source	6	
None	7	

9. DO YOU BELONG TO A TEACHER UNION?

Yes	1	
No	2	

10. WHICH TEACHER UNION DO YOU BELONG?

SADTU	1	
NATU	2	
NAPTOSA	3	
SAOU	4	
NONE	5	

11. WHAT SUBJECT DID YOU TEACH?

ENGLISH	1	
MATHS	2	
ENGLISH & MATHS	3	
OTHER	4	

12. WHAT GRADE DID YOU TEACH?

GRADE 1	1	
GRADE 2	2	
GRADE 3	3	
GRADE 4	4	
GRADE 5	5	
GRADE 6	6	
GRADE 7	7	
GRADE 8	8	
GRADE 9	9	
MORE THAN ONE GRADE	10	

SECTION B

ANA ADMINISTRATION AND IMPLEMENTATION

For each of the following statements, indicate the extent to which you Agree or Disagree about the administration and implementation processes related to ANA by making a mark in the appropriate block.

No	Statements	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
1	It was compulsory for teachers to attend orientation workshops on how ANA processes are managed	1	2	3	4	5
2	Teachers received administration guidelines towards ANA management at school	1	2	3	4	5
3	Through training, teachers understood the processes of verification of ANA according to the ANA administration	1	2	3	4	5
4	Teachers received the relevant test papers and memoranda in time before each assessment session	1	2	3	4	5
5	Teachers were provided guideline documents on the invigilation process	1	2	3	4	5
6	Teachers were allowed to invigilate their own grades throughout the whole assessment process	1	2	3	4	5
7	Teachers were allowed by the chief invigilator to explain concepts that the learners did not understand in test papers as they wrote the actual test paper	1	2	3	4	5
8	All learners with special needs were allowed additional time according to the ANA guideline document	1	2	3	4	5
9	There were instances where the need arose for photocopies of the test papers to be made	1	2	3	4	5
10	Anomalies were recorded in the whole assessment process	1	2	3	4	5
11	Teachers were given enough time to discuss the memoranda before marking	1	2	3	4	5
12	Only the relevant subject teachers were allowed to mark the scripts	1	2	3	4	5
13	Teachers were allowed to take test papers home for marking	1	2	3	4	5

SECTION C

THE EFFECTS OF ANA ADMINISTRATION IN YOUR SCHOOL						
1	ANA increased the commitment to learn by students	1	2	3	4	5
2	Teachers were encouraged to set realistic targets for achievement by learners	1	2	3	4	5
3	Teaching methods improved as a result of ANA	1	2	3	4	5
4	The process encouraged teachers to take interest in current trends in assessment	1	2	3	4	5
5	Underperforming schools were identified and assisted through the assessment	1	2	3	4	5
6	ANA motivated teachers towards giving attention to teaching and learning	1	2	3	4	5
7	ANA encouraged schools to improve the standard of teaching	1	2	3	4	5
8	ANA result provides data on the educational standards of schools that participate	1	2	3	4	5
9	ANA results are a good indicator of a schools' overall performance	1	2	3	4	5

SECTION D

THE EFFECTS OF ANA ON TEACHING AND LEARNING						
1	Teachers increased time on test preparation compared to the allocated time for other subjects to ensure better results	1	2	3	4	5
2	The exemplars were useful in test preparation, because they gave a scope that was easy to follow	1	2	3	4	5
3	Teaching was modelled on the ANA exemplars for ease of teaching and learner understanding of subject concepts	1	2	3	4	5
4	ANA helped improve the internal test practices of teachers in class	1	2	3	4	5
5	ANA tests were important in identifying weak links in the teaching and learning process	1	2	3	4	5
6	ANA tests should have been written in the fourth term for student progression to the next grade	1	2	3	4	5
7	Teachers became confident about the processes of assessment for positive teaching and learning	1	2	3	4	5
8	Students were confident about the processes leading to the writing of the ANA	1	2	3	4	5
9	Feedback from students indicated that parents encouraged them to learn at home towards the assessment	1	2	3	4	5

SECTION E

PLEASE FEEL FREE TO EXPRESS YOUR OPINION ON WAYS 'ANA' AS A STANDARDIZED TEST CAN BE IMPROVED UPON IF EVER IT IS REINTRODUCED.

1. What were the lessons you learnt from ANA? Please feel free to list them.

2. What were some of the effects of ANA in your school?

3. To what extent did ANA impact on your teaching and student learning patterns?

THANK YOU VERY MUCH FOR PARTICIPATING IN THIS STUDY

ANNEXURE B: Interview schedule



**THE LESSONS LEARNT FROM THE ADMINISTRATION OF THE ANNUAL NATIONAL
ASSESSMENT DURING IMPLEMENTATION, UMKHANYAKUDE DISTRICT**

For the degree of

DOCTOR OF EDUCATION

In the field of

Education Management

SEMI - STRUCTURED INTEVIEW SCHEDULE

NAME OF PARTICIPANT:.....

DESIGNATION AT THE DEPT. OF EDUCATION:.....

DATE:.....

Description of project:

Thank-you for sharing your time with me today. The purpose of this study is to explore the lessons learnt from the administration of the Annual National Assessment during implementation in the Umkhanyakude district.

This study has the following objectives:

1. To explore the lessons learnt from the administration of ANA during implementation.
2. To examine the effects of the administration of ANA in schools in the Umkhanyakude District.
3. To establish the extent to which the administration of ANA impacted on teaching and learning,

and seeks to enquire into your experience as an assessment administrator in the district.

Please be informed that all data will remain confidential and all transcripts coded. Any identifying features on documents will be erased/obscured.

This interview will take approximately one (1) hour. Questions will focus specifically on your experience in assessment administration within the ANA cycle. Please read the consent form and ask any questions before signing.

[Digital audio device turned on]

BRIEF OVERVIEW

ANA ADMINISTRATION AND IMPLEMENTATION

1. Was it compulsory for all teachers to attend ANA orientation workshops?

.....

Probe: How useful were the workshops in your opinion?

.....

2. Did teachers receive Administrative guidelines towards ANA management in schools?

.....

Probe: How was that done or ensured?

.....

3. Was the process of verification ANA understood by teachers?

.....

Probe: How do you know that?

.....

4. Did schools receive test papers and memoranda in time before each assessment session?

.....

Probe: Would you explain further?

.....

5. Did teachers receive guideline documents on invigilation prior to the assessments?

.....

Probe: how was the documents disseminated to teachers?

.....

6. Were teachers allowed to invigilate their respective class students?

.....

Probe: What was the reason behind that?

.....

7. Were teachers allowed to explain concepts learners did not understand during the assessment?

.....

Probe: If yes, to what extent?

.....

8. Did special needs learners receive concessions in any way?

.....

Probe: What kind of concessions were made available to learners?

.....

9. Were photocopies of test papers made in some instances?

.....

Probe: if yes, what prompted photocopies being made?

.....

10. Were any anomalies observed by you, during the assessment process?

.....

Probe: Would you elaborate further?

.....

11. Were teachers given the opportunity to discuss the memorandum to suit specific contextual situations before marking?

.....

Probe: Was the discussion supposed to be subject specific?

.....

12. Were subject specific teachers allowed to mark the assessments?

.....

Probe: What was the reason behind that?

.....

13. Were teachers allowed to take the test papers home for marking?

.....

Probe: If yes, what was the reason behind that?

.....

THE EFFECTS OF ANA IN SCHOOLS

1. Did ANA, develop an increase in learning by learners in schools?

.....

Probe: Would you explain that further?

.....

2. Did the Dept. set assessment targets to be met by learners in schools as a result?

.....

Probe: Would you explain that further?

.....

3. Did teaching methods improve through this assessment in schools?

.....

Probe: Would you explain that further?

.....

4. Did the assessment encourage teachers to take interest in current trends towards assessment?

.....

Probe: Would you explain that further?

.....

5. Was the assessment a benchmark towards identifying underperforming schools?

.....

Probe: Would you explain that further?

.....

6. Were teachers motivated by these assessments towards teaching and learning?

.....

Probe: Can you elaborate further?

.....

7. Did schools generally improve upon their standards of teaching and learning?

.....

Probe: Would you explain that further?

.....

8. Did the results of ANA provide data on the educational standards of schools in the district?

.....

Probe: Would you explain that further?

.....

9. Are the results of the ANA a good indicator of the overall performance of schools in the district?
-

Probe: Would you explain that further?

.....

THE EFFECTS OF ANA ON TEACHING AND LEARNING

1. Did you observe any instance where teachers increased test preps on English and maths, compared to other subjects?
-

Probe: Would you explain that further?

.....

2. How useful were the exemplars in test preparations?
-

Probe: Would you explain that further?

.....

3. Were teachers in anyway advised to model, their teaching strategies and on ANA exemplars in anyway?
-

Probe: Would you explain that further?

.....

4. Did ANA in anyway help improve teacher's assessment practices in your opinion?

.....

Probe: Would you explain that further?

.....

5. Did the ANA assessment help identify gaps in teaching based on your observation in school visits?

.....

Probe: Would you explain that further?

.....

6. Do you support calls for ANA to be written in the fourth term and as a form of assessment for promotion and progression?

.....

Probe: Can you elaborate further?

.....

7. Were teachers, generally happy about the assessments as observed by you, during school visits?

.....

Probe: Would you explain that further?

.....

8. Were students, generally happy about the assessments as observed by you, during school visits?

.....

Probe: Would you explain that further?

.....

9. Were parents supportive of the assessments based on your observation?

.....

Probe: Would you explain that further?

.....

THANK YOU VERY MUCH FOR YOUR CONTRIBUTIONS IN THIS STUDY!!

ANNEXURE C: Application form to the provincial Head of Department



kzn education

Department:
Education
KWAZULU-NATAL

Application for Permission to Conduct Research in KwaZulu Natal Department of Education Institutions

1. Applicants Details

Title: Mr. Surname: Mensah

Name(s) Of Applicant(s): Frank Joseph

Email: joemenscrow2@gmail.com

Tel No: 0724248187 Fax: _____ Cell: _____

Postal Address: P.O. Box 588, Jozini 3969

2. **Proposed Research Title:** The lesson learnt from the administration of the Annual National Assessment during implementation in the Umkhanyakude District.

5. Have you applied for permission to conduct this research
or any other research within the KZN DoE institutions? No

Yes

✓ No

If "yes", please state reference Number: N/A

6. Briefly state the Research Background:

The Department of Basic Education administered ANA in 2009, owing to South Africa's poor performance in both local and international comparative tests particularly in English and mathematics.

ANA was piloted in about 1000 schools in 2009. Subsequently, this project was rolled out by provincial education departments beginning in 2010 from grades 1 to 6 (Spaull, 2013). Since then, ANA has been tested for four consecutive years in 2011, 2012, 2013 and 2014 respectively. The senior phase that is grades 7, 8 and 9 have undergone sampled tests in 2012, 2013 and 2014 as well (DBE, 2014).

Students undertake these tests at the same time, same day and in the same prescriptive procedures. This gives ANA the character of a standardized formative test.

In 2015, the ANA project was put on hold pending negotiations and agreement between the DBE and teacher unions. Teacher unions raised concern about the nature, conduct, implementation procedures and the consequences of these tests. According to teacher unions led by SADTU and NAPTOSA, ANA which was previously considered a diagnostic tool has taken up a high stakes' nature. A situation comparable to advanced countries such as Canada, USA and the U.K.

Given the perplexing nature of ANA to teacher unions and the increasing public interest in student achievement at key points in the education system, implementation procedures regarding administration becomes central to the ANA debate.

Owing to these challenges, this study specifically focuses on the lessons learnt from the administration of ANA during implementation

6. What is the main research question(s):

- i. What were the lessons learnt from the administration of ANA during implementation?
- ii. What were the effects of the administration of ANA in schools within the Umkhanyakude District?
- iii. To what extent did the administration of ANA impact on teaching and learning?

7 Methodology including sampling procedures and the people to be included in the sample:

Mixed methods research design will be used in this research. Since the study is exploratory in nature this type of design will enable a better appreciation of the meaning teachers and non-teaching staff, ascribe to the research questions that will be up for discussion (Creswell, 2007). This is also appropriate since there is the need for an interactive bond between the researcher and the participants for the purposes of this research.

A survey instrument and a semi-structured interview schedule will be used to collect Probability and purposive sampling technique will be used in this study.

The sample selection will include the population of primary school teachers who also double as site stewards or union representatives in the circuit, as well as DoE representatives in charge of assessment from the circuit, district and province.

The targeted number of participants for this study is 250 teachers from the district.

8. INTENDED CONTRIBUTION TO THE BODY OF KNOWLEDGE

This study project takes place at a crucial period in South Africa's education system and should therefore be considered a point in time study.

The study aims to make an original contribution to existing body of knowledge regarding assessment administration, by examining the objectives of ANA and implementation procedures, the factors leading to its suspension together with lessons learnt and to propose a model for assessment administration

9. KZN Department of Education Schools or Institutions from which sample will be drawn – If the list is long please attach at the end of the form

Schools will be sampled from the Ubombo circuit cluster for the study. Stratified and purposive sampling techniques will be used.

10. Research data collection instruments: *(Note: a list and only a brief description is required here - the actual instruments must be attached):* semi-structured interview schedule and a survey instrument (questionnaire) will be administered.

11. Procedure for obtaining consent of participants and where appropriate parents or guardians:

Permission shall be sought from the Head of Department, KZN, as well as principals and the educators concerned. Sample consents letters are attached.

12. Procedure to maintain confidentiality (if applicable):

The researcher will ensure confidentiality of the respondents' answers, and that such responses are used solely for the purpose of this research. In the whole process, a relationship of trust, integrity and honesty should be maintained

13. Questions or issues with the potential to be intrusive, upsetting or incriminating to participants (if applicable):

The researcher will inform the participants that they are free to withdraw from the study, at any time, should they feel that the questions being asked have in any way whatsoever are intrusive, upsetting or incriminating with respect to their person or privacy. They will be given a background to the study before the interviews, so that they have the freedom to withdraw even before the interview commence.

Additional support available to participants in the event of disturbance resulting from intrusive questions or issues (if applicable): N/A

15. Research Timelines:

TASK	SUGGESTED PERIOD	ACTUAL DATES
Research Proposal	July- August, 2017	
Ethical Clearance	September - November, 2017	
Reviewing of Literature	January – July, 2018	
Methodology	August – September, 2018	

Field Study – i.e. administration of research instruments.	October 2018 – March, 2019	
Data Analysis and interpretation	April - May, 2019	
Writing of Report	June – September, 2019	
Presentation of Findings	December 2019	
Submission of First draft	January, 2020	
Submission of Final draft	February, 2020	

16. Declaration

I hereby agree to comply with the relevant ethical conduct to ensure that participants' privacy and the confidentiality of records and other critical information.

I Frank Joseph Mensah declare that the above information is true and correct



3/08/2017

Signature of Applicant Date

17. Agreement to provide and to grant the KwaZulu Natal Department of Education the right to publish a summary of the report.

I/We agree to provide the KwaZulu Natal Department of Education with a copy of any report or dissertation written on the basis of information gained through the research activities described in this application.

I/We grant the KwaZulu Natal Department of Education the right to publish an edited summary of this report or dissertation using the print or electronic media.



3/08/2017

Signature of Applicant(s) Date

ANNEXURE D: Permission letter from the provincial Head of Department



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Phindile Duma

Tel: 033 392 1041

Ref.:2/4/8/1314

Mr FJ Mensah
PO Box 588
Jozini
3969

Dear Mr Mensah

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: **"LESSON LEARNED FROM THE ADMINISTRATION AND IMPLEMENTATION OF ANA, IN SOUTH AFRICA"**, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the Intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 04 August 2017 to 09 July 2020.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Connie Kehologile at the contact numbers below
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report/dissertation/thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

UMkhanyakude District

Dr. EV Nzama
Head of Department: Education
Date: 04 September 2017

KWAZULU-NATAL DEPARTMENT OF EDUCATION

Postal Address: Private Bag X9137 • Pietermaritzburg • 3200 • Republic of South Africa

Physical Address: 247 Burger Street • Anton Lembede Building • Pietermaritzburg • 3201

Tel.: +27 33 392 1004/41 • Fax.: +27 033 392 1203 • Email: Phindile.Duma@kzndoe.gov.za • Web: www.kzndoe.gov.za

Facebook: KZNDOE... Twitter: @DBE_KZN... Instagram: kzn_education... Youtube: kzndoe

...Championing Quality Education - Creating and Securing a Brighter Future

ANNEXURE E: Introductory letter to schools

University of Zululand
PO Box X1001
Kwadlangezwa
3888

The Principal
_____ High School
Jozini 3969
05 August, 2019

Dear Sir/Madam,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

My name is Frank J. Mensah. I am conducting a research with the Faculty of Education at the University of Zululand. I am pleased to inform you that this study has received approval from Dr. Nzama, the H.O.D of the Department of Education and the University's' Research Ethics Committee. This research is under the supervision of Prof. A.P. Kutame and Co-supervised by Dr. S.I. Kapueja. Copies of the approval letters is included herein.

Description

This project is being undertaken as part of a D.Ed. research study. The project is not externally funded therefore no external funding body will have access to any collected data. The purpose of this project is to explore the lessons that as a teaching professional you experienced from the administration of ANA during implementation. This study will be guided by the following objectives:

1. Explore the lessons learnt from the administration of ANA during implementation.
2. Examine the effects of the administration of ANA in schools in the Umkhanyakude District.
3. Establish the extent to which the administration of ANA had impacted on teaching and learning.

Your participation in this study is very important to me as your knowledge of the topic will add value to the research. Your input would contribute to the representativeness of the sample, which increases the generalizability of the study. It is also anticipated that your participation in the study will not harm you in any way. Results of this project will be communicated to you accordingly.

Yours in Education,

Principal's name & signature

Mr. Frank J. Mensah

ANNEXURE F: Ethical clearance from UZREC

**UNIVERSITY OF ZULULAND
RESEARCH ETHICS COMMITTEE**
(Reg No: UZREC 171110-030)



RESEARCH & INNOVATION

Website: <http://www.unizulu.ac.za>
Private Bag X1001
KwaDlangezwa 3886
Tel: 035 902 6731
Fax: 035 902 6222
Email: DlaminiA@unizulu.ac.za

ETHICAL CLEARANCE CERTIFICATE

Certificate Number	UZREC 171110-030 PGD 2018/221									
Project Title	The lessons learnt from the Administration of the Annual National Assessment during implementation in the Umkhanyakude District									
Principal Researcher/ Investigator	FJ Mensah									
Supervisor and Co-supervisor	Prof AP Kutame					Dr SI Kapueja				
Department	Educational Foundations and Management									
Faculty	Education									
Type of Risk	Med Risk– Data collection from people									
Nature of Project	Honours/4 th Year		Master's		Doctoral		x	Departmental		

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project. The Researcher may therefore commence with data collection as from the date of this Certificate, using the certificate number indicated above.

- Special conditions:
- (1) This certificate is valid for 3 years from the date of issue.
 - (2) Principal researcher must provide an annual report to the UZREC in the prescribed format [due date-29 May 2019]
 - (3) Principal researcher must submit a report at the end of project in respect of ethical compliance.
 - (4) The UZREC must be informed immediately of any material change in the conditions or undertakings mentioned in the documents that were presented to the meeting.

The UZREC wishes the researcher well in conducting research.


Professor Gideon De Wet

Chairperson: University Research Ethics Committee
Deputy Vice-Chancellor: Research & Innovation
28 May 2018

