

**SOUTH AFRICAN FURTHER EDUCATION AND TRAINING MATHEMATICS
EDUCATORS' EXPERIENCES OF THE IMPLEMENTATION OF PROGRESSION
POLICY**

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BY

**MATSIDISO MARY MNGADI
206523803**

**SUPERVISOR
DR THOKO ESTHER MNISI**

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ABSTRACT

This study is aimed at exploring how the Further Education and Training (FET) pure mathematics educators experience the implementation of progression policy. Progression policy has been implemented in the FET mainstream since 2012. The implementation of progression policy since then has been a hotly debated topic amongst scholars. One of the concerns about progression policy implementation was the involvement of the educators' experiences and expert opinions as agents of implementation in grassroots levels.

The data for this study was generated from five purposefully selected FET mathematics educators who had been teaching the subject for more than five years in public ordinary secondary schools within the Sedibeng East District. Despite the challenges of the COVID-19 pandemic, data was generated from these participants through face-to-face semi-structured interviews, which gave these FET mathematics educators an opportunity to freely express their full-bodied experiences of progression policy implementation in the subject of mathematics in grade 12. The primary and secondary research questions were centralised around the lived experiences of these FET mathematics educators since the progression policy was implemented *en masse* in the FET phase. This data was then viewed through the Public Value Theory which upholds that during policy implementation processes, all stakeholders need to work hand-in-hand so as to share both failures and its successes. All the data generated were analysed using the Braun and Clarke Thematic Analysis and the transcribed data was themed into three themes which were aligned to the primary and secondary research questions of the study.

Amongst others, the findings to the study point out that the implementation of policies in education, particularly progression policy, is still contextualised within the apartheid legacy, that progression policy implementation is still used as a wedge to divide the education system. The findings also show that the experiences of the educators have long been side-lined and the implementation of progression policy has not made it any better, issues such as teacher support and development in policy implementation are still left on the poor mathematics educators to figure it all out on their own. This study therefore gives recommendations for better progression policy implementation and these recommendations upholds the importance of active engagement and involvement of these FET mathematics educators in policy processes. It gives both policy-makers and the FET mathematics educators an idea that perhaps the consideration of experiences from the implementers could impact on how policies in education could best be shaped, especially progression policy.

The recommendation from this study thus upholds that the effective implementation of progression policy should support the value of the experiences of the agents of implementation, the FET mathematics educators. The experiences of these FET mathematics educators are a resource that of which the Department of Basic education can prioritize on to ensure that the implementation of progression policy is done effectively.

DEDICATIONS

I hereby dedicate this study to all the Further Education and Training (FET) mathematics educators in the Sedibeng East District who whole-heartedly accepted my request to take part in this study, none of the data to back this study would have been generated had it not been them, the real implementers of progression policy. I appreciate you all.

A special dedication goes to my husband, Mr Sandile Mngadi, my ever-supportive and sweet sister, Lindiwe Mahlangu, my three apples of my eyes, Thandolwakhe, Reratilwe and Uzenenkosi. These are my forever standing anchors and I love them all the way to the moon and back.

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A special thank goes to the editor/s of this paper, thank you for shaping it all up.

DECLARATION

I, Matsidiso Mary Mngadi, registered under student number 206523803, declare that this research study, **“South African Further Education and Training educators’ experiences of the implementation of the progression policy”** is my own work and all other scholarly used have been rightfully acknowledged. I also declare that this research study has neither been submitted nor assessed elsewhere for post-graduate purposes.

Signed:



Date:

SUPERVISOR

This dissertation is submitted with / without the supervisor’s approval.

Signed:



Date: 08/07/2021

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KEYWORDS

Curriculum
Department of Basic Education
Experiences
Further Education and Training
Implementation
Learner retention and drop-out
Mathematics educators
Progression policy
Secondary schools
South Africa

LIST OF ABBREVIATIONS

ABHS-	Alcohol-based Hand Sanitizer
ACD-	Allergic Contact Dermatitis
AMESA-	Association for Mathematics Education of South Africa
ANA-	Annual National Assessment
BCTA-	Braun and Clarke Thematic Analysis
C2005-	Curriculum 2005
CAPS-	Curriculum and Assessment Policy Statement
COVID-19-	Corona Virus of 2019
DBE-	Department of Basic Education
DHST-	Department of Higher Education, Science and Technology
DMT-	District Management Team
DOE –	Department of Education
FET –	Further Education and Training
GDE-	Gauteng Department of Education
GET-	General Education and Training
HET-	Higher Education and Training
HSSREC-	Human and Social Sciences Research Ethics Committee
IAEP-	International Assessment of Educational Progress
ICD-	Irritant Contact Dermatitis
MDG’S-	Millennium Development Goals
MEO-	Multiple Examination Opportunity
ML-	Mathematical Literacy
MLA-	Monitoring Learner Achievement
NAEA-	National Assessment of Educational Achievement
NCCC-	National COVID-19 Command Council
NCS-	National Curriculum Statement
NEET-	Not in Employment, Education or Training
NPPPPR-	National Policy Pertaining Program and Promotion Requirements
OBE-	Outcome Based Education
OECD-	Organisation for Economic Cooperation and Development
PMT-	Provincial Management Team
PVT-	Public Value Theory
RNCS-	Revised National Curriculum Statement
RSA MINISTERIAL COMMITTEE-	Ministerial Committee on Learner Retention in South Africa
RSA-	Republic of South Africa
SACE-	South African Council of Educators
SADTU-	South African Democratic Educators’ Union
SBA-	School-Based Assessment

SED- Sedibeng East District
SES- Senior Educational Specialist
SMT- School Management Team
SNAP- School Network for Absenteeism Prevention
SSIP- Secondary School Improvement Program
TIMSS- Third International Mathematical and Science Study
TIMSS-R- Third International Mathematical and Science Study - REPEAT
TVET'S- Technical and Vocational Education and Training
UK- United Kingdom
UKZN- University of Kwa Zulu Natal
UNESCO- United Nations Educational, Scientific and Cultural Organisation
UNICEF- United Nations International Childrens' Emergency Fund
USA- United States of America

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CHAPTER ONE

ORIENTATION TO THE STUDY

1.1 Introduction and background to the study

The dawn of democracy in 1994 painted a cheerful picture to transformation, especially in the ministry of education. As soon as the then minister of education, Professor Sibusiso Bhengu introduced the educational transformation drive, which was aimed at amending the socio-economic inequalities such as low achievement rates by race and poor quality of education, it all came crumbling down (Kader, 2012). This educational transformation instead brought about high failure rates, undue repetition and excessive drop-out rates, particularly in high schools (Kader, 2012). Pretorius (2014) and Spaul (2013) argued that, despite the development of intervention programmes to rescue the challenge of underperformance, especially in mathematics, the elephant in the ministry of education seemed to have been ignored; policy implementation. Instead, the poor performance in mathematics seemed to have been blamed largely on poverty, teacher quality and subject content knowledge, parental lack of education, and poor management skills of principals (Pretorius, 2014 & Spaul 2013). Regardless of these excuses, the annual national performance in mathematics particularly in the Further Education and Training (FET) phase remains a challenge, a large proportion of learners are still battling to achieve a mere 30% pass rate as stipulated in the *National Policy Pertaining to the Programme and Promotion Requirements* (NPPPR) of the National Curriculum Statement Grades R-12 (DBE, 2011), (Leepo, 2015).

In 1998, the Department of Education, ministered by Professor Sibusiso Bhengu, implemented the Progression Policy which allowed for learners to be moved a grade higher despite not having met the minimum requirements for promotion (Department of Education, 1998). The main driver behind progression policy implementation was the high failure rates, undue grade repetition and dropout rates especially in high schools starting from grade 9 which created a bottleneck in the education system. Initially the implementation of progression policy by the DoE (DoE, 1998) had been meant to progress learners who had been academically challenged from grades 1 to 9. Those learners who seemed not to have been coping with the demands of grades 10 and 11 would either be condoned or be promoted to the next grade until grade 12 (DoE, 1998). Regardless of the implementation of this progression policy, when Dr Naledi Pandor took over as a minister of education in 2004, the challenge of poor performance was much the same, if not worse. In 2007 Dr Naledi Pandor established a Ministerial Committee on Learner Retention in the South African Schooling System, which was tasked to address the high dropout and retention rates as well as the reasons behind these practices from grades 9 to 12, (Kader, 2012). The findings of that investigation brought about two factors that the DoE needed to consider. Firstly, that there was a challenge of learner retention starting from grade 9 and the dropout rates increased as learners moved to the FET phase (RSA Ministerial Report, 2008: xi). Secondly, the DoE did not seem to have a plan in place to rehabilitate those learners who had dropped out due to challenges in academics (RSA Ministerial Report, 2008: xii).

The effects of the progression policy in the FET phase became more noticeable in 2015, when the minister of DBE, Ms Angie Motshekga expressed the national matriculation results' drop stating that the

number of progressed learners had pushed down the matriculation pass rates (<https://www.news24/>). Ms Angie Motshekga admitted that the South African education system was indeed in need of appropriate remediation for progression policy to be implemented successfully (Motshekga, 2015). However, despite the DBE noticing that the implementation of progression policy was failing, in its plan to rescue it, there seemed to have been a lack of the educators' voice on how best this progression policy could have been implemented, perhaps to overturn the increasing poor performance especially in a compulsory subject, mathematics (Kader, 2012). The implementation of progression policy may have been meant for the learners, but it seemed to have had an impact on the educators as they have had to transform their teaching methodologies and pedagogies which would ease the implementation of this policy (Joseph, 2016). According to Blane (1990), mathematics education, especially in the FET phase in the South African education system, has long been clouded by a number of momentary innovation attempts that, to date, have not been able to solve the challenge of underperformance but have widened the gap of distrust between mathematics educators and the curriculum reforms. The implementation of progression policy, just like any other curriculum reform for mathematics educators, simply means added administrative responsibilities which comprise planning, assessment, programme development to interpret and contextualise the implementation of progression policy in their respective schools (Joseph, 2016). The reforms in mathematics education, such as progression policy, seem to be based on defective assumptions of what is supposed to happen in teaching and learning environments, yet the little or no effort is directed at hearing from the actual implementers, the educators (Clements & Ellerton, 1996).

This study therefore intends to explore how the FET mathematics educators, especially those who are teaching grade 12 pure mathematics, experience the implementation of progression policy, since mathematics is a compulsory subject across all four phases of education. This study aims to apply an *audi alteram partem* principle to the FET mathematics educators under the assumption that they are knowledgeable about the dynamics of the classroom and the teaching of the subject in relation to progression policy implementation. Therefore, they would be the suitable persons to offer advice on how best the progression policy could be implemented. Perhaps the involvement of these FET mathematics educators' opinions about the implementation of progression policy could, in turn, impact on the national matriculation mathematics pass rates. Moreover, it could give the policy makers an idea of the challenges faced by these educators when curriculum is reformed independently of the implementers' experiences in the grassroots levels.

1.2 Problem statement

It has been more than 25 years since the country has been liberated from the past injustices which had resulted from the apartheid regime. Literature shows that there has been an effort by the Department of Basic Education to intervene in boosting the national academic performance of mathematics and sciences through different projects such as Dinaledi Focus School Project, the participation in the TIMSS-R, and the Monitoring Learner Performance (MLA). The continuous curriculum reforms from the OBE to the most recent, CAPS, nonetheless there still is a crisis of underperformance especially that of mathematics in the country. These efforts unfortunately have not been implemented with consideration of the type of educators and the challenges faced by these educators at the level of implementation (Kader, 2012). Berkhout, Booyse, Brandt, Harber, Lemmer, Naiker, Phasha, Pretorius, Smit, van Niekerk

and van Wyk (2010) alluded that, despite the transformations in the South African education system, mathematics remains a huge challenge of poor performance compared to that of other countries and other subjects taught in the FET phase. Tsanwani (2009) stated that these FET mathematics educators find themselves in a confusing situation where they have to account for this poor performance, whereas little has been done by the policy makers to address the experiences in which these educators find themselves during the implementation of educational policies, particularly the progression policy. The gap in the international and local literature on how the experiences of educators could be used to inform policy changes could be an indication that perhaps the poor performance in mathematics from the Foundation Phase up to the FET phase lies in the side-lining of the experiences of the already discouraged FET mathematics educators (Carl, 2009).

This study hopes to explore the phenomenon of educators' involvement in progression policy dissemination and whether the voices of the educators are heard or whether they remain "*the voice of the teacher in the wilderness*" (Carl, 2009 p.1). The anticipated results from this study hope to give the policy makers recommendations on how they should view policy cycles, especially at the stage of Implementation, by considering who the implementers are and the contextual factors, which could affect how they are supposed to implement policies. Moreover, the study hopes to address how best the experiences of FET mathematics could be used to better the performance of learners in the FET phase.

1.3 Purpose of the study

There seems to be a gap in the local and international literature addressing the experiences of educators on curriculum reforms, particularly progression policy. After 25 years of democracy, the performance of subject like mathematics still remains a challenge regardless of how many interventions are put in place to help save the sinking ship. Curricular are reformed over and over, yet the common denominator that remains constant, yet side-lined, is the educator (Avalos, 2006). The primary purpose of this study is to explore how these FET mathematics educators experience the implementation of progression policy since they are at the coal face of its implementation. Perhaps this could create an awareness amongst the policy makers about the challenges faced by these educators during the progression policy implementation processes. The secondary purpose of this study is to offer these FET mathematics educators an opportunity to voice out their experiences on progression policy implementation since little is documented that could be used to change the way in which educational reforms are carried out. The third purpose of the study hopes to assist the policy makers to reconsider how they have traditionally passed down policies for implementation by considering the experiences of the implementers and the contexts in which they find themselves in during implementation. Perhaps the findings of this study could be used to understand and pave way to improve learner performance especially in a critical subject like mathematics which is often associated with poor performance not only in the FET but throughout the entire system of education. Although this study is based on the FET phase, the findings could be used to understand the challenges behind the throughput rates faced by the HET institutions.

1.4 Research objectives

The aim of this study is to explore the experiences of the FET mathematics educators towards the implementation of the Progression Policy in schools.

The objectives of this paper then are:

- a) To explore the descriptions constructed by the FET mathematics educators on the concept “Progression Policy”.
- b) To explore the FET mathematics educators’ experiences of the implementation of progression policy in the FET phase especially with regards to learner performance.
- c) To determine how the FET mathematics educators, perceive their experiences could be used to shape the implementation of Progression Policy effectively.

1.5 Research questions

Primary research question

What are the experiences of the FET mathematics educators in the implementation of the Progression Policy?

Secondary research questions

- a) What descriptions do the FET mathematics educators construct based on their experience on the concept of Progression Policy?
- b) How do the FET mathematics educators describe their experiences on the implementation of the Progression Policy *en masse* in the FET phase since 2012 in relation to learner performance?
- c) Based on the current experience of Progression Policy implementation in the FET phase, what recommendations do these FET mathematics educators perceive they could do differently to shape the implementation of progression policy effectively?

1.6 Clarification of concepts

1.6.1 Further Education and Training (FET)

According to the FET Act 16 (FETC, Act 16 of 2006) “*Further Education and Training*” refers to all learning and training programmes leading to qualifications at levels 2 to 4 of the National Qualifications Framework or such further education and training levels determined by SAQA and contemplated in the South African Qualifications Authority Act, 1995 (SAQA Act No. 58 of 1995), which levels are above general education but below higher education. The FET phase comprises grades 10-12 of the academic stream and the National Certificate Vocational (NCV). The NCV is a practical stream offered by the Technical and Vocational Education and Training (TVETs) Colleges, and the academic stream is offered in high and secondary schools from grades 10-12. This study was mainly focused on the academic stream of the FET phase in public ordinary secondary schools.

1.6.2 Educators

The South African Council for Educators (SACE) defines an “educator” as any person who teaches, educates or trains other persons or who provides professional educational services, including professional therapy and education psychological services, at any public school, further education and training institution, departmental office or adult basic education centre and who is appointed in a post on any educator establishment under this Act (SACE, 2000). In the context of this study, educators are those who are teaching FET mathematics, particularly grade 12, in public ordinary secondary schools.

1.6.3 Experiences

An experience as defined by Brown (2010) is an encounter with the world of events or actions that could either be disturbing or exciting. These encounters present in the form of “*state of mind, feelings attached, attitudes developed, reflections, lessons learnt and decisions made*” (Brown, 2010 p.54). In this study, an experience involves how the FET mathematics educators attach meaning, describe learnt lessons and reflect on the progression policy implementation.

1.6.4 Implementation

Thompson (1980, p.681) defined implementation as “*a means of performance of an obligation which has to be put into decision or plan*”. Furthermore, the DoE (1999, p.79) defined implementation as the “*strategic planning or process of introducing discipline in the school curriculum which requires the full involvement of responsible stakeholders from the initial stage*”. Henry (2001) held that the implementation stage of public policies, e.g. progression policy, cannot be confined to just execution and delivery of legislation but it has to address the specific problems identified by organisations. In this study, implementation was referred to as engaging and involving the FET mathematics educators’ experiences in the policy-makers decisions about the implementation of progression policy.

1.6.5 Progression Policy

Progression policy means the movement of learners from one grade to the next, excluding grade R, regardless of the learners having not met all the promotion requirements (DBE, 2011). Progression policy is used as a tool to prevent learners from being retained in one phase for more than four years (Munje & Maarman, 2016). In this study, progression policy was referred to as a way of the DoE of ensuring that FET mathematics educators make possible, in their respective schools, ways to ensure that the learners who were progressed to grade 12 due to failing mathematics in the FET phase, and possibly other phases, are assisted out of the school system.

1.7 Preliminary Literature Review

The South African education system has undergone various transformations since 1994 and, amongst others, was the splitting of the Ministry of education into the Department of Basic Education (DBE) and the Department of Higher Education, Science and Technology (DHST) respectively. Another transformation was the commitment by the DBE to the Millennium Development Goals (MDGs) to achieve the universal education for children between 8 and 18 years of age (Modisaotsile, 2012). The Ministerial Committee Report (2007) had shown that there was a challenge of underperformance, high dropout rates and high retention rates, especially in the secondary schools as learners progress through the FET

grades (Graham & Mlatsheni, 2015). Among other subjects taught in the FET, mathematics seemed to have been one of the subjects which is associated with underperformance that leads to learners dropping out of school each year (Mji & Makgato, 2006).

When the progression policy was implemented in the FET phase and the NPPPPR was passed to drop the pass rate for mathematics to 30%, it had shown how many problems there were in the quality of mathematics education (Graham & Mlatsheni, 2015). The extent to which the implementation of progression policy, especially for a compulsory subject such as mathematics, seems to have been a bone of contention amongst different scholars as some (Jimerson & Renshaw, 2012. Smith & Sherpard, 1987) were for the implementation of this policy whereas others (Alexander et al, 2003. Carl, 2009. Dube, 2016) were against it. Jimerson and Renshaw (2012) argued that, in a country like South Africa, learners with learning difficulties cannot be further disadvantaged by curriculum reforms that fail to provide necessary answers to the challenges of learner underperformance. They held that retaining learners with learning difficulties causes an unnecessary bottleneck in the education system, which does not have a plan to support these poor learners but may cause them to perform far worse than if they had been progressed. On the other hand, Dube (2012) stated that policymakers are the ones who traditionally decide on policy transformations and implement those in a top-down manner, while the critical role players' inputs are side-lined. Owen and Ranick (1977) held that educators work very hard to bring learners up to the standard requirements as stipulated by the policy makers by diagnosing each learner's strengths and weaknesses. However, when transformations to the curriculum are made, educators' experiences appear to be ignored. Evens (2013) suggested that perhaps the national matriculation mathematics underperformance could be linked to non-consultation of the vital stakeholders in education, the educators.

Despite the theoretically interesting and polarised debates around the implementation of progression policy, there seems to be a gap in literature, both locally and internationally, that gives attention to how the experiences of educators can be actively used by the policy makers in the curriculum planning processes (Maluleke, 2015). That is, for curriculum reforms such as progression policy implementation, educators' experiences should be taken into consideration in the entire curriculum development processes as they are the experts in the classroom. The rationale of this study was based on FET mathematics educators' experiences on what they really understand about progression policy implementation, the factors that affect them during the implementation of progression policy, and what strategies they think could be used to shape the implementation of progression policy better. Possibly the findings to this study could not only benefit the DBE but also the DHE, challenges faced by the DBE could be used by the DHET to understand challenges of student attrition, throughput and retentions.

1.8 Positioning myself in the study

Foote and Bartell (2011), Savin-Baden and Major (2013) and Rowe (2014) stated that a researchers' positionality in a qualitative study gives an idea about the researchers' individual world view and the position they adopt about the research study and its social and political context. Holmes (2020) stated that researchers are subjective beings who attach meanings to a variety of contexts, meaning that very limited literature is documented on social and educational research being value-free. In this study, for

me, as a researcher, positionality has assisted me in locating my views, values, and beliefs about the research design.

I am a senior phase mathematics, science and technology educator in Gauteng Province. Over the past six years of teaching these subjects, I have noticed that, as early as grade 7, learners are battling with mathematics more than any of the other subjects I teach. Mathematics is a compulsory subject and I come from a mathematics background where mathematics was a compulsory subject and learners were compelled to pass it well to move to the next grade. However, now as an educator, I have noticed that times have changed, what used to be a failing standard in mathematics back then, no longer is now. Hence, I am interested in exploring how other mathematics educators have experienced the implementation of progression policy over the years.

Despite my experience in mathematics teaching, in this study it was important for me to explore and report on the participants' perspective (Creswell, 2009). The FET mathematics educators as participants who voluntarily consented to take part in this study were given an opportunity to share their in-depth experiences based on progression policy implementation in their natural setting at a time suggested by themselves. Respect for the study and for my participants were important, hence the ethical protocol was upheld. This means that my participants were treated with respect, pseudonyms and third person narration were used to protect their identities across the entire study and the participants consented to participate in the study under no duress whatsoever.

1.9 RESEARCH DESIGN AND METHODOLOGY

1.9.1 Research paradigm

Nieuwenhuis (2007) points out that a paradigm is a set of beliefs about reality. Interpretivism assumes that reality is constructed through the eyes of the participants as they see their life or situation and that reality is all-inclusive and based on time and setting. For interpretivists, reality always fluctuates, social reality is deeply significant for appreciating and explaining generated meanings because people's behaviour is influenced by background (Nieuwenhuis, 2007). This blends well with the study that will be undertaken as the idea is about exploring the experiences of FET mathematics educators on the implementation of the Progression Policy in their schools. Moreover, a qualitative approach in this study has helped to understand how these mathematics educators make sense of the world in which they live in their natural setting. This has assisted the researcher in interacting with the participants to clarify the meanings they attach to their lived experiences.

1.9.2 Research design

The aim of this research study was to explore how the FET mathematics educators experience the implementation of progression policy especially since it was implemented *en masse* in the FET phase. The assumption of this research study was that no amount of numbers could be matched against an experience, thus my intention for this research had been to listen and collect data as it was described by these FET mathematics educators in their natural settings (Creswell, 2009). Most importantly the research study was exploratory and descriptive which allowed me, as a researcher, to report on the descriptions of the experiences of these FET mathematics educators, which would either confront or

sustain the theoretical assumptions on which the study was based on (Meyer, 2001). Hence this research study had been based on the qualitative research design.

Yin (2003) stated that a case study research is *“an empirical study that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident”* (p. 18). Qualitative research case study approach facilitates the exploration of a phenomenon within its context by using a variety of data sources. According to Baxter and Jack (2008) a case study approach is underpinned by the Constructivist paradigm. Chilisa (2005) held that Constructivism and Interpretivism are related concepts in the sense that they both address the understandings of the world as it is experienced by others. The essence of this study was to explore the experiences of the FET mathematics educators in relation implementation of the Progression Policy.

1.9.3 Research instrument

In qualitative research studies, a researcher must tread carefully when selecting an appropriate instrument for generating data as any instrument selected needs to bring the researcher closer to developing a clear picture about the phenomenon in question (McMilan & Schumacher, 2010). For this study, the selected research instruments were the face-to-face interviews and the analysis of documents. These instruments would be instrumental in gaining the understanding of these FET mathematics educators' perceptions of the implementation of progression policy.

1.9.3.1 Interviews

According to Creswell (2000), interviews are one of the major instruments in qualitative research studies for generating data. Cohen (2000, p.67) described an interview as *“any conversation or interchange of views between two or more people on a topic of mutual interest with the emphasis on the social situations that provide research data”*. The deliberate use of interviews in this study allowed me, as a researcher, to collect the rich *“descriptive data in the subjects' own words”* and to gain access to those unobservable factors that could have been missed by other instruments (Creswell, 2000 p.67). These interviews were conducted face-to-face with five FET mathematics educator participants individually in different locations. Each participant was given an interview schedule prior to the study so that they could familiarise themselves with the research questions before the interview itself.

1.9.3.2 Document analysis

Documentation analysis is a form of qualitative research instrument in which documents are interpreted by the researcher to develop meaning and understanding on the phenomenon in question (Bowen, 2009). Documents can be analysed as public (policy documents, minutes of meetings, departmental circulars, etc.) or private (letters, diaries, reviews, etc.). The participants had been requested to bring along documents that related to assessment of learners, policy documents and evidence of meetings held in relation to progression policy implementation so that, as a researcher, I could scrutinise these documents in terms of how they incorporate, adopt and operationalise the curriculum principles and fundamentals in their teaching techniques, assessments, progression and promotion processes. However, Maluleke (2015) stated that the limitation to document analysis would be to draw access to such documents from

participants. This may be a long, strenuous process as participants may be wary of sharing such sensitive information.

1.9.4 Sampling

Yin (2011) noted that sampling methods refer to the process of selecting a subset of cases to draw conclusions about the entire set. The purposeful selection of the FET mathematics educators as a sample for the study assumed that they would be advantageous for the study as they would be knowledgeable and informative about the experiences of progression policy implementation (McMilan & Schumacher, 2010). These FET mathematics educators who were sampled from the population of mathematics educators, had to fit the criteria of a quality educators' profile and specific socio-economic school background. That is, they had to be pure mathematics educators who had been teaching the subject for more than five years, in a public ordinary secondary school within the Sedibeng East District Gauteng province ranging from the low-income to working class. However, the limitation to the purposeful or judgemental sampling is that the researchers' choice of a sample may be biased based on the researchers' knowledge of the population. Secondly, purposeful sampling limits the researcher from making generalisations about a phenomenon to the entire population (McMilan & Schumacher, 2010). On the brighter side, purposeful sampling allowed for me, as a researcher, to save time and resources such as transport, and to delve deeper into the FET mathematics educators intensely and individually.

1.9.5 Data analysis

A six-phase thematic analysis by Braun and Clarke (2006) was used to analyse the generated data. I started by transcribing the voice recordings and notes of the interview and then conducted a content analysis. During the transcription and content analysis processes, I then listened to the audio recordings several times and took down notes from the recordings, which were useful. I summarised what each participant had said during the interviews and, thereafter, I compared the notes that I took during interviews with the summary that I made from listening to the audio recordings. During the data analysis, there was huge amount of data, so I themed these data into a pre-determined set of themes. I set questions for each theme, studied the participants' responses and thereafter compared them to the aim of finding consistencies and differences between each participant's response and those from school to school.

1.10 Method of data generation

Data was generated through semi-structured interviews and document analysis. The importance of the interviews was to gain rich descriptions of the experiences of the Grade 12 mathematics educators on how they understand the implementation of Progression Policy. These interviews were audio-recorded, transcribed and were supplemented by the notes I, as a researcher, took during observation. Document analysis would have been used to determine whether they are comprehensive, detailed, authentic and reliable reflections of the practices that happen in classrooms.

1.11 Research setting and participants

The study was conducted in the public ordinary secondary schools in the Sedibeng East District, Gauteng Province. The socio-economic status of these schools ranged from low-income to working class. These participating schools were spread over four towns: Heidelberg, Meyerton, Vanderbijlpark and

Vereeniging. Five mathematics educators who had been teaching the subject for more than five years and were currently teaching grade 12 had consented to take part in the research study. These schools had been selected because SED in 2015 (News24, 2016) was announced the best performing (90.4%) but the 2017 matriculation results showed a significant performance drop, dragging the district from position one to eighth (87,9%). So, the research study was interested in exploring whether the implementation of progression policy could have had an impact on that performance.

1.12 Ethical issues

Social sciences research is very sensitive to ethical issues, which may affect the way in which the research studies may be conducted (Maree, 2016). The qualitative research studies are a significantly deep, sensitive, intimate intrusion and a “stepping-into” people’s confidential lives (Kader, 2012). Hence it was of paramount importance for me, as a researcher, to ensure that the participants who had consented to take part in the study were afforded the right to confidentiality on the information they shared. The participants were referred to in third person or as pseudonyms to protect the identity of each participant.

I, had first received permission to conduct the research study from the University of KwaZulu Natal (UKZN) Human and Social Sciences Research Ethics Committee (HSSREC). Thereafter the Gauteng Department of Basic Education (GDE) and the Sedibeng East District (SED) gave permission to conduct the research study in the proposed schools. When I went to each of the schools’ principals to request permission, I gave them each a copy of the permissions from the UKZN, the GDE and the SED, together with the interview schedule, the request letters for both the principals and the proposed participants. Prior to each principal’s and participant’s consent, I had declared myself and the rights of the participants in the study. Moreover, I had verbally pledged to protect the information collected from each participant by keeping a code-encrypted copy of all the audio recordings. The research study went well despite the challenges of the COVID-19 pandemic which had required the schools, the participants and myself as a researcher to take strict precautionary measures to ensure that there would not be any cross transfer from one person to another. The permission by each of the school’s principals and the consent by each participant is attached as Appendix (A-E).

1.13 Delimitation of the study

Hackshaw (2008) stated that the delimitations of a study are limitations which are consciously set by the researchers themselves. The purpose of setting delimitations in a research study, so that the aims of the study do not become an impossible mission to achieve, are concerned with the study’s theoretical “*background, objectives, research questions and the study sample*” (Hackshaw, 2008, p.32). The delimitations for this study are explained below:

1.13.1 Theoretically

The population of FET mathematics educators in the SED only is many more than five educators, let alone the country’s population of FET mathematics educators. Simply put, the sampled number of participants was very small for its findings to be generalised to the entire population of FET mathematics educators’.

The second limitation was the scarcity of literature on educator experiences as well as grade promotion and progression locally. Hence, I had to rely heavily on the international backdated literature to supplement my literature review.

1.13.2 Objective of the study

This limitation was related to the research instrument tool, document analysis, which had been planned to be used in the study. However, there seemed to be a difficulty with sharing of documents from the side of the participants, despite the attempts made by myself following the ethical considerations and rehashing the participants to share the documents, the exercise was just fruitless. As a result, I had to depend on the interviews and observations for data generation.

1.13.3 Logistically

At the time of the data generation, the world had been going through the experience of the COVID-19 pandemic. The issuing of permissions by all the stakeholders in this research study had been strictly regulated so that the spread of this virus could be curbed. It was important for the school, the participant and myself to ensure that a mere issuing of documents was regulated by wearing latex hand gloves, keeping a social distance, and using a hand sanitiser. This may have been one of the reasons why the participants had been reluctant to issue out the requested documents.

Moreover, as the schools had been adjusting to a different timetable under COVID-19 regulations, so I had to ensure that I was patient when the participant did not adhere to the set time for starting the study. When one of the participants pulled out due to health-related reasons, it had been a knight in shining armour with no COVID-19 symptoms who voluntarily consented to take part in the study, and the study went on successfully.

1.14 Possible challenges

The schools had been operation under the strict regulations as stipulated by the National Covid-19 Command Council (NCCC) which limited the entry of any other personnel or researchers into schools to reduce the cross transfer of COVID-19.

1.15 Unfolding of the study

Chapter One introduces the title to the study and gives the study a background of the transformations in the system of education dating from 1994. Thereafter the problem statement, the purpose, the research objectives, the research questions and the clarification of concepts gives more shape to the research as well as what is to be expected in the subsequent chapters. The literature review in Chapter One gives a sneak review of the theoretical debates around the topic of the study, and the theoretical framework underpins this study. The research design and methodology show how the actual study went, the ethical issues and the delimitations of the study shows the boundaries that were anticipated for the study.

Chapter Two will expand on the literature review, which will present a brief background of the education system and its evolution in South Africa, the emergence of the Progression Policy in the South African context, Progression Policy with the intention of unpacking it and focus on the FET phase, the debates

on the implementation of Progression Policy, literature on debates around the Progression Policy and the experiences of educators. Subsequent to literature review is the theoretical framework which offers a lens through which this study will be viewed, theoretically.

Chapter Three will present the research methodology, which will comprise the research paradigm, research design, the research instruments, sampling and data analysis. Ethical considerations, quality assurance and limitations to the research methodology will also form part to the chapter.

Chapter Four will present the findings and discussions of the themed data.

Chapter Five will seek to give conclusions and recommendations based on the findings of the study.

1.16 Summary of the chapter

Chapter One has introduced the study and outlined the transformations which had taken place in the ministry of education dating back from the dawn of democracy. This chapter has also sketched out the purpose of the study, the objectives of the study which were linked to the research questions. Moreover, important concepts which give rich texture to the title of the study were discussed in this chapter, as well as a map of what is to be expected in the study to the end. Chapter Two will focus mainly on the Literature Review and the Theoretical Framework which the study rests upon.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

McMillan and Schumacher (2010) held that it is important for a study to be grounded on a firm foundation of literature as no study or academic inquiry can operate in an isolation to related literature. Therefore, the literature review in this study explored a variety of scholarly contributions which were relevant to the implementation of the policies in the education system within the South African context.

This section highlighted the background of the South African education system administration thereafter delved into the literature on the emergence of the Progression Policy with the intention of unpacking it and focusing on the FET phase. The interventions that have been introduced to the education system to boost the mathematics performance and the requirements for promotion in the FET phase were highlighted in this section. The debates around the implementation of Progression Policy are discussed in relation to how they impact on the national matriculation performance in South Africa. This literature review also highlights how in the past, the implementation of policies in education both domestically and internationally have impacted on the experiences of educators.

At the summary of the chapter, there seemed to have been limited literature on progression policy implementation, both locally and internationally, which would give a theoretical base to the study at hand. Therefore, to supplement this gap, the literature was drawn from the debates around dropout and retention both internationally and locally. This literature was used to understand the dynamics surrounding the concept of progression policy within the South African context.

2.2 The background of the South African education system administration

The South African education system has experienced several administrations since the inception of democracy. During the presidential terms of Dr Nelson Mandela, Mr Thabo Mbeki and Mr Kgalema Motlanthe the presidential terms between 1994 and 2009, the education system operated as one ministry. It was only from 2009, during Mr Jacob Zuma's presidency term, that the Ministry of Education was split into two departments, the Department of Basic Education (DBE) and the Department of Higher Education, Science and Technology (DHET).

2.2.1 *The Splitting of the Ministry of Education*

In 2018/2019, when the parliament cabinet was reshuffled by the then president, Mr Jacob Zuma, Ms Angie Motshekga remained as the minister of basic education (DBE). The DBE comprises four phases: the Foundation Phase (grades R-3), the Intermediate phase (grades 4-6) and the Senior Phase (grades 7-9) as well as the mainstream FET phase (grades 10-12). Between 2009 and the current year, the DHET had been ministered by three ministers, Dr Blade Nzimande (2009-2017), Mr Hlengiwe Mkhize (2017-2018), Dr Naledi Pandor (2018-2019) and when President Cyril Ramaphosa's cabinet was reshuffled, Dr Blade Nzimande returned as the minister of DHET to the current date (News24). The DHET comprised

the Adult Basic Education (ABET), Technical and Vocational Educational Training (TVETs), and tertiary education to doctorate level. Despite these transformations in the ministry of education, there seems to be a gap in literature which shows how the challenges faced by the DHET could not have been inherited from the DBE, or vice versa, possibly intertwined challenges.

2.3 The emergence of Progression Policy

The Ministerial Report (RSA Ministerial Report, 2008: xii) showed that public ordinary secondary schools were facing the challenge of high retention and dropout rates, especially from the ninth grade. At that time, the DBE had no plan to manage this challenge. The implementation of policy pertaining to grade repetition, non-promotion, and retention by the DBE acknowledged that the practice of retention did not yield the expected learning outcomes. More learners were causing a bottleneck in the South African school system (DBE, 2008). The DBE (2011, p.4) also acknowledged that “*learners who have failed to master basic skills in primary school*” but have nonetheless been progressed to upper grades were more prone to dropping out or being retained in various higher grades. When these retentions and dropout policies failed, then progression policy was implemented *en masse* in the secondary schools as more retentions and dropouts were concentrated in secondary schools (Munje & Maarman, 2016).

2.3.1 The reality of learner dropout and grade retention in schools

Wegner, Flisher, Chikobvu, Lombard and King (2008) conceptualised *dropout* as a practice of learners leaving school before completing a given grade in a school year due to reasons other than death or transfer to other schools. Letshwene (2019) held that, as these learners drop out, they will not get a chance to reach matriculation, let alone completing it successfully. Sabates, Akyempong, Westbrook and Hunt (2010) argued that these learners who have dropped out of the educational system seem to face challenges with basic skills such as numeracy and reading with understanding. Letshwene (2019) held that learner dropout is not a new act in the school systems and a parallel could be drawn between the South African system and those around the globe. For instance, the United Kingdom has the highest dropout rate of learners from the age of sixteen years in Europe, China reports an average of 40% of dropout rates, whilst Sub-Saharan Africa has about 50% of learners who do not complete the school cycle (Letshwene, 2019). The learner dropout rates in South Africa are no exception, Jensen (2014) alluded that 700 000 of the 1,2 million grade 1’s could not complete their grade 12 in 2012 as they had dropped out. And, of these, 1,2 million grade 1’s who were in grade 1 in 2003, 600 000 dropped out before matriculation (Jensen, 2014).

Beyers (2018) stated that learner retention is an educational practice which requires learners to repeat a grade in the upcoming year due to reasons such as not meeting the academic requirements for the current grade, and being cognitively, personally and emotionally immature to withstand the needs of the subsequent grade. Thompson (1980) cited in Kader (2015) stated that the practice of learner retention had long been used by schools to maintain a grade system where those learners who were considered lazy or undisciplined would be kept behind. The *National Policy Pertaining Programme and Promotion Requirements* (NPPPPR) of the National Curriculum Statement Grades R-12 (DBE, 2011) stipulates that a learner can only be retained once per phase, meaning that in the four phases of the school cycle a learner can only be retained four times. This simply means that once learners have already been retained once in a phase, since there is no plan by the DBE to support these learners to boost their academic

performance, the same DBE stumbles over its own policy to see these learners out of the education system. Beyers (2018) argued that as these learners are pushed up in the subsequent grades, the responsibility is then left with the educators to ensure that they develop interventions to bring these learners up to the standard of the grade.

The practice of grade retention in relation to promotion and progression policies around the globe remains hotly debated amongst theorists. For instance, Goos, Van Damme, Onghena and Petry (2011) argued that the Scandinavian countries are for the progression of learners based on age cohort, whereas countries such as the United States, Belgium and France are for learner retention but only in the foundation phases. Goos et al. (2011) pointed out that there is a variation of learner's cognitive and psychosocial skills right from the first grade amongst the South African learners and that progressing these learners in the upper grades does not necessarily mean that they will automatically do better; in fact, most struggle. The question then remains that, as these learners who battle with the minimum requirements are not retained, what would then the intentions of the policy makers be for the quality of education in South Africa (Beyers, 2018). The retention of learners is a multifaceted decision that implicates stakeholders including educators, parents and learners, yet the policy makers make the final decisions for which they are not accountable (Beyers, 2018).

2.3.2 Studies on learner dropout in South African secondary schools

Wegner et al. (2008) noted that, in as much as different countries invest in the educational growth and development of their youth for a vigorous and an economically healthy future, there is still limited understanding on how best to curb dropping out.

2.3.2.1 Secondary school learner dropout causes

Mnguni (2014) conducted a study to investigate the causes behind learner dropout in high schools in the Johannesburg South and he established that there was a link between teenage pregnancy, parent involvement, substance abuse, grade repetition and dropout. In another study by Monyela (2011) it was estimated that about half a million high school aged learners in 2007 had not completed Grade 12. Moreover, the high school aged learners were twice as likely to drop out compared the primary school aged learners. According to the Statistics South Africa 2014 Report, poor performance was one of the reasons why these secondary learners were dropping out rapidly, that the more they performed badly, they were prone to retention and lack of self-confidence.

2.3.2.2 Implications of learner dropout in RSA

Monyela (2017) claimed that one of the implications of the youth dropping out is that it increases the problem of "Not in Employment, Education or Training" (NEET). According to Graham and Mlatsheni (2015) the youth that drop out become vulnerable, marginalised and likely to contribute to long-term unemployment, poor health choices and psychological deterioration. According to Monyela (2017) when the Minister of Basic Education came under scrutiny for painting a glossy picture about the National Matriculation pass rates that, in reality, were grim, there had to be adjustments of policies at a national level that would frame the picture that something was done about the performance of the learners and the rates of dropout, perhaps the introduction of Progression Policy *en masse* in the FET phase.

2.4 The state of mathematics performance in secondary schools

The performance of mathematics, both domestically and internationally, has always been a highly debated topic. The subsequent paragraphs describe the states of mathematics performance in RSA and abroad.

2.4.1 Mathematics performance in RSA secondary schools

According to Hlalele (2012) the subject of mathematics has long been subjected under the state of emergency due to poor performance. For instance, in an article by City Press (2012), one sixth of matriculants in year 2011 had achieved less than 10% in mathematics. Moreover, Dlamini (2017) stated that the matriculation mathematics pass rates between 2012 and 2015 had dropped significantly despite the call by the minister of DoE to reduce the pass mark to 30%. Dlamini (2017) pointed out that, in the year 2015, only, 49,1% of the matriculants had passed mathematics at the 30% mark, and 31,9% had passed on 40% score, therefore he argued that, even when the pass mark had been lowered, learners still battled to reach a satisfactory mark of 60% pass.

2.4.2 An escape to Mathematical Literacy (ML)

Due to poor performance in mathematics in the FET phase, matriculants, in particular, were dropping pure mathematics for Mathematical Literacy (ML). Hlalele (2012) stated that there has been a reduction in the number of learners who enrol for pure mathematics over the years. For instance, in the year 2008 there were about 300 000 who had enrolled for pure mathematics but, in the year 2015, this number had dropped to about 260 000. Jojo (2019) held that this drop in pure mathematics enrolment rates had led to the introduction of Mathematical Literacy (ML) in the FET phase as a compulsory alternative to pure mathematics. However, Jojo (2019) argued that the introduction of ML in the FET phase seems to have failed its intended purpose, of boosting mathematics performance. Even Umalusi (2013) reported that, since 2014, the performance rate of mathematics has been less palatable despite the introduction of ML. Jojo (2019) held that studies have shown that, regardless of ML being less difficult than pure mathematics, the underperformance rate in ML supersedes that of pure mathematics by a notable margin.

2.5 International trends on secondary school mathematics performance

In 2012, the United States of America (USA) performed 26th out of 34 countries that had taken part in the Organisation for Economic Cooperation and Development (OECD) for mathematics only (OECD, 2012). In 2015, the performance of the USA learners in mathematics in the Programme for International Student Assessment (PISA) placed mathematics below average (OECD, 2017). The Zambezi Region schools in Namibia have also experienced a challenge with the grade 12 mathematics performance causing frustrations to all the stakeholders in their education system (Maemeko & Nkengbeza, 2017). These two countries then strengthened the quality of their educators' education, they established that educators were vital tool in increasing learner performance so they initiated interventions to skill mathematics educators (Maemeko & Nkengbeza, 2017, McKinsey, 2007). This is the difference between the RSA education system and that of these countries, that RSA changes the curriculum whereas other countries strengthen teacher quality, and the difference in performance between RSA and these countries is visible.

2.6 The interventions to boost the mathematics performance in South Africa

Mji and Makgato (2006) held that, since 1994, underperformance in mathematics, science and technology in public schools has been a challenge and, as such, the DoE has engaged in different interventions to turn things around. Rather than reciprocating underperformance, these interventions seem to highlight the existing challenges in education. Nonetheless, the intervention programmes discussed below are: The Third International Mathematics and Science Study (TIMSS), Monitoring Learner Achievement (MLA), Dinaledi Focus School Project, the Annual National Assessment (ANA) and the Secondary School Improvement Programme (SSIP) which are discussed in the paragraphs below.

2.6.1 The Third International Mathematics and Science Study (TIMSS)

The Third International Mathematics and Science Study (TIMSS) is the largest international comparative study used to measure mathematics and science knowledge skills of 4th to 9th graders (Boe, May & Boruch, 2002). The TIMSS was first administered in RSA in 1995 for grade 5 learners, and then in 1999 grade 8 learners took part (Reddy, Juan, Isdale, & Fongwa 2019). It was in the year 2003 that the TIMSS was administered to the grade 8 and 9 learners, and then in the year 2011 and 2015 only grade 9 learners participated.

2.6.1.1 The chronological performance in mathematics in the TIMSS

In 1995, RSA grade 8 learners took part in the TIMSS for the first time and their performance in mathematics competency was poor, the trend showed that these learners struggled with basic numeracy skills hence their performance was way below the benchmark (Van der Berg, 2015). In 1999, TIMSS-R (Repeat) was conducted on the grade 8 learners and, once more, the performance deteriorated further, the South African learners' mathematics performance was lower than that of other countries such as Morocco, Tunisia, Chile Indonesia, Malaysia and the Philippines which also had performed poorly (Howie, 2001; Naidoo, 2004).

The 2003 TIMSS-R report showed that only 11% of the grade 9 learners had achieved a score higher than low (400) but less than intermediate (475). The 2011 and 2015 TIMSS-R performance for grade 9 on Mathematics and Sciences showed a slight improvement as they escalated from "very low" to "low" (Howie, Combrinck, Roux, Mokoena & McLeod, 2017). The 2015 RSA TIMSS results showed that the grade 9 mathematics performance ranked the lowest amongst the 39 countries that had participated in the study. The top achieving countries in 2015 for grade 9 mathematics were Singapore, Republic of Korea, China, Hong Kong and Japan, whereas the worst performing countries were Botswana, Jordan, Morocco, RSA and Saudi Arabia. Although the TIMSS-R 2019 grade 9 mathematics showed an improvement from the 2015 scores (17 points up), the performance was still poor, ranking below the international benchmark (Reddy et al. 2019).

2.6.1.2 Critique of the TIMSS

Dlamini (2017) argued that the performance of learners in the TIMSS-(R) seems to favour the East Asian and or European countries more than African countries. The African countries could not make it to the top on "the top 10 smartest countries based on math and sciences" (Speiser, 2015) because mathematics performance is dependent on different attributes. Tella (2007) and Kukogho (2015) argued that most of the European countries' classes are well-equipped with modern technology such as computers, and that

learners latch on to the use of technology from early grades, which is a different case for African countries. Van Der Berg (2007) stated that the formula for solving underperformance in science and mathematics in South African schools could not be easily solved as RSA carries a remainder of the imbalances caused by the apartheid system, that black township schools still lack resources to teach these subjects, whereas the previously known model-C schools have always had appropriate resources for teaching.

2.6.2 The Monitoring Learner Achievement

In 2005, UNESCO and UNICEF organised the Monitoring Learner Performance (MLA) project to monitor the quality of basic educational programmes and their outcomes. Different countries took part, including South Africa. The results showed that 44% of grade 4 learners achieved a score below 25% for numeracy, and 2% fell within a range of 75-100% (Chinapah, 2003). When these numeracy results were compared to those of other countries such as Tunisia, Mauritius, Malawi, Zambia and Senegal, South Africa ranked last. Hence Mji and Makgato (2006) stated that the performance of mathematics in South Africa is very bad, especially at a time when the country is facing a challenge of suitably qualified professionals such as doctors, scientists and other scientifically oriented professions.

2.6.3 The Annual National Assessment (ANA)

The introduction of ANA in 2011 for phase exit grades 3, 6 and 9 was mainly to track the performance of learners' reading and literacy competency (Van Der Berg, 2015). The 2012 and 2013 grade 9 mathematics results were the most believable; schools reported on what looked like a true reflection of the learner performance that showed that there were challenges in learner performance, particularly in mathematics (Van der Berg, 2015). The mathematics performance of the grade 9's in 2012 averaged 13%, in 2013 it was 14% and in 2014 it was 11% (Ntekane, 2017). Despite this poor performance, strategies and intervention programmes to support these learners had not been put in place; in fact, the grade 9 class of 2012 sat for their matriculation in 2015 and had pulled the national matriculation performance to 70,7% (Van der Berg, 2015). Ntuli (2018) stated that the administration of ANA was not supported by the leading teacher union, the South African Democratic Teacher Union (SADTU), as it promoted rote learning and memorisation of random facts rather than the achievement of broader educational goals, therefore it was doomed to die.

2.6.4 The Dinaledi Focus School Project

The Department of Education introduced The Dinaledi Focus School Project as part of the Strategy for Science, Mathematics and Technology to increase the number of learners studying mathematics and physical sciences in the FET phase and increase the performance rate, but the performance to date is still poor (Mji & Makgato, 2006). The project may have been to target stars or learners who had shown potential in mathematics competency but the downfall was that those who were trapped in disadvantaged schools seemed to be disadvantaged by this project. Young and Muller (2013) asserted that, when the 2008 Dinaledi Focus School Project analysis was done, few stars seemed to twinkle, meaning that more learners chose mathematics and science from grade 10, but only a few could cope. Isaacs (2019) argued that the implementation of the Dinaledi Focus School Project may have been documented to redress the performance inequalities for mathematics and sciences in favour of the previously disadvantaged schools, however, its implementation further caused disparities in the education system.

2.6.5 The Secondary School Improvement Programme (SSIP)

The Secondary School Improvement Programme (SSIP) is a project that was designed by the Sci-Bono in partnership with the DoE in 2010 (GCIS, 2010). SSIP was designed to offer academic support to secondary schools that perform 80% or less in their National Senior Certificate (NSC), provide educators and learners with a wide-range of educational support as well as supplementary training (Setlhako, 2016). However, according to Setlhako (2016) the implementation of the SSIP takes place too late in the learners' schooling, she argues that grade 12 performance takes off from grade 10 and, if learners were guided earlier, perhaps they would perform better in grade 12. Furthermore, Kanjee and Bhola (2014) held that the various projects that are designed to boost performance in schools have no trail of evidence showing how effective they are in implementation. Simply put, the DoE is more concerned about the impact of the programme than its evaluation.

2.7 Mathematics curriculum changes since 1994

Since the inception of democracy, the South African education system has gone through various policy changes, which would be directed to improving performance. The three policy changes discussed below are the Curriculum 2005 (C2005), the Revised National Curriculum Statement (RNCS) and the National Curriculum Statement/CAPS grade R-12.

2.7.1 The Curriculum 2005 (C2005)

The first curriculum introduced in South African education after 1994 was the Curriculum 2005 (C2005) which had been a direct duplicate of Outcomes Based Education (OBE) as it was based on the learner-centred philosophy (Chisholm, 2005). This learner-centred philosophy promoted the idea that the educator would be a facilitator of knowledge who would assist learners in self-discovery of various mathematical concepts (Matlala 2015). However, Jansen (1998) argued that the implementation of C2005 covered only the GET phase up to grade 9, that if these learners had not been able to self-discover the mathematics content preparing them for the FET phase, then they would face challenges. Secondly, the failure of C2005 implementation was that the idea of learner-centredness and self-discovery was based on the theory of behaviourism and competency education models similar to those in the vocational education in the UK, (Matlala, 2015). This idea failed to acknowledge that the experiences of educators in facilitating learners in self-discovery of mathematical concepts in the UK was completely different to that in the RSA; most of the South African public ordinary schools are still carrying the repercussions of apartheid such as lack of resources and teacher development, amongst others (Dube, 2016).

2.7.2 The Revised National Curriculum Statement (RNCS)

The second curriculum was the Revised National Curriculum Statement (RNCS) which was declared official in the year 2002. However, its implementation took off in the year 2004 (Chisholm, 2005). The implementation of the RNCS for the FET phase made mathematics a compulsory subject for all learners and, in the year 2006, Mathematical Literacy (ML) was an added subject for those learners who could not cope with pure mathematics (AMESA, 2010). There was confusion around the content and assessment of the mathematics RNCS; there were changes in the geometry concept, which was assessed in paper 3 and, although learners had a choice not to write this paper, educators had to teach the concept in its entirety (Dube, 2016). That valuable time could have been invested in supporting

learners in those concepts in which they were certain would form part of the paper 1 and 2, to boost performance.

2.7.3 National Curriculum Statement Grades R-12/ Curriculum and Assessment Policy Statement (CAPS)

Thereafter, the NCS for Grades R-9 and Grades 10-12 were combined into a single comprehensive document known as the NCS Grade R-12 and then third curriculum. The Curriculum and Assessment Policy Statement (CAPS) then surfaced (Bharath, 2015). This CAPS was added to the NCS Grades R-12 and it had meant, for mathematics educators, a shift from the learner-centred approach to teacher-centred approach, meaning that they had to focus more on the mathematical content to support learners for improved performance. The phasing-in process of CAPS in the FET phase took place in different years, in 2012 it was introduced in grade 10, in 2013 it was introduced in grade 11, and it reached grade 12 by 2014 effectively (DBE, 2011). However, Dlamini (2017) argued that the failure of NCS Grades R-12 to boost performance could not be solved by the implementation of CAPS, that mathematics underperformance has long reigned in the DoE. For instance, the first NCS Grades R-12 mathematics paper was written in 2008 and the first CAPS mathematics paper was written in 2013 yet learners fail dismally in both curricula (Dlamini, 2017).

2.7.4 The NCS grades R-12 requirements for grade promotion and promotion in the FET band (grades 10-11) and Multiple Examination Opportunity (MEO)

The grade promotion, progression and multiple examination opportunity (MEO) requirements are stipulated in the *National Policy Pertaining Programme and Promotion Requirements* (NPPPPR) of the National Curriculum Statement (NCS) grades R-12. The three subsequent paragraphs discuss the promotion, progression and MEO requirements for the FET phase.

2.7.4.1 FET Grade promotion

A learner in grade 10 must have a total of seven subjects or learning areas, four of which are compulsory and three are of choice. Of these compulsory subjects, one must be either pure mathematics or ML (DBE, 2011). A grade 10 to 11 promotion means that a learner must have achieved 40% in any three subjects including Home Language (HL) and 30% in the remaining subjects. Although mathematics and/or ML is a compulsory subject, the NPPPPR does not stipulate its independent pass mark. In fact, even if a learner achieves a mark less than 30%, the policy allows for condonation. Letshwene (2019) argued that, unfortunately, a mark as good as 70% in grade 12 mathematics might not be as good as it should be considering that the NPPPPR allows for a 30% pass. The final year mark is then calculated by adding the cumulative mark of the year known as CASS (25%) and the examination (75%). According to Spaull (2013), it is puzzling how the admission requirements to a Bachelor's Degree is an NSC with a minimum average of 50-59% in four recognised 20-credit subjects yet learners pass with an average of 30% in grade 12. Hence Letshwene (2019) argued that the gap between the low pass mark in the FET phase particularly grade 12, and the high admission scores to some HE institutions clearly shows that there are cracks between DBE and DHET at the cost of quality education.

2.7.4.2 FET Grade progression in grade 12

Grade progression in the FET phase, as stipulated in the *National Policy Pertaining Programme and Promotion Requirements* (NPPPPR) of the National Curriculum Statement (NCS) grades R-12 in 2012 (DBE,2011) stipulates that a mere progression of learners in the FET phase does not secure a learner with final certification in grade 12 (Kika & Kotze, 2019). Unlike with promotion, progression does not require condonation of minimum requirements. In fact, learners who do not meet the minimum requirements for promotion may register for the supplementary examination the following year and not exceed two subjects. Those who do not qualify for supplementary examinations may re-enrol for the NSC as full-time repeaters provided, they are less than 21 years of age. Alternatively, they can register as part-time repeaters at any Public Adult Education Centre (PEAC). These learners also have the benefit of being able to register for the Senior Certificate that is the school leaving qualification for adults and out-of-school learners.

2.7.4.3 Multiple Examination Opportunity (MEO)

According to the NPPPPR, a learner who has been progressed from grade 11 to grade 12 will be granted a multiple examination opportunity (DBE, 2017). This means that this progressed learner, instead of writing seven subjects at a go, she or he will be allowed to write a limited number of subjects in one examination sitting and the rest she or he will write in the following examination, which is the May/June examination. However Circular E29 of 2019 has withdrawn its decision on MEO administration with effect from year 2020, meaning that all the progressed 2020 learners will have to write all their November/December examination at one go. Ms Angie Motshekga stated that the MEO was scrapped because it was not implemented as intended, that instead of assisting progressed learners to achieve the NSC certificate over extended time, schools used it as a gatekeeping mechanism (SAnews, 2020). Inadequacy in policy change initiatives by the DoE not only affects the performance of learners, but it also affects that of educators. This means that, with the implementation of Circular E29 of 2020, educators will need to make ends meet to support those learners who have been MOE'd despite the challenges of the deadly COVID-19 pandemic (Boris & Herrington, 2003).

2.8 Factors that affect FET mathematics educator's implementation of CAPS

The implementation of progression policy in public schools is based on the CAPS policy, the current policy that outlines what should be taught and when it should be taught, the topics that should be covered per subject per grade per quarter of the school calendar, and it stipulates guidelines on how assessments must be carried out (DBE, 2015). The factors that affect the effective implementation of CAPS discussed below are lack of training for CAPS, the CAPS document is too time focused, the type of educator in the system, the availability of appropriate resources and overcrowding.

2.8.1 Lack of training for CAPS

Moodley (2013) stated that the implementation of CAPS raised lots eyebrows for most educators. Nkosi (2012) added that when CAPS was introduced Ms Angie Motshekga made a parliamentary announcement that educators would receive training and workshops. However, educators claimed that they had received only one day's training where a big chunk of the CAPS document was squashed in one go. These educators raised that the CAPS workshops did not equip them with methodologies and pedagogies to help them deal with the cognitive needs of different learners in their classrooms. In another

study by Dube (2016) educators complained that these CAPS workshops were fruitless, meaning that these workshops were too detailed on information and orientation about policies rather than skilling educators on how to context the content of CAPS. Moreover, Maharaj, Nkosi and Mkhize (2014) stated that even after that one day's training on content, educators still face a challenge with implementing CAPS in different school conditions.

2.8.2 CAPS document too time focused

In research conducted by UMALUSI after CAPS was implemented, it was revealed that there was no difference between the content in CAPS and the NCS, except that the content in mathematics exceeded that of NCS. This means that those learners who had written grade 12 mathematics during the years 2008 to 2013 were never taught and assessed on Euclidean geometry and probability unless they had been part of those few schools that wrote paper 3 (Dlamini, 2017). Some educators complained that they felt were pushed to rush swiftly through the content to cover the syllabus and they could not spare time to attend to the needs of those learners who needed remedial work (Du Plessis, 2015). DBE (2015) stipulates that assessments in CAPS serve the purpose of ensuring that all content is covered across all subjects to avoid teaching to the paper. But, according to Dube (2016) due to time-constraints, the reality is that educators teach concepts that they know for sure will be assessed in School-Based Assessments (SBA) tasks, and it is unfortunate that learners are progressed to the next grade with gaps in content that will affect their performance in the following grades.

2.8.3 The type of Educator in the system

Mathematics may well be a compulsory subject from the foundation phase to the FET phase, but the implementation of CAPS policy did not consider the type of educator who teaches the subject (Dube, 2016). Countries like Namibia and the UK, when they realized that there were challenges in the mathematics performance, went to their drawing boards and strengthened the quality of their educators (Maemeko & Nkengbeza, 2017; McKinsey, 2007). In an audit done by Mathematics and Science in 2001, it was revealed that more than half the number of mathematics educators had not had formal subject teaching and training from tertiary level (Mji & Makgato, 2006). A report by the Education for All (2000) showed that about only 50% of the 85% of mathematics educators in force have specialized in the subject during training. Parker (2006) stated that the 20% of FET phase mathematics educators are professionally qualified and only 21% of those have university mathematics-related courses. Jojo (2019) stated that there is evidence that there is large number of qualified mathematics educators in the system who are not teaching the subject or not teaching at the level they are qualified for.

2.8.4 The availability of appropriate resources

According to the FET CAPS document, mathematics is “a human activity that involves observing, representing and investigating patterns and qualitative relationships in a physical and social phenomenon and between mathematical objects themselves” (DBE, 2011 p.8). Dube (2016) indicated that some topics in the FET mathematics such as Probability require physical resources such as graphing calculators to develop the intended skills. Van Der Berg (2009) stated that the previously disadvantaged secondary schools still depend on the educator and the text book as a resource for FET mathematics. As a result of the legacy of apartheid, most of the former model C schools have appropriate resources, that offer an advantage for better quality of education to their teachers and learners to do well. De Wet and Wolhuter

(2009) pointed out that the previously disadvantaged schools are concentrated in rural areas and townships and, in 2008, of the 25 415 public schools, 4 046 had no electricity, 2 891 had no source of water and 17 081 had no computers. Moreover, although some schools are provided with the resources, the issue of teacher development in using those materials remains an issue (Dube, 2016).

2.8.5 Overcrowding

The DBE (2014) stipulates that, when the teacher/learner ratio for public ordinary schools has exceeded 1:30 then overcrowding results. The CAPS document (DBE, 2011) on the other hand, is designed to accommodate 40 learners per educator. The DBE (2013) conducted a School Network for Absenteeism Prevention (SNAP) survey to determine the teacher/learner ratio in public ordinary schools per province, the results showed that the ratios were within the Post Provisioning Norm requirement but, according to Muthusamy (2015), educators felt that these statistics were not a true reflection of reality in most public schools. Venketess (2011) found that, in one of the public ordinary schools in Kwa Zulu Natal, 150 learners had been crowded in one classroom and educators were simply not able to reach the needs of all these learners' educational needs. Muthusamy (2015) held that overcrowding in public schools leads to shortage of physical space, excessive workload, behavioural problems, and limited opportunity to cater for the needs of all learners.

2.9 Manipulation of matriculation results

Jacobsohn (2017) stated that, after the November/December matriculation examinations are written, specialized teams of researchers are tasked to perform comparative analysis of the current and previous years' results for each subject to decide on whether the papers were easy or difficult. These findings are used to determine which subjects need to be adjusted and by how much. Letshwene (2019) argues that matriculation examination papers are set by teams of experts who should be sufficiently experienced to know that, even before the papers are written, they are within the learners' cognitive competency range. In the 2014 CAPS examination, 13 subjects were adjusted upwards and 10 were adjusted downwards in 2016, while only 28 of 58 subjects were adjusted upward and were 4 adjusted downwards, and in 2017 16 of 58 subjects were adjusted upwards and 4 were adjusted downwards (Davis, 2017). Therefore, this adjustment and manipulation of raw scores could point that there is lack of transparency by UMALUSI, that the adjustment of the national matriculation results is done to save the reputation of the DBE whilst side-lining the experiences of the poor educators in the system.

2.10 Teachers' experiences on policy implementation

2.10.1 Feelings of resistance

Pillay (2006) stated that, during curriculum changes, educators battle with feelings of discomfort and insecurity as they have to change from their familiar ways of teaching and learning. Unfortunately, some educators may even develop an emotional resistance to defend themselves from adapting to the changes, which may expose them to feelings of inferiority or failure (Taole, 2013). Makhwantana (2007, p.7) stated that these deteriorating feelings lead to educators being "*anti-everything and everyone who talks about the curriculum*".

2.10.2 Overload of policy changes

In a study by Boris and Herrington (2003, p.63) on teachers' experiences on curriculum changes, educators complained that, since the inception of freedom, they have been tossed and turned over "*magical instructional recipes*" namely the OBE, RNCS, NCS and CAPS. That the changes that came with each curriculum reform were accompanied by large-scale changes that were based on poor operational terms and had no positive impact on teaching and learning. Carl (2009, p.119) argued that lack of proper consultation with educators during policy changes results in "*feelings of discouragement*" and that there is no point in trying when their experiences are constantly side-lined by the policymakers.

2.10.3 Lack of educators' inputs

According to Taole (2013), the educators' views and beliefs are important in shaping and strengthening curriculum reforms because they are the agents in the education system who must interpret curricula in detail. Lumpe, Haney and Mznial (1998) argued that the educators' beliefs and opinions are often ignored by the policymakers under the impression that educators' experiences are only confined within a classroom. This means that educators felt that policymakers only focused on what they wanted to achieve from the top-view without considering the factors that could affect the effective implementation processes such as availability of resources, teacher development, etc.

2.10.4 Lack of educator development

In a study by Brodie (2011) when CAPS was implemented, most educators complained about the lack of professional training and development to accommodate them with the learner-centredness and teacher-centredness philosophies in their respective teaching and learning environments. The failure of the DoE to incorporate the knowledge, attitudes, perceptions and values in the CAPS initiation led to educators developing an "*attitude of acceptance... an attitude of creative adoption*" (Avalos 2006, p.2) whilst others simply went back to their old ways of teaching and learning (Badungela, 2012). However, Jansen (2002, p.118) argued that there was a dislocation between "*policy vision and practical realities in schools and classrooms*", meaning that these trainings and workshops on policy implementation fail to cater for the needs and backgrounds of all educators in the system. For instance, one of the specific aims of mathematics is to "*promote accessibility of mathematical content to all learners*" (DBE, 2011, p.8), however not all learners who reach grade 12 have the same cognitive ability. In fact, educators have to differentiate the learners' activities as support, but the year-end mathematics examination paper remains the same for all learners and educators form part of the reasons for underperformance (Dube, 2016).

2.10.5 The educators' autonomy

Carl (2009) stated that if educators could feel empowered and supported by the DBE, then they will have the sense of autonomy to take independent decisions that will make a difference towards their own development and that of their learners. Modisaotsile (2012) held that, since educators are the ones who are doing the spade work of policy implementation, their professional judgement should be respected. Unfortunately, the confusing implementation of CAPS meant that educators found themselves wanting between the "learner-centeredness" and "teacher-centred" methods, meaning that they did not know exactly what their roles were (Brodie, Lelliot & Davis, 2001). Carl (2009) held that the educators' autonomy in RSA in policy implementation is very limited, educators are expected to implement policies as prescribed without empowerment and support.

2.11 Implications for the HET

Although the ministry of education does not operate as a unit, it does not mean that the challenges faced by one department cannot impact on another. There are two implications: the mathematics performance of first-year HE students including the attrition, throughput and retention rates and the intervention programmes.

2.11.1 *The mathematics performance of first-year HE students*

Potgieter and Davidowitz (2010) conducted a study to check the preparedness of the 2009 cohorts for tertiary studies which included mathematics, chemistry and physical sciences using the Chemical Competence Test (CCT). The analysis of this CCT compared to the grade 12 performance in mathematics and physical sciences showed that the assessment ratings embedded with each curriculum reform (NSC and CAPS) created a confusion at the DHET during admission. For instance, the admission requirement for Bachelor of Science Chemistry (B.Sc) at the University of Pretoria in 2008 was a C-symbol (60-69%) for physical sciences and D-symbol for mathematics (50-59%) on higher grade (HG) but, in 2009, when the curriculum changed, the ratings changed to mathematics level 4 (50-59%) and physical sciences level 4 (60-69%). Potgieter and Davidowitz (2010) then argued that the first-year students at the University of Pretoria in 2005 who were admitted for grade 12 level 6 mathematics were less prepared for chemistry studies than those students who had been admitted with a D-symbol on HG for mathematics.

Froneman and Hitge (2019) on the other hand, compared mathematics knowledge of first year students from three different school curricula, the OBE, NCS and CAPS. They noted that the implementation of CAPS omitted the Linear Programming topic but reintegrated Euclidean geometry for which certain topics were assessed as optional in the NCS. However, they concluded that the changes in the mathematical content of the different curricula had no impact on the basic mathematical knowledge of the first-year students who have enrolled for mathematics-intensive studies. Yet Froneman and Hitge (2019) suggested that the gap in Euclidean geometry knowledge could negatively affect the preparation of learners for tertiary studies, mathematics is a procedural subject based on the gradual build-up of knowledge of concepts and failure to teach these in the FET phase may not be supplemented by the scarce time in tertiary.

This mismatch between the content and structure of secondary and tertiary mathematics curricula in South Africa seems to be similar to that in the United Kingdom. Darlington (2014) conducted a study to find differences between the secondary and undergraduate mathematics in UK learners who had completed A-level mathematics in secondary using the Mathematical Assessment Task Hierarchy (MATH). The results showed that universities were then burdened with the responsibility of conducting diagnostic assessment on first-year students on entrance as the A-level learners had not been taught important mathematical concepts such as calculus, algebra and trigonometry, which were crucial for their undergraduate studies (Darlington, 2014). The implication was that, as a result of this gap in mathematical knowledge, students who had enrolled for the mathematical sciences at an undergraduate level were the worst performing and they resulted in the highest dropout rate of all 2014/2015 disciplines (Higher Education Statistics agency, 2016a). These findings by Darlington (2014) seem to align to those of Potgieter and Davidowitz (2010) in a sense that the changes in the secondary mathematics curriculum

and grading system seem to impact on the performance of the first-year students who have enrolled for mathematics intense studies in HE.

2.11.2 Attrition, throughput and retention rates

Attrition, throughput and dropout are worldwide challenges faced by the HE institutions, hence different countries define these terms differently (Sondlo, 2013). In the UK, the HE retention rate is defined as the time it takes for a student to complete their enrolled course of study within the stipulated time without requiring a consecutive year or dropping out of the institution (Crosling, Heagney & Thomas, 2009). Moxley, Najor and Dumbrigue (2001) stated that retention is when students do not achieve the minimum requirements for the intended course of study at a specific time and are required by the HE to re-enrol their course of study by either a year or more. Throughput rates refers to the number of students who have succeeded in completing their course of study within the minimum or maximum time stipulated out of the overall number of students who enrolled at the beginning of the course of study (Akoojee, McGrath & Visser, 2008). Attrition and dropout rates are used interchangeably, they both denote a student who has enrolled for a particular course of study at a particular institution but discontinued their studies or dropped out before completion (Sondlo, 2013).

In a research study that focused on the challenges of attrition, retention and throughput rates in the United States of America (USA), Tinto (2006) suggested that these issues should not be addressed from the perspective of student access to the HE institutions only, but rather that they should enhance students' success in their respective courses of study and improving graduation rates. Tinto (2006) and Thomas (2009) also suggested that students' engagement is important in achieving good throughput rates, but then the involvement of educators and policy makers could not be suspended. The Rand Corporation (2007) completed a research study in two European countries (Ireland and the Netherlands), Australia and the USA to assess whether the student retention could be improved through application of initiatives that focused on academic and social integration of students in HE. The research findings showed that the governments in these respective countries introduced funding streams to ensure that there were adequate support programmes to improve student retention. Moreover, these governments ensured that important information reached the secondary schools for proper career preparedness (Australia, Ireland and the Netherlands), that there was peer mentoring (Australia, Ireland, the Netherlands and the USA), transition courses and skills development (Australia, Ireland, the Netherlands and the USA), professionalization of support staff and retention officers (Ireland and the Netherlands) and the creation of learning communities (the Netherlands and the USA).

Coser and Letseka (2010, p.3) held that *"if student attrition is a worldwide phenomenon, then the problem is acute in South Africa"*. A report for Human Sciences Research Council compiled by Moeketsi and Maile (2008) showed that, in the year 2000 only, the DoE reported that there were about 120 000 students who had enrolled with the HE. However, 36 000 students had dropped out in their first year of study, a further 24 000 dropped out in the second and third years of study, and only the remaining 60 000 graduated with a generic Bachelor's degree within the specified three-year period. Badsha and Cloete (2011, p.10) noted that *the year 2000 HE intake simply means that 56% of the students account for very high attrition rates, 24% had either transferred to other institutions or were retained but, even if at least 70% of the transferred students and those who were still registered after 5 years eventually graduated, the throughput (44%)*

rate would still be less than the attrition rate. To improve this issue of retention and attrition, the South African HE system has had to commit to policy transformations that would address social justice and the building of a democratic society based on access, equity, redress and quality education, as well as training systems and redress of past injustices in the education sector due to the apartheid regime (Nieuwenhuis & Sehoole, 2013). Sondlo (2013) then noted that the strategies that are used by HE to improve retention rates are distance education, online and blended learning. Monama (2013) stated that the implementation of these strategies within the South African context must be sensitive to the racial disparities in its society as most of these dropouts are still from Black and disadvantaged communities and they have not received advantaged-schools comparable education.

2.11.3 Intervention programmes

The responsibility lies with the universities to introduce and maintain bridging or extended learning courses to bring these students to the level of the university competency (Letshwene, 2019). Muller (2013) stated that by the 1980's most of the universities in RSA had started offering alternative programmes in the science and engineering stream to cater for the so-called previously disadvantaged students. This goal is also echoed in the Green Paper for Post School Education and Training (2012) which stipulates that "*institutions must develop realistic bridging programmes that can support individuals who do not have all the knowledge and experience required for the education programmes of their choice*". But according to Akoojee and Nkomo (2007) these bridging programmes developed by the HE were nothing but a quick-fix solution for those learners who could not meet the requirements for HE courses. Akoojee and Nkomo (2007) also highlighted that these bridging courses are institution based and lack uniformity with regards to duration and curriculum, moreover there is no certification which supports that a student has successfully completed the programme.

2.12 The debates around Progression Policy

The battle on progression policy implementation in especially in the FET phase is based mainly based on whether learners who have not met the minimum requirements for promotion from previous grades should be moved to the next grade (Munje & Maarman, 2015). There seems to be limited literature on progression policy both locally and internationally therefore the debates in the subsequent paragraphs will be based on retention and promotion studies.

2.12.1 International history of grade retention and promotion

According to Thompson (1980) grade retention or repetition is a concept which was made popular in the USA schools around the 1900's. It had been used to ensure that learners at a specific standard or grade maintained a specific performance set by the education system, those learners who met this grade would then be promoted to the next grade and those that could not, would simply be retained or repeat the grade (Holmes & Matthews, 1983). However, this practice of learner retention gave rise to high drop-out rates, a significant number of learners could not cope with the minimum requirements for promotion to the next grade (Lehr, 1982). Schools faced a challenge of academically challenged learners, who were over-aged and were then labelled "*lazy or undisciplined*", and they had to take decisions on whether they would either progress these learners to the next grade or retain them (Thompson, 1980, p.36). Educators and management of the schools were then divided over the decision of whether to progress or retain, and in this study the concepts of *pro-retention* mean those scholars who are for retention of learners, and

anti-retentionists mean those that are for promotion of learners. Due to limited literature on progression policy, the literature was drawn from grade retention and promotion studies.

2.12.2 Pro-retentionist debates internationally

Owen and Ranick (1977) are pro-retentionists who upheld that the practice of keeping learners a grade behind until they have mastered the skills of a grade. Their argument was based on the idea that educators work hard to bring all learners to an acceptable standard of the grade so if those learners with special learning needs were just moved from grade to grade, then all their efforts would then be not respected. Owen and Ranick (1977) added that those retained learners should be isolated from classes of those who are promoted, that they should be classed with other retained learners of the same age and once they have shown improvement then they can be promoted.

In a study by Tomchin and Impara (1992) to find out the educators' opinions on learner retention practices, educators were for learner retention, claiming that factors like maturity, effort and size need not be considered over the academic performance standards when deciding whether a learner should or not be retained. These educators stated that they are the entrusted persons who prepare learners for the future and they should also have an input in learner retention decisions. For these educators, the practice of retention is a corrective measure which prevents unprepared learners from running away from the responsibility of their own actions, not meeting the standard of the grade. In fact, the responses from the Tomchin and Impara (1992) study showed that educators believed that learner retention motivates learners to work harder. Moreover, a study conducted by Alexander, Entwistle and Dauber (1994) on effects of retention on learners as they were first graders and when they had reached the eighth grade. They found that those learners who had been retained within the eight-year period were doing very well both during the retention year and for several years afterwards. Moreover, their attitude towards school seemed to have been improving over the years.

Tomchin and Impara (1992) are pro-retentionists who based their arguments of learner retention on three assumptions. Firstly, they asserted that learner retention reflects the educators' adherence to the standards, meaning that they are labelled by the kind of learners they promote to the consequent grades. That if they promoted learners who were unprepared, that on its own creates labelling of educator's competencies on learner's performance. Secondly, these educators claimed that their professional judgement on learner performance is mandated by the curriculum, meaning that their judgements are merely limited to the promotion guidelines as stipulated by the policy makers. Lastly, they believe that retaining learners in the lower grades is a good decision, a learner has an advantage of re-learning the content for the second time and they will be at that age whereby they will develop, gain leadership skills, be more comfortable in a school environment, develop better social skills, gain confidence, and achieve more academic success (Viland, 2001).

Lorence and Dworkin (2006) conducted an empirical study on the long-term effects of grade retention on third graders who had repeated the grade and compared it to that of their progressed classmates. The results showed that actually the reading competency of those learners who had been retained had increased tremendously. In fact, Lorence and Dworkin (2006, p.999) held that "*making students repeat a grade, when supplemented with additional educational assistance, can benefit academically challenged*

children". Some studies found that the reading competency of the six graders who had been retained was much better than that of those learners who were low achievers but had been progressed to the successive grades (White, 2010). That grade retention seemed to be not harmful to the retained learners' academic progress and the assumption that retention has negative long-term effects lacked empirical evidence.

Alexander et al. (2003) conducted an eight-year longitudinal study another study which looked into effects of retention in primary schools. They compared two never-retained first year graders group of learners namely all-never retained learners and non-retained learners and the findings showed that the learner who had been retained in their second or third year caught up with the promoted and kept a satisfactory performance right through to the seventh grade. Although their performance was below those who had been promoted throughout, they did much better than those who had been promoted on adjusted marks or progressed to the next grade.

2.12.3 Anti-retentionist debates internationally

According to David (2008) learner immaturity, failure to meet the criteria for promotion, and the belief that a learner will do better in the following year with the same curriculum, are not reasons firm enough to promote the practice of grade retention. Bowman (2005) and Frey (2005) argued that the reason for learner retention is based on the learner's academic performance however retaining learners due to failing to meet the grade standards does not mean that that learner will latch on the following year. In fact, retention is a costly exercise to the school district and the learners' self-esteem, and it contributes to high dropout rates (Bowman, 2005). Eide and Goldhaber (2005) argued that a grade retention policy in New York City was scrapped off in 1990 because a huge number of the retained learners dropped out of high school and were subjected to harsh consequence including smaller income throughout adulthood, likelihood of jail time, lesser chances for higher education opportunities, and lesser chances for better employment.

Larsen and Lakmal (2007) held that learner retention perhaps may not entirely be detrimental to some learners, however the promotion and retention policies need to be adjusted accordingly. In Larsen and Lakmal (2007) study to investigate grade retention and promotion policies and procedures, it was found that during the decisions to either retain or promote learners there were ethical dilemmas, that these retention practices were not in line with the retention research. Meaning that those educators who continue to retain learners were not knowledgeable about the current findings on grade retentions (Witmer, Hoffman & Nottis, 2004). Larsen and Lakmal (2007) held that this lack of retention research cheats educators of alternatives and interventions to assist these learners with needs in education.

Overman (1986) stands against retention on the point that the effectiveness of retention is short-lived, that although these retained learners show improvement in reading these improvement does not last throughout their academic life. He claimed that during those years that learners are retained, they actually learn a whole lot less and this does not bring them up to the anticipated standard of the grade. In support, Bocks (1977) stated that the practice of retention could not be used as a tool or measure to ensure that the retained learners will suddenly master a subject, that with special instruction these retained learners may be better off in upper grades.

In a study by Shepard and Smith (1980) to investigate how retention impacts on learner performance, they found that learners who moved to the following grade perform very poorly on average than if they had not been retained. That it really does not matter, whether they are retained or progressed, grade retention simply means that a learner will repeat the same curriculum or instruction, and if from the onset these were not taught well then, a learner will face academic challenges throughout their academic journey.

Beebe-Frankenberger, Bocian, MacMillan and Gresham (2004) argued that the ongoing practice of retaining learners' grades behind is often based on faulty assumption that all learners will catch up second time round in the same grade, as these learners are not fully cognitively developed for the next grade. Beebe-Frankenberger et al. (2004) held that although educators claim that learners are retained based on academic performance, some learners are retained for non-academic reasons, that learners are retained for reasons that may not even be solved by retention at all. Tomchin and Impara (1992) stated that most of the supporters of grade retention are primary school educators and they base their retention reasons on learner immaturity to withstand the social and behavioural expectations of the upper grades.

2.13 Progression policy debates within the South African context

The implementation of progression policy in South Africa is regarded as one of the key transformations which upholds the nature of a society and quality of schools as a result of the "*40 years of inferior education*" (Hartley, 2006 p.98). The following paragraphs highlight the critical debates regarding the implementation of progression policy in RSA.

2.13.1 The picture of township schools in RSA

According to Fataar (2008, p.10) township schools are "*incubators for social reproduction to entrap young people in place*". Bloch (2009, p.25) reiterated this statement and stated that to this day education in RSA continues to "*reproduce inequalities in society*" which negatively impact on the success of the young citizens. Bloch (2009) added that rather than building a unified society, education seems to reinforce a divisive wedge between the members of the society and township schools seem to feel the consequences even more. Flesich (2008 p.2) stated that the education system in RSA is divided into two systems namely the "*first system*" and the "*second system*". That the first system accommodates former Model C schools which were originally for whites and Indian learners who had acquired good literacy and numeracy competencies, whereas the second system comprised of township schools whereby learners acquired numeracy and reading skills under restrictions. As means to bridge this gap, the DoE sought to implement the progression policy as a transformative measure of redressing the past injustices (Hartley, 2006).

2.13.2 Opponents of Progression Policy

Opponents of the Progression Policy, according to Dube (2016) held that critical educational policies are traditionally implemented in a top-down manner which isolate the input of other important role-players in the implementation of policies. Spillane (2002) held that it is not about the educators' not being able to implement the policy the way it is intended but about the educators' prior knowledge, beliefs and experiences which are side-lined. Carl (2009) also held that these policymakers side-line mathematics

educators' experiences and take advantage that the fate of implementation rests upon already discouraged educators. The implementation of progression policy especially for mathematics in the FET phase makes the burden even too huge for these educators to carry as the state of performance is already in shambles, the international trends on mathematics performance show that RSA does not shy far off from the bottom spots (Evens, 2013). Stott, Dreyer and Venter (2015) held that most of the opponents of Progression Policy are educators whose experiences are belittled by policy makers who claim that they are swayed by the practical knowledge of short-term benefits of repetition.

According to Kader (2012), arguments for retention highlight that the educational policies which govern promotion and progression clearly set the standards which learners must catch-up to in order to master the basic skills. So, if these learners keep on progressing from grade to grade these standards will decrease the value of education system. In a study done by Tomchin and Impara (1992) on learner retention, it was shown that retention is necessary for public governed schools and that the government must set policies which lay a firm base on promotion criteria. Simply put, the product of learners who are progressed to the subsequent grades without meeting the minimum requirements should not be accounted for by the educators who themselves are constrained to make content related decisions on whether learners still need more time to re-learn or not.

According to Picklo and Christenson (2005), a mere promotion of learners from grade to grade does not guarantee that these learners will suddenly overcome challenges with the new grades' workload, and this this contributes to the frustrations of the educators. These challenges were identified by Ms Angie Motshekga when the 2014 matriculation performance dropped from 75,8% to 70.7% in 2015, she stated that "*progressed learners pushed the matric pass rate down*" (news24.com). There needs to be remediation strategies and support interventions to assist learners who are progressed across the grades. Cohen, Kulik and Kulik (1982) identified the in-school tutoring programmes to enhance performance and attitudes of the retained learners, while D'Agostino (2004) upheld the importance of small group or one-on-one structured programmes like Reading Recovery as interventions which could be employed by the DBE to support learners who are academically challenged.

2.13.3 The proponents of Progression Policy

The implementation of progression policy could be justified because RSA suffers from a deteriorating legacy of segregation and stratification due to the apartheid regime (Smith & Shepard, 1987). The previously disadvantaged schools are still reaping the effects of the apartheid legacy and learners from these schools are still performing far behind to those previously known as Model C schools, so if these learners from the previously disadvantaged schools were not given an opportunity to progress through the grades then that would simply mean that education is still used as a tool to divide the society even further (Jansen, 2002). Despite the means by the DBE to bridge the gap rambling the education system, "*education as it stands today continues to reproduce inequalities in society*" and these further marginalise and exclude the future of learners with learning difficulties (Bloch, 2009, p.25). Flesich (2008) and Bloch (2009) stand that the education system applies a punitive rather than a corrective measure to learners from previously disadvantaged schools because when these learners fail to meet the demands of the system, they are exposed to harsh economic and social marginalisation.

The progression of learners through the grades is dependent on the quality of teaching and assessments administered right from the foundation phases (Smith & Shepard, 1990). In the South African context, educators in most township schools teach with limited resources which limit their hand in supporting learners with special needs in education, and over and above that, these educators are overwhelmed with confusing and ever-changing curriculum (Kallaway, 2009). Van Staden and Motsamai (2017) held that policies are put in place for assessment but, there is no adequate monitoring process which ensures that schools across the system comply with the standardisation. Poliah (2014) added that two challenges could occur when schools have to implement the policies for Promotion and Progression; it is either the documents are salient on the internal quality assurance process which schools have to adhere to for standardisation, or schools could simply be avoiding to account for poor performance. Moreover, Poliah (2014) stated that the responsibility lies with the statutory body, UMALUSI, to ensure that assessments are quality ensured at every exit point of the GET and FET bands, however the disparity in the quality of assessments could indicate why there is poor performance especially in mathematics in grade 12. Alexander, Entwistle and Dauber (2013) stated that assessments are not infallible, and the potential for a learner to be progressed cannot be entirely be rested on the school assessment at a particular time. Meaning that the interpretation of assessments is subjective, it depends on how the reader personally understands it.

Brophy (2006) mentioned the fact that about 80% of grade 10s in 2010 did not make it to grade 12 is not a very good picture that the education system should paint especially when the country has committed itself to the Millennium Development Goals (MDG's). The commitment to the MDG's compelled the South African education system to assure the right to education to all learners through regular school attendance, progression through grades by appropriate ages, meaningful learning, and enforcement of achievement and completion strategies (Motala, Dieltiens & Sayed, 2009). The implementation of progression policy in RSA simply showed that the country was not only honouring its commitment to the MDG's but at the same time it was trying to promote access, equity and quality education (Hartley, 2006). Alexander, Entwistle and Dauber (2003) stated that the implementation of progression is justified especially for a developing country like South Africa. That, the practice of retaining learners adds to the already overcrowded classes and causes a backlog in the system which is very costly as every learner in the system must be allocated an individual budget. Furthermore, the implementation of progression policy aids in curbing learners from dropping out before they can complete their academic cycle (Alexander et al., 2003). According to Equal Education (2015), the number of learners who had written matriculation in 2014 were only a half of those who had enrolled for grade 1 in year 2002. The other half had dropped out before they had reached grade 9 and as a result, these learners were subjected to lower-earning employment than if they had been progressed to the exit grades (Alexander et al. 2003). But on the other hand, Mola (2016) argued that progression of learners itself could contribute to the high number of drop-outs because as these learners' progress to new demanding grades, they are frustrated due to lack of foundational knowledge required for that grade.

Ms Angie Motshekga stated that learner progression is not a new practice, it is also done by countries such as Finland, Sweden, Denmark, Japan, Korea and the USA, and however the contextual conditions are different. For instance, the Finnish school system power has been decentralised to the schools (Sahlberg, 2015). According to Sahlberg (2015, p.46) *"it is the school, not the system, that is the locus of*

control", this meant that educators within schools have the power to design and implement suitable curriculum based on their learners' needs. Moreover, the Finnish education system prioritises the early recognition of learning challenges and early start of support systems for learners (FNBE, 2010). These support systems are categorised into three namely, the general, intensified and special-needs support (FNBE, 2010). In the general support system, teachers identify learners with challenges in learning and they provide them with customised learning plans, they use the *"assistance services in their classrooms, they differentiate teaching, and work collaboratively with other educators to find better ways to support learners"* (Vuohelainen, 2014 p.13). The intensified support system is administered to learners who have learning challenges which could not be solved by the general support, educators assess these learners and prepare appropriate learning plans for these learners. A trail of evidence of support for these learners is kept and updated by the internal multi-professional group which is responsible for the welfare of learners in each school, (FNBE, 2014). Lastly, is the special needs support which is offered to those learners whose academic challenges could not have been solved by the latter support systems? In this system the educators, learners and parents take a collaborative decision on whether a learner is a candidate of special needs based on the evidence gathered on the learners' performance and the learner will receive specialised education plan (Vuohelainen, 2014).

On the other hand, the Korean school system is characterised learners who perform exceptionally well in mathematics and sciences on the International Assessment of Educational Progress (IAEP) which is administered by the Educational Testing Services in about 19 countries (OECD, 2001). The Korean learners acquire most of their learning through expensive private tutoring services or private institutions (Lee & Park, 2004). The Korean Ministry of Education makes no distinction between the private and public education, and despite the learning challenges that learners encounter, all learners are taught the same content at the same pace, and they all progress from grade-to-grade with their same-age peers (Hoffer, 1992; Jimerson, 2001). Moreover, the Korean Ministry of Education gives support to low-performing schools, for instance the School for Improvement Programme financially boosts underperforming secondary schools that perform poorly on the National Assessment of Educational Achievement (NAEA). Primary and secondary schools that perform poorly are mandated to form part of the *"Do-Dream Schools"* which provides counselling to learners, parents and educators to work collaboratively for improved academic performance (Lee & Park, 2014). However, the Korean education system remains centralised, all the educational policies are governed by the Ministry of Education by means of uniform prescribed national curriculum (Lee & Park, 2014). The educators may not have full control of the curriculum but they are well selected, prepared and developed continuously to yield high performance in learners (Lee & Park, 2014).

Ms Angie Motshekga acknowledged that the implementation of progression policy in RSA lacked necessary support programmes (Motshekga, 2015). According to Wheeler (2019), the poor South African learner support system shows how much the country is unequally divided. This means that the former Model C and Indian schools are still benefitting from learner support structures that were used during segregation, whereas the previously disadvantaged schools still lag behind (Wheeler, 2019). One of the aims of the White Paper 6 was to provide support to learners who had challenges in education and the specifications for Responding to Learner Diversity in the Classroom through CAPS were then implemented. Engelbrecht (2006) stated that the implementation of these policies was done with the idea

that there would be practical and extensive training for teachers to manage diversity in their classrooms, however, the plan was never executed as well as it had been planned. Wheeler (2019) argued that learner support plans in RSA left educators feeling overburdened, frustrated and ill-equipped to carry out learner support in their classrooms, but most of all, it failed learners. Therefore, the comparison of learner support systems for progression between the South African education system and those of other countries could be not be justified (Wheeler, 2019).

Despite the polarised debates around Progression Policy implementation in South African schools, there seems to be little literature that considers how the experiences of educators can be incorporated to influence how implementation can best be achieved.

THEORETICAL FRAMEWORK

Imenda (2014) stated that, without a theoretical framework, a study will lack an accurate direction to the search of appropriate literature and scholarly discussions of the findings from the research. Swanson (2013) stated that a theoretical framework serves to introduce and describe a theory that explains the reasons that a research problem is problematized. Therefore, this study will be based on the Public Value Theory (PVT)

The Public Value Theory (PVT) was developed by Professor Mark Moore at the Kennedy School of Government, Harvard University (Constable, Coats & Passmore, 2008). Kavanagh (2014) stated that PVT was designed to assist Public Managers to consider what is valuable about the services that they run and how best these services can be managed. Kavanagh (2014) stated that the PVT challenges public officials to consider the value of the services they render beyond the economic benefits and that PVT in a democratic society extends to principles such as equity, liberty, responsiveness, transparency, participation, and citizenship. Moore (1995) developed the strategic triangle based on three interactive principles, the *Public Values Outcomes*, *Authorizing Environment*, and *the Operational Capacity*.

Public Values Outcomes

According to Moore (1995) Public Value Outcomes are determined by what is valued by the public and the value of those outcomes are supported by the procedural standards followed by the organizations. Kavanagh (2014) stated that in a democratic country where normative and legal principles are constituted, the bureaucrats must ensure that these constitutional and administrative principles are negotiated and implemented in the interest of the public. Moreover, these outcomes must be clear and specific about their intent or improvements to the society. This means that the decision making about policy changes in the education sector should be driven by context-specific objectives (Eisenfuhr, Weber & Langer 2010). During policy reforms, the decision makers or policymakers often have limited information about the targeted problem, in fact decisions can sometimes be disconnected from the actual problem when the interests of the public are side-lined (Cohen, 1972). The involvement of the agents of implementation in decision making thus provides a rich context for experiential expertise that adds value, although collective decision making may not necessarily bring about an intended valued outcome; it may, however, help in finding solutions to the decision-making process (Eisenfuhr et al., 2010).

Authorizing Environment

Moore (1995) held that an Authorizing Environment speaks to the range of stakeholders such as politicians, communities, public and private sectors, and third sector organizations. Kavanagh (2014) stated that an authorizing environment in a democratic society is backed by the urge to unify or balance the political powers between all the stakeholders by setting statutory frameworks to determine the extent to which an authority is regulated. Kavanagh (2014) held that an authorizing environment is the one which promotes public opinions and experiences as a crucial part in the policymaking processes. The involvement of relevant stakeholders, such as educators, adds to the generation of alternatives that, perhaps, could not have been achieved by policymakers alone (Flak & Rose, 2005). For instance, the implementation of different curricula from 1994 was aimed at redressing the past injustices and overturning learner performance, however the environments for such changes in the education system are not authorizing. This means that RSA is still divided by education, there are schools with appropriate resources to facilitate change but some schools simply do not have these, hence the passing of educational policies by the policymakers indicates that the DBE suggests changes without knowing exactly what the public wants and what resources the public needs (Flak & Rose, 2005).

Operational Capacity

The Operational Capacity, according to Moore (1997), comprises effective management of all the resources that contribute to the achievement of public sector outcomes. These resources range from finances, society, the people, particular skills, the availability of technology, and others, that may originate from either the public, private or third sector organizations, and they must work in an integrated fashion (Jessa, 2018). Resources in the public sector are dependent on funding, meaning that the policymakers need to ensure that they carefully choose the values that are to be prioritized. There is a shortage of mathematics and science learners who are able to enrol and complete mathematics and science courses at a tertiary level, so when progression policy is implemented in a subject like mathematics, there remains an issue if what is valued by the policymakers matches what is valued by the public. By progressing learners without hearing from the educators, what impact will that have on the economic development of the country and the redressing of the past injustices? Gronlund (2009) argued that there needs to be integration and negotiation of stakeholders so that an interoperability effort could be achieved.

Moore (1997) held that the role of public managers is to coordinate the three elements of the strategic triangle and manage any trade-offs between these elements. This is relevant to the study as it highlights that the policy makers should make it a priority role to create awareness, educate and inform the implementers about the interpretation and implementation of policies as envisaged. Rhodes and Wanna (2007:180) noted that *"public value is best regarded as a tool used by public servants to identify and implement operational arrangements in a workplace"*. Education and awareness creation in creating humanistic PV for mathematics educators on policy implementation could lead to sound rationalization development, attracting dependable and stimulated personnel, which, in turn contributes to the professional development of educators (Bennington, 2011).

Moore (1995) stated that the strategic triangle framework must be aligned and mutually reinforced, meaning that if the mathematics educators are adequately developed to implement policies, then this could possibly ease the burden of the government being one-dimensional about the quality of educators,

learners and pedagogies needed in the system. Meynhardt (2009) held that a human being is a crucial asset to understanding the emotional-motivational aspects of evaluations of the PVT, therefore if these mathematics educators' experiences are prioritised during policy processes then this could protect the policies from harsh public response which will lead to legitimacy (Meynhardt, 2009).

Engaging the voices of all stakeholders, including those that implement policies (such as mathematics educators), leads to the possibility that the generation of PV will be done within the universally accepted norms, behaviours, practices and values that will promote the elements of efficiency, effectiveness, democracy, transparency, equity, authorisation and trust. Progression Policy is an educational policy arbitrated by the public educational authorities (Rayou & Van Zanten, 2015) and passed on to the schools for implementation but, like any other policy in education, during its implementation there seems to be little or no consideration of the experiences of the implementers. Bennington and Moore (2011:10) held that engaging citizens helps public managers to improve their decision making, explain constraints and prioritize their work as well as sharing their dilemmas leading to "*responsiveness to redefined preferences*".

Benington (2011) noted that PV makes a distinction between two elements, "what the public values?" and "what adds to the public value?" The purpose of these elements in this study is that they challenge the policymakers to consider how the societal goals can impact on what the implementers, the mathematics educators, could consider as valuable. Meynhardt and Bartholomes (2011) held that it is essential that PVT be anchored in human basic needs, that "*value is rooted in the desires and perceptions of individuals*" (1995:52). Thus, it is important that the implementation of policies be communicated cooperatively and that inputs and challenges of the implementers be considered so that the results of policy implementation, regardless of whether it fails or succeeds, will allow all the stakeholders to have a shared responsibility.

Maluleke (2015) asserts that policy implementation should be a collective social responsibility rather than a productivity and sustainability drive. Progression policy stipulates that a learner has to be progressed from the Senior Phase (SP) when they have not met the minimum requirement of 40% pass for mathematics to the FET phase where they can achieve any mark less than 30% to pass mathematics. However, this 30% pass in the FET is still not achievable by learners and then progression policy is implemented despite the educators' professional judgement that learners are facing challenges, which takes away the autonomy of the mathematics' educators as stakeholders in the education system. Mark adjustment is done by experts who are not grade mathematics educators but these mathematics educators find themselves confused when they have to account for poor performance when they are not involved in policy initiation processes (Poliah, 2014). This widens a gap between what the educators view as norms and values, and whether this implementation of progression policy upholds a positive value of education at all. Social responsibility can be difficult to achieve when the stakeholders are pulling in opposite directions. The value and dignity of stakeholders could be at stake (Zvitambo, 2017).

O'Flynn (2011) stated that the PV approach speaks to the idea of "mixed economy" within a "network governance". The deliverance of public services is achieved by a combination of different stakeholders and each of them has a vital role to play in ensuring a successful service delivery. That interdependence

between these stakeholders is inevitable and undeniable, and this brings about a network of divisional labour of providers that needs strong bonds of coordination and maintenance (O'Flynn, 2011). Mele (2013) asserts that a humanistic approach in PV challenges policy makers to shift their myopic view on bureaucratic policy implementation processes that are one dimensional and economically driven. That the value of the insights of implementers is just as important and the way in which those policies will be implemented is embedded in key human aspects such as freedom, rationality and learning qualities.

Basically, Moore's PVT stresses that the public leaders (policy makers) must work cooperatively with the public agents (policy implementers) in a defined society to collaboratively build the legitimacy and support needed to sustain a strong and lasting public enterprise. This strategy shifts policy makers from the "what to do" in a top-down approach (Moore, 2017) to a hybrid approach whereby both policy makers and policy implementers combine their expertise so that they can collaboratively account for its failures and successes. This theoretical framework was used to create a perspective through which the study would be viewed, by looking into the source of challenges for poor performance in FET mathematics, and considering collaborating with the real implementers for possible game plan.

2.15 Summary of the chapter

Chapter two showed the international and domestic debates on retention and promotion practices that underpinned the implementation of progression policy in the South African education system. The implications of the progression policy implementation for both general education and higher education were highlighted, together with the interventions that were employed by the South African education system to boost the performance of learners in mathematics and science up to the FET phase. The experiences of educators on various curriculum reforms in RSA were also considered. Lastly, the theoretical framework was used to create a perspective through which this study would be viewed. The next chapter will focus on the research design and methodology, explaining in detail how the study was conducted to completion.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The aim of the previous chapter was to establish a theoretical grounding base or anchor for the study within the existing body of research and debates relevant to the topic. This chapter aims to discuss the processes and the steps that were used to generate and analyse data that increased the understanding of the research topic. The study aims to explore the experiences of the FET mathematics educators on the implementation of progression policy since it was introduced in the FET phase, particularly in grade 12. Therefore, this chapter will outline the research design and methodology, which comprises the research paradigm, research design, research approach, population, sample, sampling techniques, data generation, research instruments, data collection procedure, data analysis, validity and reliability, ethical issues and limitations of the study.

3.2 Research Paradigm

According to Kivunja and Kuyini (2017), the term “*paradigm*” means pattern and it dates back from the Greek. Burrell and Morgan (1979, p.1) argued that “*all social scientists approach their subject via explicit or implicit assumptions about the nature of the social world and the way in which it may be investigated*”. Denzin and Lincoln (2000) described a paradigm within qualitative research as human constructions, as a process which researcher interact and make meaning of their data through personal experiences of real life informed by their interactions with their participants. Guba and Lincoln, (1981) also asserted that a paradigm is a set of beliefs that guide an action. A paradigm is important in any research study as it provides a researcher in a particular discipline with beliefs and dictates which affects what should be studied, how it should be studied, and how the results of the research can be interpreted (Nguyen, 2019). According to Maree (2016) different researchers have proposed a number of paradigms that can be grouped into three main taxonomies which are Positivist, Interpretivist and Critical paradigms, and Tashakkori and Teddlie (1998) proposed the fourth paradigm, Pragmatism. However, this research study was based on the interpretivist paradigm discussed in the paragraph below.

3.2.1 Interpretive paradigm

This study followed an interpretive paradigm on the assumption that reality is made up of peoples’ experiences and that knowledge and meaning are acts of interpretation within a context rather than measurements (Reeves & Hedberg, 2003). Moreover, the study upholds the need to put analysis in the context as the full complexity of human sense is shaped by the environment and the situation as they emerge (Reeves & Hedberg, 2003). The aim of the study is to explore how the mathematics educators experience the implementation of progression policy; therefore, the interpretive paradigm has assisted in understanding the experiences of these mathematics educators within a particular context and how they construct their lived experiences (Willis, 2007). The choice of an interpretive paradigm assumed that each mathematics educator has their own way of constructing and describing their subjective experiences based on the implementation of policies in education. Therefore, there is no straight-cut path to knowledge that dictates wrong or right experiences (Willis, 2007). The interpretive approach in this study

serves to explain the subjective reasons and meanings that lie behind social actions that could not be statistically measured.

3.3 Research methodology

The concepts methodology and method are often used interchangeably, yet are not the same. Methodology refers to how an inquiry should proceed and it involves the analysis of assumptions, principles and procedures in a particular approach (Schwardt, 2007). While Tashakkori and Teddlie (2003) hold that methodologies define the kind of problems that are worth investigating, how an inquiry should be framed so that it can be investigated using particular designs and procedures, and how to select and develop appropriate means to collect data.

Consistent with the qualitative design and interpretivism, I have adopted (explanatory embedded multiple-case study) case study as a methodological approach. Yin (2009) stated that a case study research is *“an empirical study that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident”* (p. 18). A qualitative research case study approach facilitates the exploration of a phenomenon within its context by using a variety of data sources. According to Baxter and Jack (2008) a case study approach is underpinned by the Constructivist paradigm. Chilisa (2005) held that the Constructivism and Interpretivism are related concepts in the sense that they both address the understandings of the world as experienced by others. Moreover, Yin (2014) noted that the choice of a research methodology depends on: the research questions, the amount of control the researcher has over events, and the degree to which the focus on the contemporary is opposed to the historical events.

The essence of this study is to explore the experiences which the FET mathematics educators construct in relation to Progression Policy and its implementation. Mertens (2009) held that, in a constructivist world, the truth lies in the experience, the knowledge is subjective and socially constructed, therefore the purpose of interpretivism is to understand how the people in a natural setting make sense of their lived experiences. Hence the explanatory embedded multiple case study choice is believed to assist in gaining intensive exploration of the case (Progression Policy) within a *“bounded system”* (Henning, Van Rensburg & Smit, 2004: p.32). Henning et al. (2004) explained this *“bounded system”* as any social entity that is bounded by the parameters and shows a specific dynamic and relevance that, in turn, reveals that kind of information that can be captured within boundaries.

3.4 Research design

A research design is a *“plan for a study providing the overall framework for collecting data”* (Leedy, 1989, p.195). Above that, Macmilan and Schumacher (2001) described a research design as a plan for selecting subjects, research sites, and data collection procedures that will answer the proposed research questions. Thus, the study followed a qualitative, interpretive and case study approach that will be described in the following sections.

3.5 Research approach

Maree (2016) stated that a researcher can choose to generate data for their study using either a qualitative, quantitative or mixed methods approach, this study has followed a qualitative approach method. Leedy (1989, p.142) held that the qualitative approach is a “*warm approach*” and that a researcher is interested in how the people attach meaning to their personal values, beliefs, thoughts, interpersonal relationships and experiences. This study is based on the experiences of the FET educators of the implementation of progression policy particularly in mathematics, so the interest of this approach was based on the meanings and understandings that they attach to the policy itself and how in reality they experience its implementation. Maree (2016) stated that a researcher in a qualitative study adopts an insider position and gives his or her participants an opportunity to explain their interpretations of the world in which they live. This approach was used in the study because it assumes that reality is a social construct, that variables are difficult to measure, complex and interwoven, and that data generation involves the insiders’ viewpoint (Rovai, Baker & Ponton, 2014). This approach values the individual experiences of the participants (mathematics educators) and their culture, that the interpretations of their experiences provides a content and context-rich data that is subjective but current and valuable (Tracy, 2013).

3.6 Population

Polit and Hungler (1999) defined a population as an aggregate of all the objects, subjects or members conforming to a set of specifications. Mcmilan and Schumacher (2010) held that a population comprises a group of people who are joined together with the purpose of generalising the findings of the research. The population for this study was drawn from the Gauteng Province and the targeted units were educators in the Sedibeng East District.

3.7 Sample/Sampling

Data for this study was generated from the sample as the sample represented a population (MacMillan & Schumacher, 2010). The identified schools’ matriculation performance within the district had been dropping which was assumed that perhaps the implementation of progression policy could have affected performance. The performance of these schools for the past three years was as follows;

School	Summarised percentage	Matriculation		Pass
	2017	2018		2019
Secondary School A	77,0	68,5		87,5
Secondary School B	87,5	81,6:		76,9
Secondary School C	76,5	67,6		86,4
Secondary School D	96,4	93,1		82,4
Secondary School E	95,6	88,6		77,6

Table 1: NSC Performance report 2019

McMillan and Schumacher (2010) held that purposive sampling gives the researcher the advantage of choosing participants who will give off rich and thick information, which will assist in understanding the objectives and research questions of the study. The researcher purposefully chose five FET mathematics educators as they would be knowledgeable and informative about the case studied (Progression Policy). The criteria for sampling comprised;

- Mathematics educators who had been teaching mathematics for five years or more.
- These educators had been teaching in public ordinary secondary schools within the Sedibeng East District and amongst the five selected schools.
- The sampled schools have been from the low-income to working class groups.

The researcher considered that five educators could not have allowed for an intensive case study, therefore the results could not be used to represent a significant statistical sample. However, the inputs of these educators have provided rich insights required for the purpose of the study (Cohen, Manion & Morrison, 2007). Moreover, these five selected educators were a manageable size for one researcher as the interaction between the researcher and the participants provided suitable time to gain in-depth quality information. The study took place at a time when the world had been facing the uncertainty of the COVID-19 pandemic, so the sizeable sample allowed for the researcher to refine the data collection methods and adjust the data collection instruments.

3.8 Methods of data generation

The data to support this study was generated by means of interviews and document analysis, which are consistent with the qualitative research. Despite the COVID-19 pandemic, which had resulted in constant schools re-opening and closing, the interviews were intertwined with classroom observation.

3.8.1 Document reviews

According to Corbin and Strauss (2008) document review is one of the methods by which secondary data is collected and is described as the systematic analysis of both printed and electronic material to elicit meaning, and to gain empirical knowledge and understanding about a phenomenon. Corbin and Strauss (2008) stress that document review in social sciences is widely used as a supplementary method to primary data generation in qualitative research as a credible method. Bowen (2009) added that document review incorporates coding content into themes similar to the way focus groups or interview transcripts are analysed. Yin (2003, p.35) noted that incorporation of documentation as a data collection tool does not only enrich *triangulation through corroboration and augmentation* but that documents were independent of the '*whims of human beings whose cooperation was essential for collecting data through interviews and observations*', (Merriam, 2003, p.13).

Kader (2016) held that the construction of any document has a particular purpose and consequences. Derrida (1978) added that the meaning from the interpretation of documents does not entirely depend on the text itself but also on the reading and writing of it. The aim of scrutinizing documents was to establish how these mathematics educators incorporate, adopt and operationalise the curriculum principles and the fundamentals in their teaching techniques, assessments, and progression and promotion processes. The choice of documents as data generation method was to further enable triangulation through "*corroboration and augmentation*" (Yin, 2003, p.35). As the data was collected during the challenging

time of COVID-19 pandemic, it is worth noting that teacher cooperation in acquiring documents to review posed a challenge.

The documents which would have been received from the participants would be graded against a rubric (O'Leary, 2014). The documents that the researcher had requested from the participants would be graded according to *'how the educator interprets the importance of each document, and the practices of the educator in relation to the document'*. Four documents were requested from the participants on the day of request for interview and the day of interview, these documents pertained to assessment criteria, recording of assessments, curriculum policy documents, and intervention programmes.

It was surprising that none of the participants had had any of the documents that had been requested, despite having been asked to bring them along on the day of the interview. In no particular order and under pseudonyms: Participant 1 (Anny), Participant 2 (Benny), Participant 3 (Canny), Participant 4 (Danny) and Participant 5 (Ernie). The reasons given by participants for not sharing the documents as requested are as follows;

Anny stated that towards the end of each year all the documents pertaining to assessment such as informal and formal assessments (test scripts, assignments, preliminary examinations and workbooks) are usually given back to the learners. According to *Anny*, assessments are punched onto the SASAMS and at the end of each year; the patch for the system gets revised and the previous' year's results are erased. The intervention programmes are not drafted at the school level, dates and venues are decided by the district, but the participant did not have a copy of such. On follow-up, the educators still had none of the documents requested.

According to *Benny*, all the assessments and their recordings on the SASAMS are dealt with by the Head of Department (HoD) who, on the day of interview, was absent. When the participant was asked to please check with HoD if she/he still has any of these documents, the participant indicated that chances were very slim. *Benny* also stated that the intervention plan from a school level is not documented, each educator fits an intervention as they teach mostly during contact time.

Canny said that the school had been vandalised as a result some of the assessment documents had been lost. When a follow-up was done to check perhaps if some could have been saved on the SASAMS, the participant promised to send them if they were found, but nothing surfaced. This participant said that the intervention plans were combined with the normal contact time depending on the learners' needs for a specific area of difficulty. Upon follow-up, the participant would send the documents through an email but that has never happened.

Danny held that most weekends and school holidays were reserved intervention especially for the progressed but there had not been any document showing any scheduling for such. The participant had no trace of both formal and informal assessments except for a textbook which had been used on the day for an informal assessment (homework). During a follow-up to check whether there were any documents from those requested that the participant could possibly have found, the participant had none.

Whilst *Ernie* claimed that all the documents pertaining to assessment were kept in the office and unfortunately the school had been badly vandalised. The school had been broken into and all the electrical wires had been chopped off from the main switch, so the school did not have both electronic and hard copy versions of the assessments. Same as other participants, the intervention plans were decided by the educators during contact time and those by the district the school had not had.

In a nutshell, no participant from any of the five sites had had any documents to review.

3.8.2 Interviews

According to Macmillan and Schumacher (2010, p.443), qualitative interviews may be conducted in several forms: *'the informal conversational interview, the interview guide approach, and the standardised open-ended interview'*, and based on the degree of structuring, interviews can be categorised into three types, structured, unstructured or semi-structured (Fontana & Frey, 2005). Since the study was based on experiences which were qualitative in nature this study then followed the standardised open-ended interviews which were semi-structured.

3.8.2.1 Standardised open-ended interviews

The standardised open-ended interviews, on the other hand, are structured according to the wording of the questions (Turner, 2010). Gall, Gall and Borg (2003) held that this form of interview allows the researcher to ask the participants identical questions, but the questions are arranged in a manner that allows for participants to give open-ended responses. These open-ended responses give the participants authority to freely contribute as much detailed information as they possibly can, and the researcher gets the opportunity to probe and ask follow-up questions so as to seek clarity. Though participants freely detail their responses, the researcher faces a challenge when creating uniform codes and themes from the interview transcripts, the researcher has to thoroughly sift through the narrative responses so as to *'fully and accurately reflect on the overall perspective of all interview responses through the coding process'* (Gall, Gall & Borg, 2003, p.240). Turner (2010) stated that this form of interview reduces the researchers' bias, more especially when there are many participants in the study.

3.8.2.2. Semi-structured interviews

Semi-structured interviews were used in this study because I, as the researcher, wanted to delve deeper into the responses of the participants regarding the research topic and gain a clear understanding on how they, as mathematics educators experience the implementation of progression policy in the FET phase, particularly in grade 12. The semi-structured interviews allowed the researcher *"some latitude to ask further questions in response to what are significant replies"* (Bryman, 2001, p.110). The open-ended questions of the semi-structured interviews allowed for me as the researcher to gain thick-detailed descriptions of mathematics educators' experiences of progression policy and where there were misinterpretations I, as a researcher was able to probe and do follow-up questions from the original answers so as to ensure that the correct descriptions were correctly captured.

3.9 Gaining an entry into the field

Gaining an entry into the field involved requesting and receiving permission from the gatekeepers who were the Human Social Science Research and Ethics Committee (HSSREC), Department of Basic Education (DBE), the Sedibeng East District office and the school principals.

Three request letters outlining the title of the study, the objective of the study, the research sites, the data generation methods, tools aligning to the COVID-19 regulations, the rights of the participants and the participants required for the study were drafted. The first entry was the DBE office; the approval letter took longer than had been anticipated as the officials had worked remotely from their homes as the country was still under COVID-19 lockdown level 4. Upon receiving the approval letter from the DBE, the researcher sent it to the District Office, and, weeks later, an approval letter granting permission to conduct the research study from the identified schools was generated.

The HSSREC clearance process had also been affected by the COVID-19 regulations. The signatories had not returned to the office. Upon receiving the approval letter from the DBE, an attachment was done for the HSSREC, it was then that the ethical clearance was granted.

The researcher made copies of the approval letters from the DBE, the District and the HSSREC, the informed consent, the semi-structured interview plan, and the request letter for each of the principals. Each of the principals facilitated a meeting with the participant who fitted the proposed criteria for participation. And, on the day of each interview, principals had drafted a permission letter for the researcher to conduct the interview in their respective schools.

3.10 Conducting the interviews

The semi-structured face-to-face interviews were conducted with five participants from five different sites within the Sedibeng East District, Gauteng province. The interviews were conducted during non-contact time, the researcher requested the participants to give directions as to the time in which they would wish to do the interviews. Each interview was conducted at different times but they were within the participants' time and location flexibility in their respective schools. Due to the pandemic, when the interviews were conducted, the schools had been under level three of the national lockdown, and only grade 12 learners were attending. So, this gave the participants an opportunity to schedule the interview in the vacant time slots.

The researcher explained their rights to each participant before the interview began and that included, the right to withdraw from the study at any time should they not feel comfortable to continue, time to go and consider participation in the study and peruse the research questions, to consent verbally and in writing, and the method of confidentiality and anonymity (Salmons, 2017). As each participant was treated as a case study on its own, each interview was audiotape recorded, and each participant consented verbally and in writing. All the responses of the participants that were recorded were encrypted. Although the interviews were planned to have lasted for 60 minutes at most, some went over the suggested time, they were recorded nonetheless.

Due to the COVID-19 pandemic, two of the five interviews were delayed. Of the delayed interviews, one site had been closed for disinfection as a positive case had been reported. The participant had taken the whole week to self-isolate and, after the quarantine, the participant arranged with the researcher for another date of interview. On the day of the interview, strict hygiene measures were followed. The other participant had decided not to continue with the interview, the participant had reported serious health issues. However, another participant who fitted the criteria for participation volunteered and consented to participate.

The initial semi-structured interview schedule had comprised 20 questions; five biographical details and fifteen research questions. The nature of the data generation tools allowed for the researcher to ask follow-up questions and probe the responses by the participant, and the researcher could rephrase other questions so that they can elicit '*the informant's perceptions*' of their reality (Minichiello et al., 2008, p.51). A copy of the interview schedule is attached as Annexure A.

As a researcher, I cherished the manner in which the interviews had unfolded, the tone of the interviews became conversational and informal. Conducting a face-to-face interview allowed for me to guide the conversation to the outlined questions of the research whilst allowing the participants to express themselves as much as they wished. Far from being an impersonal data collector, "*the interviewer... is the research tool*" (Taylor & Bogdan 1984, p.88). However, I was careful not to become biased by remaining focused and diverting the responses of the participants to the research questions. Moreover, it was of the utmost importance for me as a researcher to "*know when to probe*" and "*ask the other person to explain what is meant, you try to make explicit what both of you might know but may take for granted and are ordinarily unable to articulate*" (Taylor and Bogdan 1984, p.106-107). Furthermore, the face-to-face semi-structured interviews assisted me as a researcher to read through and observe the body language and non-verbal cues of the participants. Some of the participants, despite knowing that the interviews were supposed to be conducted in English, decided to use their home languages. Through the use of the vernacular, the participants were better able to paint the full picture of their experiences on the implementation of progression policy. The recording in which the participant expressed themselves strictly in vernacular was translated using the Google translator application. But, during probing, I ensured that I confirmed with the participant whether they meant what they said in English.

3.11 The impact of COVID-19 Regulations on data generation

The data generation period had unfortunately been affected by the COVID-19 pandemic. It was imperative for the researcher to follow the National COVID-19 lockdown regulations, which had been stipulated by the National COVID-19 Command Council (NCCC) (<https://www.gov.za/coronavirus/guidelines>). According to the regulations under level 3 of lockdown, as a researcher I ensured that:

- When entering the sites, I wore a cloth face mask that covered my nose and mouth.
- I kept and used an alcohol-based sanitizer with 70% alcohol content.
- I disinfected the room in which the interviews were conducted.
- I ensured that there was a social distance of 1,5 to 2 metres between myself and the participants.
- Upon entering the sites, I was scanned for temperature by digital thermometer (this was each schools' protocol).

- I wore latex hand gloves.

Each school had adhered to the National COVID-19 core lockdown regulations. Upon arrival at each school there were brigades with infrared thermometers and hands-free hand sanitizers. As each individual entered the school, the brigades requested that they sanitized their hands, they recorded temperatures using the infrared thermometers. The optimum body temperature was supposed to be not more than 37,3°C (<https://medicarehealth.co.za/the-corona-virus/>) and each individual would be screened against five questions as follows:

- Do you have a sore throat?
- Do you have headache?
- Do you have fever and loss of appetite?
- Do you have any difficulties with smelling?
- Can you taste your food?

One of the challenges of conducting the study over the period of the COVID-19 pandemic is that some of the sampled schools had been reporting positive cases, which had caused constant schools' closure and re-opening. Once a positive case had been reported the school would cease operation of the entire staff and learners for seven days or more. During the quarantine period, these schools would remain closed until the principal had showed them a certificate of disinfection.

Although some of the participants had not disclosed whether or not they were the ones who had tested positive in their schools, this had led to rescheduling for the interviews. One of the participants who had consented to take part in the study had decided to pull out due to health-related issues. However, one willing participant from the same school who was a perfect fit for the sample criteria saved the day by gladly consenting to participate in the study.

Secondly, some of the principals were sceptic about allowing the researcher to conduct the research, fearing for the safety of their employees. I as a researcher countered that with documents from the District office, that the officials were aware of the study and how it was intended to unfold.

Thirdly, due to the rearrangement of the normal timetable, these grades 12 mathematics had had more classes to teach than normal. The grade 12 classes were split up so that each learner could be seated about 1,5 to 2 metres from each other to observe social distancing. Exhaustion was a huge challenge for these participants because, due to the regulations of COVID-19 NCCC, learners had to sit 1,5 to 2 metres distant, the number of learners per class was reduced but the number of classes the participant had to teach per day on the same content came as an overload to the participants.

Lastly, the interview location had to be constantly decontaminated with an Alcohol-Based Hand Sanitizer (ABHS) both on the surfaces and on the hands. The hands of the researcher and the participant by the end of the interviews, were bone dry from the 70% alcohol. According to Ophaswongse and Maibach (1994), despite the ABHS being filled with emollients and moisturizers, they still are associated with a variety of skin reactions. ABHS has been associated with *Irritant Contact Dermatitis* (ICD) which may

depict symptoms such as skin dryness, itching, irritation, pruritis, and skin cracking, ranging from mild to fatal (Ophaswongse & Maibach, 1994, p 2). Wilhelm (1996) adds that a constant usage of ABHS may contribute to *Allergic Contact Dermatitis* (ACD) and that its most severe forms may result in respiratory distress and other anaphylactic symptoms. McDonnell and Russell (1999), Ophaswongse and Maibach (1994), and Van Asselt and Te Giffel (2005) stated that even though it is not widely reported, constant usage of ABHS may cause urticarial syndrome, a condition that causes swelling, redness, burning sensation, tingling, and itching within few minutes after application of alcohol.

3.12 Data analysis

The data generated were analysed using the six-phase Braun and Clarke Thematic Analysis (BTCA, 2006). This thematic analysis was not a linear process as the researcher had to move back and forth between the stages to ensure that the generated data was thoroughly analysed. The analysis of data was conducted throughout the data collection process and the researcher followed the Braun and Clarke (2006) thematic analysis steps: familiarising oneself with the research, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing a report. The Braun and Clarke's (2006) Thematic Analysis organises and describes data in great detail by interpreting the aspects of the research topic (Boyatzis, 1998).

The study at hand comprised a small sample of the population, five educators from five different secondary schools and, according to Joffe and Yardley (2004) BCTA suits social science studies which are made up of small samples. Guest, MacQueen and Namey (2012) held that the purpose of using BCTA in small-sized samples provides a qualitative framework for an exploratory and content-driven analysis. Moreover, this study had aimed to delve into the experiences of the educators, so the BCTA allowed for the researcher to identify a pattern of cohesions in the experiences across the participants in relation to the shared phenomenon (progression policy implementation).

Smith and Firsh (2011) described the BCTA as an interpretive process whereby the researcher searches through the data to identify patterns to describe the phenomenon under investigation. As this study had followed an interpretive approach, it gave me the opportunity to identify key themes and address the research questions and objectives using the BCTA. The identified themes from the transcriptions helped to align the key research questions that fit the purpose of the study.

3.12.1 The analysis

As a researcher, I firstly listened to each interview transcript and noted familiar ideas across each transcript. It was very helpful to me to have gone through each transcript after each interview took place. I then generated initial codes by going through each transcript line by line. When all the data had been grouped together under similar codes, it was then sorted into initial themes. I then conducted a saliency analysis (Buetow, 2010) by considering the frequency of data within a theme. In each of the coded data, themes would be regarded as salient if supported by participant's statements, and frequent when the majority of participants raised a similar theme. Some themes from the analysis were kept aside when they were neither salient nor frequent (Buetow, 2010). I then finally reviewed, refined, defined and

established how they were related to each other, and this assisted me, as a researcher, to reach a thematic saturation (Lyons & Coyle, 2007).

3.13 The quality of the research: Trustworthiness

Guba and Lincoln (1985) held that in order for any qualitative research study to be deemed trustworthy, it must rest on four criteria namely credibility, transferability, dependability and conformability. The importance of these criteria in this study was to draw the attention of the different stakeholders in the system of education including that of the side-lined FET mathematics educators, that the results are worthy of their attention especially with regards to the less researched topic, progression policy. The subsequent paragraphs fully explain how trustworthiness was reached in the study.

3.13.1 Credibility

The researcher ensured that the lived experiences of the mathematics educators were not broken down into single perfect sentences. Rather, each of the participants' lived experiences were unique and rich in descriptions. I established credibility by seeking advice from the supervisor, peers and colleagues for debriefings and member checks throughout the study (Guba, 1981). After the interviews were transcribed, each participant was sent a copy of their interview for review, via WhatsApp, so that if there were any inconsistencies, then a follow-up meeting could be arranged to ensure accuracy. After each participant had reviewed their transcript, all of the participants indicated their satisfaction and no follow-up meetings were needed.

3.13.2 Transferability

Anney (2014) stated that transferability means the degree to which the findings of a qualitative research can be transferred to related contexts. Bilsch (2005) stated that a researcher can ensure transferability in a research by providing a detailed description of how the research and the participants were purposively selected. The FET mathematics educators were purposively sampled due to specific characteristics that would help answer the research questions, therefore transferability is highly likely to be effectively reached. The research units share commonalities, they are FET mathematics educators within the Sedibeng East District in the Gauteng Province, therefore this selection type added to duplication of the study (Guba, 1981).

3.13.3 Dependability

According to Bilsch (2005, in Anney 2014) when the findings of the research are stable over time, they can be dependable. Dlamini (2017) added that allowing the selected participants to evaluate the interpretations and recommendations made to the study would ensure that all the data generated from the study is supported. Guba (1981) asserts that it is advisable that a researcher leaves a clearly-defined audit trail so that if an external auditor checks how the participants were selected, the data was generated and interpretations were analysed, then he/she can ensure that the concepts of trustworthiness were met. Hence the structure of the semi-structured interviews was kept somewhat basic so that there was consistency with each mathematics educator, however the line of questions may have changed from one participant to another depending on the conversations with each of them (Guba, 1981).

3.13.4 Conformability

Guba and Lincoln (1981) stated that conformability refers to the extent to which the findings of a study are free from bias. As a researcher, I was upfront about my assumptions and bias about the implementation of progression policy in the FET phase to the participants and the supervisor and throughout the study I was aware of these beliefs and perceptions and how they may impact on the research process and interpretations. However, to the best of my ability, I was honest in interpreting the experiences of the mathematics educators as accurately as possible ensuring that I report on the participants' utterances and not on my own judgements.

3.14 Ethical considerations

It was essential for me, as a researcher, to ensure that ethical issues relating to the participants' permission, informed consent, rights of the participant, confidentiality and anonymity were addressed before the study proceeded. The objective was to "*do well for the research participants and avoid any harm*", (Macmillan and Schumacher, 2010, p.420).

3.14.1 Informed consent

Each of the five participants were personally given letters of informed consent that detailed all the relevant information about the study and each participant had to attach their signature as an indication that they were agreeing to participate in the study and the interviews would be audio-recorded. All the signed letters of consent were kept by me, as a researcher, for evidence purposes. Each participating school also issued an approval letter consenting to take part in the study.

3.14.2 Right to withdraw and voluntary participation

Macmillan and Schumacher (2010, p.421) asserts that the way in which participants are informed must "*encourage free choice of participation*". The participants were briefed that on their letters of consent and during the research process that they had a right to withdraw from the study anytime whenever they felt that they did not feel comfortable in continuing. Moreover, each participant was informed that their participation was purely voluntary. All of the participants voluntarily participated in the study and did not, at any time, feel any need to withdraw during the study except for just one who had faced serious health-related challenges, but another FET mathematics educator who fitted the criteria voluntarily consented to participate.

3.14.3 Confidentiality, privacy and anonymity

Macmillan and Schumacher (2010, p.421) held that confidentiality "*is a continuation of privacy*", the consent between the researcher and participant was that the anonymity of the participant would be maintained by keeping his/her information private. MacMillan and Schumacher (2010, p.422) assert that interviews may "*test knowledge*" or "*reveal information*" which could be highly sensitive about the participants, hence all participants were assured that none of the information they have revealed would be published anywhere or be used against them in terms of their standing in the school or teaching profession. The names of the participants were either referred to using pseudonyms, or in a passive form to protect their identity.

However, confidentiality would exclude the research site as the principals and the district director had to give permission to conduct the study. The researcher explained to each principal of each school the objective of the research study and that the generated data would only be used for academic purposes.

3.14.4 Reciprocity and remuneration or beneficitation

According to Alderson and Morrow (2004) remunerating or incentivising participants to participate in a study will look as if participants were pressed or pressured into taking part in the study. The socio-economic context of the participants was considered as the sample schools will be from quintiles 1, 2, and 3 and they will be ranging from low to mid income class. The researcher indicated to the participants that there will not be any financial gains from the study but their (participants) inputs will add value to the fraternity of education.

3.14.5 Protection from harm

Leedy and Ormrod (2001) argued that the researcher must ensure that participants are protected from any physical or psychological harm. The researcher must treat the participants with respect and honesty. The study took place during the time when the entire world had been going through the COVID-19 lockdown distress, social distancing had still been upheld by the government on the citizens. When the telephonic interviews did not happen as planned, the researcher negotiated for face-to-face interviews. The researcher ensured that the participants' anxieties relating to the COVID-19 pandemic were put at ease. The researcher ensured that a proper protocol set by each school was followed, of taking temperatures and sanitizing hands with an ABHS. Moreover, on the day of the interview, the researcher brought an ABHS, alcohol-based wet wipes to wipe the surface, a cotton face mask, and latex hand gloves. A 1,5m distance was kept between the researcher and the participants.

3.15 Limitations to the study

Limitations are the potential challenges or weaknesses that the researcher had experienced during the study (Leedy & Ormrod, 2010). It was important for the researcher to disclose the limitations of the study so that other researchers can replicate the study or expand on the study (Leedy & Ormrod, 2010). This, in turn, could assist other researchers to judge the extent to which the findings may or may not be generalised to other contexts.

3.15.1 COVID-19

The data generation had taken place when the participants were still trying to juggle their schedules around the COVID-19 regulations, which had been stipulated by the NCCC. The SMT's were sceptic about letting an external person into their schools, fearing the spread of COVID-19. The schools had been closed for about two months and, even after re-opening, some schools were reporting COVID-19 positive cases almost every week, leading to timeous and abrupt school closure. This process caused a challenge for me, as a researcher, to conduct the interviews. Some interviews had to be abruptly postponed according to those days that the participants would likely be at school, which meant that I as a researcher had to constantly check up on these participants if they were well and still willing to participate in the study. As a result, the generation of data took longer than had been planned for.

3.15.2 Resources

Due to the COVID-19 regulations, schools had to change their normal ways of operation, which included rearranging their timetable because, at that time, only grade 12 classes were operating. Time was a very crucial resource because the participants had wanted to complete the interviews at one go and at school. This meant that I, as a researcher, could only do one face-to-face sitting for interviews with the participants at their respective schools. Although some interviews took longer than the proposed 60 minutes, some exceeded this time limit, however some participants felt it had been better that way than rescheduling for another round of interviews. At that time of the pandemic, I as a researcher, and the participants had to work on caution more than anything, the spread of COVID-19 had been highly debated around the world, so if only one round of interviews per school would be one way of ensuring safety to both I, as a researcher, the participants and the school then it would be sufficient enough.

Amidst the school closures, some schools had experienced the challenge of vandalism that cost them the loss of important documents and electronic school systems. The documents which would back the participants' statements on the impact of progression policy implementation especially in the grade 12 mathematics such as previous years' learners' assessment scripts, recording sheets and other relevant documents had been lost. These documents would have been important in interpreting and understanding how these grade 12 mathematics educators create meaning and understanding of how progression policy was implemented, however, even though I, as a researcher contacted these participants telephonically to check on the availability of the documents, none came up.

3.15.3 Theoretical

The sample size, five FET mathematics educators, is too small to draw generalisations from the findings of the study to the entire population of teaching. It was noted that the implementation of progression policy could affect far more than FET mathematics only. It extends far beyond the School Management Teams (SMT's), the district officials, the School governing Bodies (SGB's), and other stakeholders in the education system.

3.16 Summary of the chapter

The chapter provided in detail the research paradigm, research approach, the research design, research methods, the population and sample, data generation methods and analysis, the quality of the research (reliability and validity, transferability, conformability), limitations and ethical considerations.

The following chapter will look into data discussions and findings from the study.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

The aim of the study was to explore how mathematics educators experience the implementation of progression policy in their natural settings of teaching and learning. This chapter aims to provide an in-depth discussion and interpretation of the qualitative data that was collected by means of the techniques mentioned in the previous chapter. The themes generated from this data were categorised according to the research questions and the objectives of the study. This generated data was then matched against the literature reviewed which is the reason why a literature review was initiated in this section. Lastly, the findings of the study were grouped so that they could capture the emerging themes of the study.

The study followed a Braun Clarke Thematic Analysis (BTCA) to code all the data generated from the in-depth semi-structured interviews, which were conducted with five grade 12 pure mathematics educators around the Sedibeng East District area. The interviews conducted with the participants were mainly interested on these educators' lived experiences of the progression policy implementation under the assumption that they would know more and understand the implications of implementing the policy for mathematics in grade 12. The data is presented thematically according to the three main themes and categories that emerged from the participants' responses. Each theme will be discussed in relation to participant's responses and relevant literature. In each case, I made some deductions, which I considered valuable to the study. The chapter concludes with a summary.

4.2 Interpretation and analysis

I attempted to establish the FET mathematics educators' experiences of the implementation of progression policy by categorising the data into three themes. The themes and their sub-themes are as follows;

Theme one: The descriptions of the FET mathematics educators of the progression policy

- i) The body language of the FET mathematics educators
- ii) The constructs that FET mathematics educators use to describe the concept of progression policy

Theme two: The experiences of the FET mathematics educators on learner performance since the introduction of progression policy in grade 12

- i) The experiences of the FET mathematics educators towards the implementation of progression policy

- ii) The experiences of the FET mathematics educators on learner performance since the progression policy was introduced in grade 12
- iii) Challenges that affect the effective implementation of progression policy for grade 12 mathematics

Theme three: Recommendations

4.2.1 Theme one: The descriptions of the FET mathematics educators of the progression policy

The aim of this theme was to establish how these FET mathematics educators describe the concept of progression policy. The research study was mainly based on the lived experiences of these FET mathematics educators towards the implementation of progression policy. However, since this was a qualitative study, I observed that there seemed to have been a trend amongst these FET mathematics educators when they were voicing out their opinions based on progression policy. They seemed to have expressed their narratives both verbally and non-verbally. The use of both non-verbal communications in terms of body language, and verbal communication in terms of words was used under the assumption that both these communications complement each other, what could not be expressed through words can be detected through the use of body language (Beattie & Shovelton, 2011).

4.2.1.1 The body language of the FET mathematics educators

The interviews were conducted under the strict national regulations of COVID-19, which compelled both the participants and the researcher to wear a face mask which covered both the mouth and the nose. The participant and the researcher had to keep a social distance of about 1,5 metres. This physical distance had to be maintained as much as possible to avoid any possible cross-transfer of COVID-19. However, I observed that these FET mathematics educators were not only responding in words; they also used their bodies to emphasize what they meant.

When these FET mathematics educators were asked personal questions, mainly to break the ice, such as their age, gender, their level of qualifications, how long they had been in the field of education, and what they enjoyed most about their choice of careers. I observed that they seemed to light up. They smiled, cracked a laugh and seemed relaxed. They seemed to enjoy the opportunity to talk about themselves to someone who showed interest in their experiences as educators. However, as the questions shifted to progression policy and its implementation their body language changed; they started to breathe in and out deeply, their facial expressions changed, the pitch of their voices took a rise and fall, not because they were shouting at the researcher, they simply wanted to pass the message across about how they felt about the implementation of progression policy in grade 12 mathematics.

It seemed from the observations with these FET mathematics educators that, at times, the only limitation was words they could use to express what they understood about the concept of progression policy. It looked as though they had not been happy with the idea of progression policy and, as they ran out of words to express themselves, they resorted to tapping the desks, cracking knuckles, shrugging shoulders, jazzing hands in the air, leaning back and forth, nodding heads, popping their eyes open, pouting and at times, taking a long time to respond to the questions. Although these bodily actions were accompanied by the use of words, the body language seemed to precede the meaning of words.

According to Matsumoto, Frank and Hwang (2013, p.14) non-verbal communication is *“the transfer and exchange of messages in any and all modalities that do not involve words”*. Matsumoto et al. (2013) stated that non-verbal behaviours are transmitted through multiple channels such as facial expressions, vocal cues, gestures, postures, interpersonal distance, touching and gazing. Price (2003) held that about 65% of the non-verbal language is more powerful than the verbal content. Frank and Hwang (2013) added that it is so because society shapes and teaches the individuals to consciously beware of the choice of words they verbalise but the non-verbal behaviours are innate; they are subconscious. According to Mehrabian (1971) when the verbal and non-verbal cues are in conflict, the non-verbal cues supersede the verbal cues in the form of bodily actions. During the interviews, I observed the participants, to emphasize what they meant, subconsciously using their hands, face and body to put emphasis on their responses. It is accepted that body language is culture-specific, although there are bodily cues that have become universal across cultural boundaries such as a thumbs up, which shows a go-ahead (Bower & Darrington, 2012) with these FET mathematics educators, it was clear from the gestures that they were uneasy with the subject of progression policy. As these FET mathematics educators expressed themselves in some questions, only words were a limit to what they mentally experienced, but bodily actions spoke volumes. The use of gestures seemed to show that these FET mathematics educators were not describing the concept of progression policy in a positive way, that they were not happy even with its implementation.

4.2.1.2 The constructs that FET mathematics educators use to describe the concept of progression policy
During the interview, the FET mathematics educators were asked what they understood about the concept of progression policy, As Anny uttered his opinions, his body language changed, he popped his eyes wide and slanted his shoulders, and stated,

“...it is when the learner is allowed to be in the next grade whereas the learner does not qualify to be in that grade”.

Benny added that the implementation of progression policy

“...it’s a way of getting rid of the learners from the system so meaning we are not helping them out, ok we are pushing them out...”,

As he explained, he swept his hands through the air as a way of showing that the progressed learners are being rushed out of the school system

“...to control the population of the school number, the number must be manageable...”

Canny, on the other hand, expressed that progression policy is

“...a policy that assists a learner who would not cope at their age group in the grade where they are so, it simply assist them or lift them up with the hopes that if they see that, you know, the department cares about them”.

He (Canny) stated that progression policy implementation is about giving learners an opportunity to do better in the next grade.

“...a second chance...”

Danny resorted to vernacular to express that,

“...I’m not in support of progression, I don’t see it working, because owami umtwana I wouldn’t approve ukuthi aprogreswe if udeserva ukufeila akafeile. If kufanele areferwe to a certain school esizomsiza, akaye net lapho. But laba akusi abantwana bethu we end up doing this and just let the government do as they please, yes. Kube bekungaba ntwana babo bengeke bayiyenze so mine my take ukthi this is actually not working”.

[“...I’m not in support of progression, I don’t see it working, because my child I wouldn’t approve that they be progressed if they deserve to fail they must fail. If they have to be referred to a certain school that will help them, let them go just there. But these are not our children we end up doing this and let the government do as they please, yes. If these were their children they wouldn’t do it so my take is that this is actually not working.”]

Ernie stated , that implementing progression policy

“...brings a solution to resolve a problem of over-aged learners, remember the age-cohort and those learners have been in that particular grade for quite a long time”.

“...it might create more pressure on us as educators, dealing with those progressed learners part taking them step-by-step” [requiring that an educator spares] “... ample time taking learner steady on each and every topic”.

It is clear from these statements that these FET mathematics educators understand that progression policy entails the movement of learners from one grade to another. However, their statements also seem to suggest that the process of progressing learners somehow tends to leave them behind even though they are the ones who are supposed to teach and give support to those learners who have been progressed. The choice of concepts to describe the progression policy seem to suggest that they are passive agents in the implementation of this policy, that the idea behind the implementation of progression policy is a mere pushing of learners' grade-to-grade without them being involved during the decision-making.

It is worth mentioning that, at school level, the principals are the ones who chair the promotion discussions and they adjust marks accordingly together with the School Management Teams (SMT's). The decision on the mark adjustments are then verified by the District Managers or their delegates known as Senior Educational Specialists (SES's) or *facilitators*, as called by the FET mathematics educators (DBE, 2015). However, although they are not part of decision making for promotion and progression of learners, according to these FET mathematics educators, the implementation of this progression policy and the decisions taken about the movement of these learners comes back to haunt them back in their classes. The utterances made by these FET mathematics educators show that although they understand what the progression policy entails, their lived experience seem to suggest that they are not in support of this progression policy implementation. These utterances by these FET mathematics educators seem to show that there is a gap between themselves and how the progression policy is being implemented in their respective school.

South Africa, just like any other developing country, constantly reforms its curriculum so as to address the past injustices that were carried over from the apartheid regime as well as combat the challenge of scarce skills shortage in areas like mathematics and Science (Modisaotsile, 2014). Furthermore, Hess (2013) noted that curriculum reform is aimed at producing citizens who are capable of competing both nationally and internationally for the benefit of their economic growth. However, if the same classroom experienced educators who are supposed to carry out the objectives of the policies are deliberately sidelined, then a gap is opened for these educators to construct their own personal meanings about policies

based on their lived experiences (Mohammed & Harlech-Jones, 2008). Chisholm (2005) suggested that, although the development of curriculum reforms does not guarantee that there will not be any challenges, but a single factor such as ignoring the educators' opinions and suggestions may cripple the implementation of a policy regardless of how good it might have been.

4.2.2 Theme two: The experiences of the FET mathematics educators towards the implementation of progression policy in grade 12

This theme revealed lived experiences of the FET mathematics educators with regards to the performance of both those learners who have been promoted and/or progressed to grade 12 due to poor performance in mathematics. Under this theme there are two sub-themes: the experiences of progression policy on teaching and learning, and the challenges that affect the implementation of progression policy for grade 12 mathematics. The latter sub-theme was further divided into categories: the training and development of educators on progression policy implementation, stakeholder's involvement in curriculum dissemination, the availability of resources, and overcrowding.

4.2.2.1 The experiences of progression policy implementation on teaching and learning

These FET mathematics educators were asked about their experiences since the implementation of progression policy in grade 12, particularly for mathematics teaching and learning; they raised concerns. Four of these concerns are discussed in the paragraphs below.

4.2.2.1.1 Progression policy causes learners to relax

The first concern that the FET mathematics educators raised was that since the implementation of progression,

"...we are actually killing the hardworking spirit because they relax, ahh, they know that even 18% they are going to the next grade so it will come back now to a pass. You go there, you don't do homework, they don't write they are absent" (Benny).

Danny uttered that,

"Yes! I've done that before and here I am, I'm in grade 10, why must I attend, why must I do my work? Because I was absent for two months last year and still here I am, I'm in grade 10. Oh! I didn't write this subject, why am I supposed to write it now? I will still pass".

And Anny voiced,

“... that is why you will find that them misbehaving most of them are beh(aving) those that are misbehaving, they are the ones which are not coping, right and with, with the other grades and the ones who were maybe repeating the grade for more than two or more than three times they are mishehaviate. I mean they are frustrated that is why they are doing that, ngh”.

Canny stated that progression policy implementation causes confusion, that,

“...some learners know very well that, this is not my marks, something is going on here, so it disappoints the learners. ‘Cos I have had learners who said, Sir nna, level 6, ai no (oh no), I had already accepted hore I’m going to get level 4 and I’m going to re-write, now it comes back and it says level 6, how’s that possible?”.

These statements uttered by these FET mathematics educators seem to advocate that the implementation of progression policy in grade 12 has caused a challenge for learners who are simply not interested in their school work. That the implementation of progression policy does not seem to offer reasonable consequences such as ensuring that those learners who are not compliant and are uninterested in their academic performance are prohibited from progressing to grade 12. In fact, according to these FET mathematics educators, these progressed learners are absent for days, they do not complete any tasks, yet they are progressed to grade 12. Moreover, there seems to be a psychological challenge that arises from this implementation of progression policy in grade 12 as these FET mathematics educators state that they have to seek for explanations to give those learners who they know have been struggling academically and now, at the end of the year, have suddenly successfully passed grade 12, especially mathematics.

Stott, Dreyer and Venter (2015) stated that one of the concerns about the implementation of progression policy was that when learners know that they will be effortlessly progressed to the next grades, they seem to lose motivation to work harder because they know they will not face a grade repetition. George (2019) stated that the impact of progression policy implementation goes beyond the school context, it affects the society at large. This means that failure of the progression policy implementation to establish that hard work and effort are linked to promotion rather than progression could result in production of citizens who will enter the workforce not being ready. This behaviour of learners showing no interest in their school work could also be linked to Thompson and Cunningham (2000) who alluded that passing learners from grade to grade has not guaranteed learner support when they arrive in the new grades, in fact, these

learners are frustrated and so they will show no motivation in their academics. The National Policy Pertaining to the Programme and Promotion Requirements (NPPPPR) of the National Curriculum Statement Grades R-12 (DoE, 2012) stated that, for a learner to be progressed in the FET phase, they must comply with the requirements, and one of those is that a learner must have attended school regularly and must not be absent for longer than 20 days without a valid reason. Moreover, to the NPPPPR (DoE, 2012) these learners must comply with the prescribed School Based Assessment (SBA) requirements for the academic year for them to be progressed. However, these policies in education are documented but they seem not to be implemented, let alone correctly, just like progression policy. Regardless of whether these learners are motivated or not about their academics, these poor FET mathematics educators must still ensure that these learners achieve good marks at the end of the year.

4.2.2.1.2 Progression policy gives power to the parents

The second concern of these FET mathematics educators is that parents seem to be the ones who now decide for the educators to pass their children to following grades. Anny stated,

“...the parents are also, are the ones who are also in a forefront to say I want my, my child to be progressed. I, I, I don't wanna lie, in fact they don't, they don't care whether the learner has failed or the learner has passed as long as is now in the next grade for the next year. They don't care, so they don't understand the consequences of the learners being in the next grade”.

Benny stated that

“Yeah you meet a situation whereby a learner a parent they are say no. My child is doing that ok is doing accounting, is gonna do accounting ahh depending remember the influence it comes from the parent ahh so as a school what are we supposed to do?”.

And Danny uttered that

“...Umtanami ngimfunu eyenza iscience, sibababo la umtanakhe umfunu ayenza iscience but natural science grade 9 uythola nge level 3, maar ufuna umtwana, imaths yona angisakhulumi uyayifeila”.

[“...my child I want him/her to do science, we do have those who want their child to do science but natural science grade 9 they get level 3, but they want their child, I don't even want to talk about maths he/she fails”.]

According to the statements made by these FET mathematics educators, progression policy seems to have opened a gap for the parents to dictate to the educators which subjects they want their children to study and this is despite knowing that their children are not coping. These statements by these FET mathematics educators seem to suggest that even parents disregard their professional expertise when it comes to their children's academic performance judgement and this could point to the failure of progression policy being implemented accordingly. These statements also seem to indicate that parental involvement happens only when parents come to impose their own academic goals on their children during the time when they have to choose subject and streams for the FET phase.

Walter and Berthelsen (2010) stated that the act of parents wishing for their children to be progressed despite academic difficulties could be justified. Although the South African Schools Act 84 of 1996 (Act 84 of 1996) has documented the responsibility of the parents to take an interest in their children's school work and keep evidence of continuous assessment that reflects their children's progress towards achieving the outcomes of the learning programmes, there is still a gap in practice. Walter and Berthelsen (2010) held that, in reality, the policy does not establish practically how these parents should be involved in their children's academics. According to the Promotion Guideline Document (DoE, 2015b) it is the duty of the School Based Support Teams (SBST's) to liaise two to four times a year with the parents whose learners had been progressed regarding learner progress, the details of support measures planned to improve their learners' performance, conduct regular meetings, and provide workshops to parents on how to support teaching and learning. However, the reality is that educators are facing the challenge of engaging with parents on a regular basis so that planning and presenting workshops as a form of support will be a far cry from the guidelines of the progression policy (George, 2019). There is evidence that the implementation of progression policy still oppresses these poor FET mathematics educators, as they have to suppress their professional opinions about their learners' skills, knowledge and abilities so that they are not in conflict with parents.

4.2.2.1.3 Progression policy implementation puts pressure on FET mathematics educators

The third concern raised by these FET mathematics educators is that the implementation of progression policy in grade 12 causes more pressure for them especially in terms of performance of the subject.

According to Benny

"So apart from maybe developing things like SIP programmes of which learners are supposed to extend up to Saturday, now we are coming up to Saturday and Sunday, yeah it is up to Saturday and Sunday, like last week, the other week, Saturday I was here, Sunday I was here."

Danny stated that,

"Ene mine as uthisha ka grade 12 because I will account and my name will be there ukuthi uDanny produced zero percent in mathematics, then I have to push hard, work hard, come on a Saturday, come on a Sunday, afternoon classes".

[And me as a grade 12 teacher I will account because my name will be there that Danny produced zero percent in mathematics, then I have to push hard. Work hard, come on a Saturday, come on a Sunday, afternoon classes".]

Canny stated that,

"Sometimes to comply, I would have just to do an extra class, morning class for progressed learners, Saturday class for progressed learners, but the real issue was never addressed".

These statements seem to suggest that these FET mathematics educators have to pull out all the stops to save their dignities by ensuring that the mathematics learners in grade 12 pass successfully; that they have to subtract from their valuable time to conduct extra lessons for support. Simply put, these FET mathematics educators walk an extra mile to ensure that progression policy implementation works. Moreover, these statements show just how much they are unhappy with the implementation of progression policy in grade 12, these FET mathematics educators claim that all this extra work they put in it is just to comply.

Policies are documented but they are not implemented, let alone correctly, and this has been a norm in the DoE (Maluleke, 2015). For instance, the implementation of IQMS policy document in schools remains a failure because there is a lack an intensively driven advocacy programme for educators by the DoE (Tsoetsi, 2013). In another DoE policy, Resolution 7 of 1998, which regulates the working hours of educators, it is stipulated that educators must be at their work place for at least 7 hours a day and must maintain an average of 1800 hours per year. Prinsloo and Reddy (2012) say that, of these 1800 hours, 1400 must be dedicated to performing core duties during the formal school day, and the remaining 400

hours can be spent on work done outside on a normal school day such as evaluation, extra-curricular activities, professional duties and professional development. However, it is interesting to see that these policies look well in theory but, in reality, they fail, these FET mathematics educators are already exceeding their stipulated working hours to ensure that this implementation of progression policy is carried out, but at what cost?

4.2.2.1.4 The manipulation of results

These FET mathematics educators know well that when learners do not achieve the minimum requirements for promotion they will face difficulties in grade 12 especially in mathematics. However, due to progression policy implementation:

Benny voiced that

"... If I'm to control the thing the best way to control is to avoid that if a learner getting 10 out of 100, to avoid that feeling I just have to keep that learner yeah, go to do maths lit, maybe maths lit, go and do maths lit. 10 out of 100? So that, or 20 out of 100? So, to my side I'm doing, I'm just doing the elimination, I'm just doing elimination before they embarrass me. Because they will say uhh these learners they have passed."

Anny stated that

"when I am marking the grade 12 scripts normally I will be saying but I have been marking for nine days, out of the nine days that I marked, I can pinpoint the scripts that the learners performed very good. So, let's say maybe out of 5000 scripts I can maybe say, maybe, maybe let's say maybe 2000. And then at the end of the year or when they release the results they will be saying, oh! there is an improvement this and that. We know that the marks have been adjusted."

Canny said:

"...and it's been a while that learners just being progressed throughout unless we take a measure of to say let's change the number of years or let's change something some information on that learner, at least the learner can repeat grade 9."

These FET mathematics educators seem to claim that they have now acclimatised to the situation of mark adjustment from the school level through to the national level. Their statements seem to claim that, for them not to be held accountable for poor performance, especially in mathematics, they adjust their learners' marks even before they reach the SMT. These FET mathematics educators' statements also

suggest that, because they are now used to mark adjustment, they are now manipulating the learners' information so that these progressed learners may not simply be progressed to subsequent grades.

Over and above this, the practice of mark adjustment may be a bitter pill to swallow. However, these FET mathematics educators seem to have learnt to live with it.

Canny stated that

"... adjustment of uhh its good in some, in a way whereby the school experiences high percentage of maths, you know pass percentage school where they have 100% pass rate. It's good for the school, for us, there's no pressure from the district, no pressure from the department."

While Ernie uttered that

"...it's just a bonus that we, we sometimes accept but wholeheartedly when marks are adjusted and then you see learners, ehh, in different school maths it was supposed to be so much, because we do get such, we were at this, but after adjustment we are here".

These two statements show that, regardless of how painful this practice of mark adjustment could be, these FET mathematics educators state that if the adjusted results are going to alleviate the pressure from the policymakers, then they will accept it. But these two statements seem to suggest that this adjustment of marks is not a true reflection of their work. In fact, from my observation, these FET mathematics educators, although they accept this practice of mark adjustment, they did not seem to be content with it.

Maluleke (2015) held that educational policy and curriculum change undergo many changes, which are fuelled by the political, social and economic climate within each country. However, these changes seem to be implemented without proper consideration of the demands that will be imposed on the educators, such as adjusting scores (Flores, 2005). For instance, school-based moderation and assessment is done to ensure that the performance of the school is comparable to those of other schools across the country. Ingvarson and Beavis (2004) argued that school-based moderation helps educators to realise that learners are neither from the same background nor having same and equal capacity in learning. However, the reality is that the way in which moderation is done in schools, it side-lines the experience of these FET mathematics educators, whereas Klenwoski (2011, p.21) held that *"teacher judgement is intrinsic to moderation and to professional practice"* and that the standardisation of moderation across all the levels of assessment, *'teacher judgement as developed in moderation practice is vital'*. Moreover, Bushell

(2006) stated that the exclusion of educators in moderation processes means that each assessor will give average scores which will lead to false reflection of true performance. If anything, the implementation of progression policy has revealed how much training and development still needs to be done to build trust among these FET mathematics educators on moderation.

4.2.2.3 The challenges that affect the implementation of progression policy

Throughout the interviews, these FET mathematics educators voiced their difficulties about implementing the progression policy in mathematics. These challenges were unpacked as follows: the development of educators on progression policy implementation, the stakeholders' involvement in curriculum dissemination and the availability of resources, and overcrowding.

4.2.2.3.1 The development of educators on progression policy implementation

When the FET mathematics educators were asked during the interview if they had been trained on the implementation of progression policy, especially for grade 12 mathematics,

Annie stated,

"There was no, no workshop or anything that has to do with progression. They, we recommend that these learners should be retained in a grade but when we submit the schedules all then, all the learners that we recommended are now progressed to grade 12, its, its hard".

Canny stated,

"No, my answer is absolutely not. This uhm, as with other policies, it depends maybe on the interest of people. Uhm, they expect everyone from the top, the person below them, to know how the policy is implemented, that person expects the person below them to know",

And Ernie added that

"I'm not bias per se, but I, I will say the SMT is trying its best but shame for the district because ehh once the district come in, they will come to individual educator, the maths teachers talking about the problem, how do you sort it out or trying to find solutions from you and here you are as a teacher, you got a facilitator, the facilitator will just take the monitoring tool tick, tick, tick".

"The head office whereby they will liaise with the district and the school, taking the teacher for workshops, so, maybe they are playing their part there, whereby when we go out as teachers to the workshop that's whereby we interact with other colleagues, how best do you deal with these challenges, others will say,

oh you talk of 10 learners at my school last year, I'm talking about 55, so you are still far less, but what I did about that, I've managed to work it out dista grouping them, working with them this and that and that".

However, Danny claimed that

"The district and the province, obviously the SIP, the SIP training, the ISPI training and take the teachers to the district and wherever, wherever to train them so that babe good to izinto lezi, to ukufundisa", "These are the simple topics that's what we discuss there, yes they don't focus much on the progression, progression, progression the name itself, neh? They will be like focusing on the topics, but the topics are not actually your level seven, wabantwana we're focusing more on you level one?".

["The district and the province, obviously the SIP, the SIP training, the SPI training and take the teachers to the district and wherever, wherever to train them so that become good to these things, to teach", "These are the simple topics that's what we discuss there, yes they don't focus much on the progression, progression, progression the name itself, neh? They will be like focusing on the topics, but the topics are not actually your level seven, of learners we're focusing more on you level one?"].

These statements seem to paint the picture that the FET mathematics educators may be attending workshops and trainings scheduled by the district and/or the DoE, but the focus of these trainings is to teach these FET mathematics educators the subject content that they already know. Simply put, these FET mathematics educators allege that they have never been trained and developed on progression policy implementation. These trainings seem to fail to tackle the real issue of developing strategies to implement the progression policy adequately. In fact, these educators' resort to finding comfort in each other's stories during these trainings, they discuss possible ways to manage the demands of progression policy on their own. These FET mathematics educators raise a concern that even the so-called subject advisors seem to be unaware of solutions that they claim to be subject-advising by seeking answers from these poor FET mathematics educators on how to deal with the implementation of progression policy.

These statements by all these FET mathematics educators seem synchronous with arguments made by Carl (2009), that this is a norm for the DoE, that the policy makers only document what they desire to happen in teacher-trainings but fail to recognise the development that occurs within instructional-learning situation. According to Chikumbu and Makamure (2000, p.12) the ideal picture drawn by the policymakers on the curriculum is a composite comprising the *learner, teacher, teaching and learning methodologies, anticipated and unanticipated experiences, outputs and outcomes possible within a learning institution*. However, the lack of knowledge and experience of the reality on instructional-learning situations seem to prove that the ideal picture is, in fact, gloomy. Rathongwa (2006) stated that the failure of the DoE to

improve educator quality through developmental activities that lead to teacher professional development is what leads to failure to hold educators to professional accountability. In line with these FET mathematics concerns, Spillane, Reiser and Reimer (2002, p.396) raised that “*surface level implementation*” is the prevalent during policy implementation processes, that the policy implementers end up implementing policies as best they can because they lack understanding of new policies and their requirements. Hence these FET mathematics educators, instead of engaging in the content-related trainings, divert to discuss better ways of implementing the progression policy on which they were not consulted. The question remains as to what purpose do these so-called training serve if it is not to develop these FET mathematics educators on the implementation policy? When these educators enter the education system, especially in the FET phase, they are specialising in the subject. They are content-ready, so should the developmental trainings not speak to the needs of these educators in instructional-learning environments.

4.2.2.3.2 *The involvement of stakeholders in curriculum dissemination*

These FET mathematics educators were asked how the stakeholders in the education system were involved in assisting with the implementation of progression policy. By stakeholders, I had meant the School Management Teams (SMT's), District Management Teams (DMT's), Provincial Management Teams (PMT's) and the parents.

The involvement of parents in progression policy implementation

When these FET mathematics educators were asked if the parents were involved in assisting with the implementation of progression policy, they responded as follows;

Benny stated,

“So, when you talk to parents, they are very cooperative, even learners some other learners when tell them what's happening maybe there's a problem at home, you might find out that the learner is failing because of family problems of which we are aware of that”.

Ernie added that

“Here's no challenge because there are ongoing meetings happening on forth nights on Saturdays whereby the principal is now the learner, the his or her parents sit together, child next to his parent, talking the curriculum, the challenges, way forward, good practice, and they are so cooperative...”.

However, Anny stated,

"I, I, I don't wanna lie, in fact they don't, they don't care whether the learner has failed or the learner has passed as long as is now in the next grade for the next year. They don't care, so they don't understand the consequences of the learners being in the next grade",

Canny simply uttered,

"No, simple as that, no".

Danny also added

"Yeah, it's really not easy njengoba ngisho ukuthi in a situation like, uh, our townships schools, parents are not involved we face challenges afana nokuthi abantwana ababhali umsebenzi, njengoba ngisho..."

[Yeah, its really not easy just like I say in a situation like, uh, our township schools, parents are not involved we face challenges like learners do not write their work just like I say...]

Although two of the FET mathematics educators stated that there seems to be a relationship between the parents and the school on promoting good academic performance. The three other FET mathematics educators held that parental involvement was a scarcity. Those FET educators who claim that there is parental involvement said that there is ongoing communication and the parents seem to be cooperative about that. It seems that these FET mathematics educators are using these parental involvement engagements to further their pastoral roles, meaning that they check up on their learners' background so that they can make informed decisions about their learners' performance, and this is good. However, these other educators who claim lack of parental involvement, from my observation, it was clear from their body language that the lack of parental involvement was not easy for them and as they spoke about it they frowned, shrugged shoulders and took deep breaths. It seemed that it was difficult to even express that there is no evidence of parents assisting their children with informal activities.

Jeynes (2016) held that there is a strong relationship between learners' performance and parental involvement. That the learners' performance seems to improve when parents are actively involved in their education, Bojuwoye and Narain (2008) added that parental involvement in their children's' education is important regardless of the parent's economic backgrounds. Manilal (2014) stated that there are many different reasons behind the lack of parental involvement as stakeholders in education and one of those is that parents feel that their sole responsibility is to send their children to school and the school has to ensure that they do their job. Hornby and Lefaele (2011) stated that parents felt that educators are qualified persons to ensure that their children do well in their studies because they are paid for that. In

another study by Naicker (2013) on high school parents and involvement in their children's work, parents uttered that they felt no need to involve themselves as their children who are in high school were old enough to take care of their own studies in those ages. However, some parents understand their responsibilities, just like with the Chinese parents, they assist their children with home activities and orientate their children's lives towards academic tasks regardless of their economic backgrounds because they believe that their children's performance is a reflection on their families (Huntsinger & Jose, 2009). Despite this, just as these FET mathematics educators are not involved in the progression policy processes, they may not even know exactly how and when to involve parents to enhance the implementation of this policy. Perhaps if these FET mathematics educators had been involved actively in these curriculum reform processes, they could have established programmes such as "home schooling" or "home education" whereby educators and parents work hand in glove in promoting good academic performance both at home and at school (Harding, 2011). According to Harding (2011) in home schooling programmes, teachers support parents on the content and parents in turn teach their children in their home setting. Perhaps the DoE could be missing out on a wealth of educational development, by sidelining the opinions of these FET mathematics educators.

The involvement of the SMT's, DMT's and PMT's in progression policy implementation

During the interviews these FET mathematics educators were asked whether the SMT's, DMT's and PMT's were ever involved in assisting with the implementation of progression policy, they responded;

Benny stated,

"These ones they are like one of the policy makers they are that said of course they implement but they don't implement like directly, they are different from us because us we are on the front line. So, with these ones they will only help us through facilitators who might, right help us to identify uhm learners at risk... the SMT uhm like I say, they work on the surface of the policy, they are just working on the surface of the policy, they don't go in deeply".

In Canny's words,

"No, my answer is absolutely not. This uhm, as with other policies, it depends maybe on the interest of people Uhm they expect everyone from the top, the person below them, to know how the policy is implemented, that person expects the person below them to know".

Anny stated

"...let me talk about the SMT, so what normally do, we identify the learners. Hence like I say before, we give them the work according to, to what they understand, so that they, even the district is the same. They will give us work for, for, for, for progressed learners and work for normal, normal, normal learners and all that..."

Ernie expressed,

"I'm not bias per se, but I, I will say the SMT is trying its best but shame for the district because ehh once the district come in, they will come to individual educator, the maths teachers talking about the problem, how do you sort it out or trying to find solutions from you and here you are as a teacher... So the provincial, I will be lying if I say, they've been supportive".

Lastly Danny stated

"Then as, as, per SMT I cannot say much about them because there's nothing much bebayenza, ...The district and the province, obviously the SIP, the SIP training, the ISPI training and take the teachers to the district and wherever, wherever to train them so that babe good to izinto lezi, to ukufundisa".

["Then as, as per SMT I cannot say much about them because there's nothing much they would do...The district and the province, obviously the SIP, the SIP training, the ISPI training and take the teachers to the district and wherever, wherever to train them so that they will be good at this, to teach".]

It seems from the statements made by these FET mathematics educators that most of the spade work rests upon their shoulders. Most of these FET mathematics educators stated that, if these stakeholders were ever involved, it would be to require individual educators to identify the progressed learners or learners at risk. However, this identification of learners is just to train these FET mathematics educators the trimmed content that they must drill unto these identified learners. None of these FET mathematics educators stated that these stakeholders have brought in intervention strategies that help them deal with the needs of these identified learners other than replicating the already known content.

According to Cohen and Heather (2000) such challenges in policy implementation in the education system are fuelled by the disjuncture between the policy and practice. Cohen and Heather (2000) stated that, during the policy implementation processes, there seems to be a gap between the stakeholders. Reimers and McGinn (1977, p.177) held that *"the gap between implementation and policy is greater when the voices of the stakeholders are suppressed in the policy design"*. Maluleke (2015) alluded that these

gaps in policy implementation are widened by the lack of communication between the stakeholders even though communication is the most important dimension to policy dissemination. The failure of policymakers or the Management Teams to engage educators in dialogues on how best to implement the progression policy, especially for critical subjects like mathematics, indicates that the knowledge and expertise of the real policy implementers is still overlooked, hence the same so-called trainings and workshops scheduled for educators on an annual basis are tackling issues that are not directly linked to easing the implementation of progression policy.

4.2.2.3.3 Vandalism to the school property

Amongst the challenges faced by these FET mathematics educators, vandalism was one. These FET mathematics educators expressed;

Benny stated,

“Oh vandalism might be there sometimes, this place its, its, its on the sides, is at a remote place so, its vulnerable to thing like theft and also maybe uhm structure itself. If you can check the structure fence, the security wise, yeah it is vulnerable you might find that anyone can just come steal the tap, maybe take anything else, anyone, yeah”.

Anny expressed,

“The challenges its burglary, right, its burglary and that’s number one. The other challenge I can say is, yeah its burglary. The community, the community they know people who are doing all those burglaries, but they will never report them.”

Canny stated,

“The reason we ended up having ehh 24hour security was vandalism. I think all the, offices had been vandalised except this one... “You see our classes, we have four burnt classes.”

Danny stated,

“Yes, emaclassini they used to steal cables abantwana but I cannot say since kunemasecurity, it was before kunama security because bekunembobo ngale and it was really bad, but of late since kunama security.”

[“Yes, in classes they used to steal cables, learners but I cannot say since there are securities, it was before there were security because there was a whole that side and it was really bad, but if late there are securities.”]

Ernie voiced,

” There were those grade 12 classes that were installed the smartboards, but somewhere somehow things do happen only one class still, is still left with the smartboard, others burglary, vandalism and all the staff” ...“the school has been vandalised to the latter, you can see we don’t have electricity”.

These FET mathematics educators’ statements seem to allege that one of the hindrances to implementing progression policy in their respective schools is the issue of vandalism. They indicated that, as a result of the valuable teaching and learning resources having either been stolen or damaged, teaching and learning in these schools is affected.

According to Stahl (2000, p.40) vandalism refers to *“wilful or malicious destruction, injury, disfigurement or defacement of any public or private property, real or personal, without the consent of the owner or persons having custody or control”*. Mtshali (2001) held that vandalism does not only put pressure on the budget of the schools, but it also causes the teaching and learning processes to collapse as schools’ scheduled programmes are often interrupted for repairs to be completed. Mtshali (2001) found that, in the year 2001 only, the Gauteng Department of Education and the KwaZulu Natal Department of Education incurred a loss of about R40 to R48 million due to vandalising of schools’ property. Similarly, the year 2020, when the globe had been under attack of COVID-19, Mbhele (2020) asserted that, during the closing of schools, 1718 schools were vandalised, causing teaching and learning to fall back as the scheduled programmes were disturbed for schools to be repaired. Vandalism impacts on the implementation of progression policy. For instance, in the case of the burnt classrooms, it means that there will be a shortage of accommodation for teaching and learning and the school programmes will be disturbed. The implementation of progression policy without the consideration of these FET mathematics educators’ opinions has not prepared them for eventualities like vandalism. The question remains then that, during those times when schools are being vandalized that much, then how can these mathematics educators’ experiences be used to ensure that teaching and learning, possibly even support for the progressed learners, continues?

4.2.2.3 Overcrowding

These FET mathematics educators were asked if overcrowding could have had an impact on the implementation of progression policy,

Anny stated

"It's not possible honestly it's not possible the overcrowding, the overcrowding I mean I believe if you are a teacher you have to give an individual attention to each and every child that is in the class. But, with 45 learners? I mean the capacity of this class it's supposed to be 30, even 30 its too much, 30 its too much. I'm glad now that the COVID-19 says the maximum should be 20".

Benny uttered,

"... when they are many it's not just a problem for me, it's also a problem for other learners, when they are many you they are encouraged with that involvement, they are encouraged to be playful."

Danny expressed,

"Nginama class ay3, eli1 lina 50 ngiceda nini?"

["I have 3 classes, each has 50 learners, when do I assist?"]

And Ernie stated,

"But due to this COVID-19, social distancing, whereby a class of 40 has been splitted into two, now you have 20 learners, you are able to move freely, even though it increases the number of periods, but uh uh for you, you know you are teaching these learner, taking them on one-on-one cos you are able to round them at that particular period or time, unlike when they were overcrowded, got it?"

These FET mathematics educators allege that teaching and learning has been a challenge in overcrowded classes. They held that a small number of learners in a class was advantageous for both themselves and the learners as they could be able to offer support, especially to those learners who had been progressed. It is also clear from these FET mathematics educators' statements that they seem to be thankful of the COVID-19 regulations for social distancing as it has compelled schools to reduce the number of learners per classroom. Mtika (2010) held that the challenge of overcrowding, particularly in township schools has long crippled the quality of teaching and learning, despite the policies drafted to alleviate it. According to the Trends in Education Macro Indicators Report (DBE, 2014/15), the Norms

and Standards for School Infrastructure policy state that a maximum classroom size should not be more than 40 learners per teacher. However, the reality is that this teacher/learner ratio policy is not adhered to; these FET mathematics educators are experiencing a high volume of learners, which makes the process of implementing progression policy more challenging. Shah and Inamullah (2012) found that an overcrowded classroom not only impacts on performance, but it also exerts immense stress on educators. This is similar to these FET mathematics educators' case that they have to manage the behaviours of learners who are already having challenges because of different learning styles, who need individualised attention but are not getting it. Perhaps if these FET mathematics educators' opinions, would have shed a light on how best the issue of overcrowding could have been managed had they been engaged during policy development processes because they are the agents at the forefront; they understand well the dynamics of the classroom.

4.3 Theme three: Recommendations

These FET mathematics educators were asked to share their opinions on how best the implementation of progression policy could have been achieved. The rationale behind this theme was to establish whether these FET mathematics educators, based on their experiences, had any strategies that they could recommend to the policymakers about the implementation of progression policy especially in the FET phase.

Canny voiced,

"... I feel that uhm the progressed candidate would have been an independent or, or a candidate on their own, independent candidate. In other words, they should not write in December, they should instead come to school and do everything that we do, the whole year that learner would be collecting CASS mark, in other words, SBA mark. But not write in December with all the other students. Instead they would have to go to the following year, maybe write in June, not in December. They could come to school just for the SBA everything that, that a learner does is for SBA purposes only at school".

Benny stated,

"So, this policy it must be conditioned, you will be progressed based on that. Kuthi ok you are can someone who, there's a room of what, improvement, it's just that you need time and uhm to add. So, we can progress learners whom we are identified that they are cooperative, yes, they are weak but they are cooperative".

Danny expressed,

"I will make sure only abantwana aba deservayo would go and I will make sure ukuthi umtwana uyafollower even from eprimary we find out what has been happening ngaloyo mtwana eprimary. Umtwana shouldn't be progressed more than three times from the lower grade and if nakhona it's a special case know why. Let's check ukuthi okay umtwana u,u, uprogeswa nga, ngayiphi ndlela, ngoba if sizobheka kuphela kunabantwana abahlala baseskoloni uhm for all the school year calendar, calendars day bazobe ba present mara umtwana akakhoni nex".

["I will make sure only learners who are deserving would go and I will make sure that a learner is followed even from primary we find out what has been happening with that learner from primary. A learner shouldn't be progressed more than three times from lower grade and if then it's a special case know why. Let's check that a learner, he/she is progressed in which way, because if we look only there are learners who are always at school for the all the school year calendar, calendars day they will be present but a learner is not able to do anything".]

Ernie held that,

"...the streaming of these learners in different skills at an early age when we realise these learners they are not doing well in mathematics, then we need to call the parents, uh talking to the district that this learner must be transferred to this particular school so that he or she will be able to progress to, or take whatever stream that will develop him or her..."

Lastly Anny stated,

"Grade 10, 11 if the curriculum, maybe if they can go back a little bit to the old syllabus it's because with the old syllabus whatever that was taught in grade 8 and 9 it was the continuation of grade 10. 11 and 12..."

Two of these FET mathematics educators recommend that only those learners who are deserving and cooperative need to be progressed. Moreover, these progressed learners need to be followed up as to how they perform from grade to grade. Another recommendation was that these progressed learners need not write their end of the year examination with the rest of the learners; they need to be granted an extra semester to boost their cumulative mark. The extension of this semester, according to these FET mathematics educators, will assist in curriculum differentiation. As these learners had been progressed, they will have enough time to work on the content of the subject. One of the educators argued that

perhaps keeping these learners in the system of education so that they can be progressed due to failing mathematics may not be ideal. This educator expressed that perhaps, if these learners with barriers in education were tracked from GET phase, then they could be streamlined according to skills. Whilst one of the educators recommends that the GET phase syllabus should be fixed so that they can allow for continuation of teaching and learning. This educator stated that there is a gap between the contents of the GET and FET phase, and that is where the cracks start widening.

According to Maluleke (2015) each educator's opinion about curriculum is shaped by their prior knowledge, beliefs and the contextual experience. These recommendations made by individual FET mathematics educators seem to allude that do not perceive the world in a closet. None is above another. However, it is crucial for policymakers to take into consideration the agents of implementation from the onset of policy making that is to consider that their opinions are situated in a particular community of thought.

4.3.1 The document analysis

These FET mathematics educators were asked to bring in the documents that corroborate their statements concerning the implementation of progression policy, particularly for mathematics in grade 12. These requested documents were the curriculum policy documents, the assessment criteria in classroom, and the intervention programmes, if any. The rationale behind requesting these documents was to corroborate these FET mathematics educators' statements about the implementation of progression policy. Moreover, document analysis was hoped to assist the researcher to understand how these FET mathematics educators interpret these documents in their daily classroom environment.

During the interviews, these FET mathematics educators were asked about the intervention strategies that they had implemented in their classrooms to assist the grade 12 mathematics learners to reach the minimum requirements for promotion. The researcher had wished to check whether these FET mathematics educators had documents that are related to assessment such as school assessment policy, programmes of assessment, the forms of assessment and feedback of assessment. The participants had been asked to bring documents about the intervention programmes, which comprised the number of progressed learners to grade 12 mathematics classes and the intervention plan for such learners.

4.3.2 Intervention programmes

These FET mathematics educators were asked if they had had any intervention strategies for the mathematics learners,

Anny stated that

"We also come with the intervention but they also give us what, they can also give us maybe the questions, they. They cluster questions according to the levels, the lower order, the higher order, and all that. So, we have the material specifically for the progressed like progressed or those who are struggling in mathematics the lower order questions we give to them, and then we drill that."

Benny stated that,

".. we test, we test them from questions not from the current class from the previous class. Ok we're in grade 12, I need to ask you questions about in grade 10, simple questions in grade 10. Yes You have been progressed but grade 10, grade 11, so we, first of all I need to identify areas which you are weak, because you might be progressed, it doesn't mean that you don't know anything..."

Canny uttered

"... they expect us to design those special programmes. Which means, should I uhm design my own programme which is bound to fail then it is not going to be any success there... The, the most unfortunate part was each learner, when I looked at the scripts, because it all starts with what the learner does not understand or where the problem is. The, everything that we do in school is almost always about extra classes, extra classes, extra classes"

Danny said

"Uhm yabona ngamalanga wokoqala kusavuliwe ikolo kuthiwa abekho ready masiyazi le group yabantwana lababaphasile, we usually open a week before. In that week I drill them on question papers, I know what they need in grade 12. Your question one its algebra in most cases, factorise, just make sure they still remember how to factorise, quadratic formulas there, yabona?"

["Uhm you see the first days of re-opening of schools when they are not there or ready when we know the group of learners who passed, we usually open a week before. In that week I drill them on question papers, I know what they need in grade 12. Your question one its algebra in most cases, factorise, just make sure they still remember how to factorise, quadratic formulas there, you see?"]

Ernie held that

"You will always have to, you as a teacher, you have to opt for the intervention programme that must be in black and white. So, the very same intervention programme being. You must make it a point that out of all the learners, you distribute them, group them. But what I normally do, I in a class, you know sometimes there is this each-one-teach-one, because there are fewer maths, mathematical subject, learners, they are fewer than these our counterpart, the maths literacy".

4.3.3 Number of progressed learners

These FET mathematics educators were asked about the total number of learners in grade 12, those who had been progressed and the ones who had enrolled for pure mathematics.

Benny stated that,

"They are 17 grade 12's pure mathematics learners, "This year they are supposed to be I am not sure but between 120 and 160, I'm not sure of the figure", for the total number of learners in grade 12."

Anny expressed that

"186 total number of grade 12's, 43 were pure mathematics learners, and that "I think they are 2 but most of them failed mathematics, they failed in grade 10 and grade 11" who had been progressed to grade 12".

Ernie expressed,

"We have 45 learners doing pure mathematics", and then the rest its maths lit out of 167".

Danny added,

"For iskolo for this year ngina not quite sure but its, its, it's around 80", "Ngina ok let me count, ahh bengina ngina 45"... who are doing pure mathematics, "Aba progressed bangaki, I don't remember, I think I had somewhere, it's not, were they 18?"

["For the school for this year I have not quite sure but its, its around 80", I have ok let me count, ahh I had 45"... who are doing pure mathematics,... "Who are progressed how many, I don't remember, I think I had somewhere, its not, were they 18?"]

4.3.4 The rationale for documents in the study

As a researcher, I had expected these FET mathematics educators to bring supporting documents to these interview sessions, such as question papers, which they indicate that they test these learners on, the term schedule with scores, the intervention plans, the printouts of the learner statistics of how many grade 12 learners for the current year, the number of progressed learners and the total numbers of learner who had enrolled for pure mathematics in their respective schools. These documents would assist in painting the picture of how the implementation of progression policy is challenging for these educators, as they would show what is expected of them as FET mathematics educators and reality in their learning and teaching environments.

All of these FET mathematics educators, surprisingly, had not brought any documents with them, and this was despite having agreed verbally, days before the interviews, to bring these. These FET mathematics educators, off the record, gave reasons for not bringing the documents on the day of the interviews. Some educators claimed that their schools had been vandalised when the schools had closed due to COVID-19 pandemic, both the soft and hard the data of the school had been lost. Some educators made claims that all the assessment-related documents were kept by their seniors and they could not get hold of them. Some asked that I come back some other time to check if they were able to retrieve some data, but upon arriving some claimed that the constant closing and re-opening of schools due to COVID-19 infections in their schools they were not handling any paper at all. Some requested that, for my safety, it was better not to come to their schools, that they would scan and email the documents to my details left with them. However, none of the educators have done so.

The study was based solidly on ethics as outlined in chapters 2 and 3. These FET mathematics educators consented to voluntary participation in the study. Nelson and Merz (2002) stated that, during a research study, it is important for the researcher to ensure voluntary participation of the participants as this will allow for a principle of autonomy and respect for both the researcher and the participant. In this study, I communicated with the participants about the documents that would be required for the study before the study began. However, upon follow-up with these FET mathematics educators for these documents, I avoided making these FET mathematics educators feel as though they had been unduly influenced or coerced into doing something with which they had not been comfortable (Macklin, 1999). Moreover, these FET mathematics educators had the freedom to either stop or continue with the interviews at any time

should they wish to. I then noted that it was their right also to share as much information as they wished without any persuasion.

4.3.5 *No data is data*

The failure of these FET mathematics educators to provide evidence on their allegations about the implementation of progression policy has led to an assumption that perhaps their decision not to share documents that would corroborate their oral statements is due to being sceptic if the information will be used against them (Gibson, Benson & Brand, 2003). Before the interviews, the participants were assured of confidentiality, anonymity, and that the information they will share will not be published anywhere by anyone other than myself and the supervisor. During the follow ups, I noted that perhaps these participants suddenly became sceptic about sharing sensitive information that could somehow compromise their terms of employment, and even the school itself. Educators are bound by law to keep the school's records as confidential and failure to do so may lead to disciplinary action (Fischer, Schimmel & Stellman, 2003). Although the participants were assured the learners and school personnel's names would be hidden when copies are made, my assumption was that perhaps these FET mathematics educators suddenly remembered that they have a delegated authority, *in loco parentis*, to protect any leak of information about their learners (SASA 84 of 1996).

The importance of documents in this study could not be stressed enough as they would have brought in corroborative evidence that could have supported the oral statements, validity and truthfulness by these FET mathematics educators. However, the assumption is that perhaps as these FET mathematics educators were overcome by feelings of shame and perhaps realised later that the only way to make amends to the irreparable damage of disclosing so much information, was to just to make promises but not keep them (Gilbert, 2003). Hence even when the electronic version of the documents was requested, it never came through.

Another assumption I made was that perhaps these educators would not be able to bring these documents as requested for the reasons of fearing to handle hardcopy documents at a time when the COVID-19 pandemic was still rife. These FET mathematics educators could have been extra cautious for both the lives of the researcher and themselves as this virus' lifespan on surfaces had been assumed to be 72 hours.

A strong message could be sent by the lack of the required documents and that could be, perhaps, that these FET mathematics educators are really not involved in dissemination of progression policy. Since these educators are not the ones who are implementing progression policy, it seems that they could assume that their place is in the classroom and teaching. Decisions about the movement of learners will be decided for them, especially by the SMT's because even before the marks reach the DMT's, they must have been moderated already. The allegation that the assessment documents are not within the reach of these FET mathematics educators could mean that the evidence of moderation should not even leak as the mark adjustment at a national level is done discreetly (Stott et al., 2015). According to the DoE (2015b), the moderation of scores is only done by the SMT within schools and chances are that these SMT's, as part of policymakers, will ensure that the performance of the school looks good. The opinions of the educators may be side-lined during that process as they would give valuable information which could possibly be in contradiction with the wishes of the policy makers. This is in line with Ndimande (2005) who stated that SMT's in some school's lack leadership and management skills hence they do not perform their duties amongst others, staff development activities especially on curriculum reforms. In some schools, the SMT's do not moderate the learners' work frequently and, to prevent being accountable for poor performance, they will ensure that they adjust marks accordingly, making them look good (Ndimande, 2005). This corroborates the statements that these FET mathematics educators' opinions are disregarded.

Despite all these, the gathered oral evidence could not be discarded due to lack of documents. Interviews took place and they were recorded and transcribed word-for-word and, where necessary, translations were done. Moreover, even though the COVID-19 pandemic had affected the normal schools' programmes, it should be appreciated that the interviews were conducted face-to-face and I could supplement these responses of these FET mathematics educators with the observations.

4.4 Summary of the chapter

This chapter has outlined the research findings and discussions generated from the interviews that were held with the FET mathematics educators in their respective schools. This chapter was matched against the research questions and the objectives to explore how these FET mathematics educators experience the implementation of progression policy especially in grade 12 mathematics classes. The following chapter will discuss the conclusions and recommendations generated from the study.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In the previous chapter, I presented the findings and the discussions of the data generated from the study. In this chapter, I will be presenting the conclusions drawn from the study and the recommendations. In addition, limitations of the study as well as the suggestions for further research are provided. The aim of the study was to explore the FET mathematics educators' views towards the implementation of progression policy based on these objectives:

- a) To explore the descriptions constructed by the FET mathematics educators on the concept "Progression Policy".
- b) To explore the FET mathematics educators' experiences of the implementation of progression policy in the FET phase especially with regards to learner performance.
- c) To determine how the FET mathematics educators, perceive their experiences could be used to shape the implementation of Progression Policy effectively.

5.1.1 The conclusions drawn from the study

The conclusions drawn from this study are aligned with the respective themes that were analysed in the previous chapter.

Theme one was aimed at finding out how these FET mathematics educators describe the concept of progression policy. The conclusion drawn from their responses seems to show that, as much as they understand what progression policy is, their choice of words to describe progression policy seems to indicate that they are not in support of this policy. The choice of words to describe the concept of progression policy seemed to be blurred by the challenges that these FET mathematics educator experience on a daily basis.

Theme two was based on how these FET mathematics educators experience the implementation of progression policy especially for grade 12 mathematics. One of the conclusions drawn from this theme was that the implementation of progression policy has led these to these FET mathematics educators to experience a challenge of learners who are simply uninterested in their academics, as they know that they will be progressed to the next grades despite poor performance. The second conclusion was that these FET mathematics educators experience pressure from parents to progress their children without understanding the implications of such an action. These FET mathematics educators stated that they are compelled to ensure that these progressed learners achieved high pass rates, and when these progressed learners reach matriculation, their results are manipulated but the reality is that those results may not be a true reflection of raw marks. The conclusion drawn from this is that the reality is sugar-coated as if the implementation of progression policy is effective whereas it may not be.

Furthermore, these FET mathematics educators raised challenges which arose in their teaching and learning environments due to the progression policy implementation. One of these is the teacher development challenge. The conclusion drawn from this challenge was that these FET mathematics

educators are not adequately trained and developed for methodologies that will ensure that the progression policy is effectively implemented. Another conclusion drawn from the analysis of the results was that the stakeholder's involvement in progression policy implementation was a challenge. It seemed that the expectation was that, despite support, these FET mathematics educators were expected to ensure that the implementation of progression policy is seen through. Learners must perform well. Lastly, the challenge of vandalism and overcrowding in schools seemed to have had an impact on the implementation of progression policy, and the conclusion drawn from this is that these have been lingering challenges in the public schools and they have not been fully addressed and, with the implementation of progression policy, they seem to have worsened.

Theme three was aimed at hearing these FET mathematics educators' opinions on how best this progression policy could have been implemented. The conclusion drawn from this theme was that the opinions of these FET mathematics educators were experience-based, by virtue of their being classroom experts. They understand the dynamics of the subject and the teaching and learning environment; hence their recommendations could possibly change for the better the manner in which progression policy is implemented.

5.1.2 The recommendations drawn from the study

These FET mathematics educators voiced their opinions on how this progression policy could have been altered for better implementation. The recommendations are detailed below;

The first recommendation was to fix the GET mathematics curriculum so that it can synchronise with the FET mathematics curriculum. These FET mathematics educators said that the old syllabus, which was used before the implementation of OBE, seemed not to have been congested for the learners in the GET phase, that curriculum allowed for educators to prepare learners for furthering what they had been taught in the GET for the FET phase. They suggested that the DoE could consult with the FET mathematics educators in revisiting the old syllabus and choosing concepts in the FET mathematics that will be an extension from the GET phase so that these learners do not meet core mathematical concepts for the first time in the FET phase, which will lead to them failing the subject.

The second recommendation was that the DoE should ensure that the implementation of progression policy is applied to those learners who show potential for improvement in mathematics. These FET mathematics educators raised that, as these learners are undeservedly progressed to the FET phase having failed mathematics, they seem to relax and neglect their academics knowing that they will be progressed anyway. Therefore, they suggested that, before these learners can be progressed to the FET phase having failed mathematics in the GET phase, the academic decision-making committees need to do a thorough reflection on the learners' performance, from school level, to see if there is a room for improvement so that when these learners reach the FET phase they have worked hard for it. Simply put, their performance in mathematics from grade 7 to 9, the senior phase, must be used to trace the level of seriousness for these learners to enrol for pure mathematics in the FET phase.

The third recommendation was that the DoE needs to do a thorough follow-up on the progressed learners' performance as they are progressed through the grades. These FET mathematics educators noted that the progression of learners starts off from early grades, meaning that they seem to have been battling

with mathematics from as early as grade 4 and, due to being progressed to the upper grades without intervention, these learners reach the FET phase mathematics confused and frustrated. A mere progression of learners does not solve the problem that they are experiencing challenges with the subject, hence these FET mathematics educators suggest that the DoE needs to ensure that these progressed learners are tracked. Rather than identification of these learners as new cases in the new grades and filling Support Needs Analysis (SNA) form in every grade, the DoE needs to keep track of these learners so that they are either retained in the system or assessed on the same level as those who have been promoted.

The fourth recommendation is an extension of the third recommendation, that when these progressed learners are tracked from grades 4 to 9, they can then be streamlined according to these learners' academic needs. This suggestion is in line with the DBE (2008) that by the end of grade 9, learners can be awarded a GET certificate which allows for them to enrol for the vocational stream through apprenticeship or learnerships. The FET phase is divided into two streams: the academic and vocational streams. This means that those learners who have been experiencing academic challenges can then be channelled to the vocational streams, such as apprenticeships, which are less academic-demanding but can still give learners an opportunity to positively contribute to their economy. These FET mathematics educators suggested that the onus is with the DoE to follow-up on their policy that grants learners with academic challenges an opportunity to exit the GET phase and further their studies as skilled people.

The last recommendation was that when these learners are progressed to the FET phase, then the academic year needs to be differentiated amongst the promoted and the progressed learners. This means that when those who were promoted to grade 12 write their end-of-the-year examination, then the identified progressed learners have their academic year extended by six more months. During these six months, they will be attending as normal day scholars and accumulate the Cumulative Assessment (CASS) that of which they will carry over to their mid-year-examination. These six months will supplement their performance as they will have support from the FET mathematics educators during extra classes, either morning, afternoon or weekend classes. The DoE needs to keep track of these progressed learners so that they are known and their learning difficulties are appropriately addressed and intervention programmes are established by the educators and various stakeholders to fully support these progressed learners.

5.1.3 Limitations of the study

The study was conducted with various limitations to consider. The first limitation was the timing of the study, the study was conducted at a time when the world had been going through the COVID-19 pandemic. The schools had been operating under the strict regulations which had been set by the National COVID-19 Committee. The educators and the management were sceptic about allowing me, as a researcher, into the schools because of the surging spread of the virus. However, together with the participants, I ensured that we kept a safe social distance, used face masks to cover our noses and mouths, and we also used an alcohol-based-hand-sanitiser.

The second limitation was the sample size. Only five participants took part in the study. There are more than 400 000 educators in South Africa and the sample of five educators could not be used to generalise

the opinions of all educators in the country let alone the world on progression policy. However, since the sample was purposefully selected, the findings of this study could add value to studies of similar subjects. The third limitation is with the data collection method, initially the qualitative data would be collected through interviews and document analysis. The interviews were successfully conducted. However, the document analysis could not be done as the participants could not bring forth the required documents that would have corroborated their utterances about progression policy implementation. Despite the attempts to reach out to these participants about these documents, I could not get these participants to pass them over. I then relied on the interviews as the only method of data collection.

5.2 Suggestion for further research

Policy implementation is a lengthy and non-linear process and it is important for all stakeholders to work together so that they all can be able to share both the failures and successes of implementation. The study showed that, for the educators to interpret and assist in implementing the progression policy, it is important for them to be recognised as part of the implementation and for their opinions to be considered during curriculum changes. As a part of the stakeholders, the educators' beliefs, knowledge and experience are important since they are the main implementers of curriculum policies, and any effort to change the teachers' pedagogical practice needs to acknowledge these educators' conceptions (Vandeya & Killen, 2007).

One of the most important steps in policy dissemination is communication and the DoE needs to ensure that the issued curriculum policies establish good communication between the stakeholders in the education system, and each stakeholder has a clear understanding of their role during the policy implementation. This communication will ensure that, before any curriculum reform is established, there has been a consultation protocol that has been followed and all the stakeholders understand the objectives of curriculum reforms, the areas that need to be improved and how those changes will impact on the future of the learners and these mathematics educators.

The DoE should ensure that when curriculum policies are implemented, the educators are properly equipped to assist learners in their respective teaching and learning environments. That is, meaningful trainings and workshops which address not only the content knowledge but also the methodologies and policy implementation should be a priority for the DoE, i.e. the professional teacher development and follow-up trainings to ensure that there is effective progression policy implementation progress. Moreover, the DoE should ensure that curriculum policy implementation is followed by proper and meaningful monitoring aimed at supporting educators in implementing policies.

The DoE should also prioritise professional development for the subject advisors so that they may offer these educators proper support. For these subject advisors to offer support they must be well qualified and knowledgeable in terms of policy dynamics because when these educators notice that these subject advisors show cracks in policy knowledge, that on its own could lead to educators being pessimistic about policy implementation. That could lead also to educators implementing curriculum policies in their own way, swerving from the intended manner in which it had been hoped for implementation thus leading to policy implementation failure.

5.3 Summary of the chapter

The aim of the study was to explore the FET mathematics educators' opinions towards the implementation of progression policy and the generated data shows that there is a wide gap between the policymakers and the real implementers of policies as well as between what the policymakers wish to see happening in schools and what is actually happening. These differences create confusion as educators do not have a support system to address their challenges because the so-called subject advisors do not have sufficient knowledge of policy implementation themselves as they, too, are not the designers of policies. This study hopes to contribute to the current debates both locally and internationally on how policy implementations in the education systems affects the real implementers and how they cope with the challenges of curriculum reforms in general.

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APPENDIX A: PRINCIPALS' CONSENT LETTERS

SEDIBENG EAST DISTRICT (D7)



To whom it may concern: Approval letter

This note serves to confirm that Mrs Matsidiso Mary Mngadi who will be conducting a research based on the title "*South African Further Education (FET) educators' experiences of the implementation of Progression Policy*" has been granted an approval.

We wish her all the best in her studies



Date: 6th July 2020



APPENDIX B: PRINCIPALS' CONSENT LETTERS

To : Whom it may concern: Approval letter
FROM :
RE : PERMISSION LETTER TO CONDUCT A REASEARCH
DATE : 08/07/2020

Sir/Madam

The above-mentioned school has granted the student Matsidiso Mary Mngadi a permission to conduct a research study for the title "The experiences of the Further Education and Training (FET) educators' of the implementation of Progression Policy". A Senior Mathematics educator in the FET phase was allocated to be a participant in the study. We wish her well on her studies

APPENDIX C: PRINCIPALS' CONSENT LETTERS

To : MS. M.M. MNGADI

FROM

DATE : 6 JUNE 2020

SUBJECT : REQUEST APPROVAL TO CONDUCT A RESEARCH

Permission to conduct research has been granted by the management of the school taking into consideration that the following should be strictly observed:

- Non-interference with teaching and learning.
- Adherence to COVID 19 regulations
- Communication with the school management prior the research activities

Wish you all the best in your studies

Regards

APPENDIX D: PRINCIPALS' CONSENT LETTERS



Date: 01 July 2020

To whom it may concern.

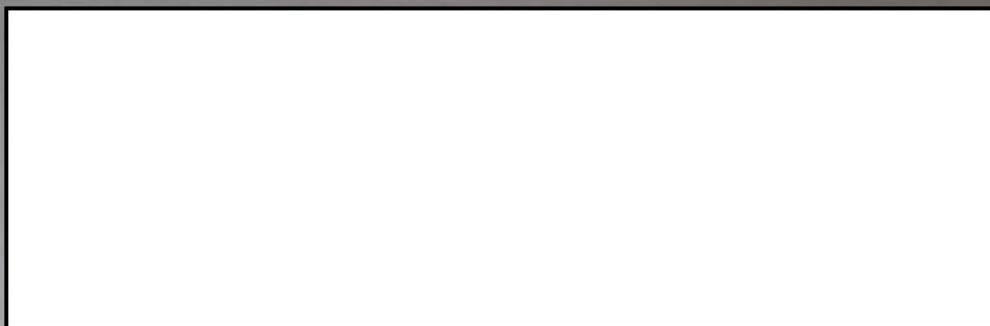
The school grants Mrs. Matsidiso Mary Mngadi a permission to collect data for her research study titled: The Further Education and Training (FET) Educators experiences of the implementation of progression policy.

A Senior FET Mathematics educator has been allocated for her to collect data.

We wish her all the best in her endeavors.



APPENDIX E: PRINCIPALS' CONSENT LETTERS



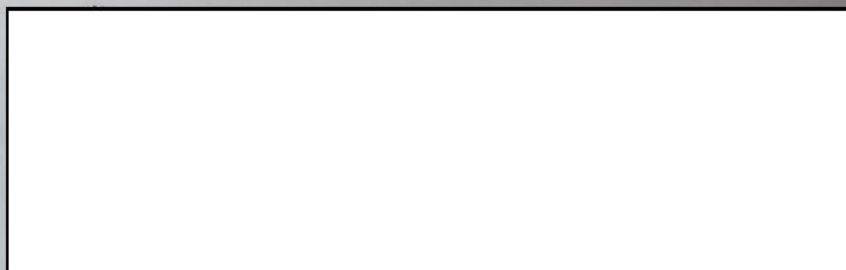
02 July 2020

To whom it may concern

The above-mentioned school has granted Ms M.M MNGADI a student at the University of Kwazulu Natal, Edgewood Campus to conduct an interview to one of their educator.

This is pertaining the experiences of the Mathematics educators towards the implementation of progression policy in the fet phase.

Regards



APPENDIX F: PARTICIPANTS' CONSENT LETTERS

Dear participant, please note that

- Your privacy, anonymity and confidentiality are guaranteed, your inputs will not be ascribed to you in person, but reported only as a population member opinion.
- The interview may last for about 60 minutes and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Your involvement is strictly for academic purposes only, and there are no financial benefits involved.
- You have a choice to participate, not participate or stop participating at any time during the research. You will not be penalized for taking such an action.
- You will be given my transcripts to read and verify if the information is accurate.

If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Yes	No
I am willing to be interviewed	Yes	
I am willing to allow for the interview to be recorded	Yes	

I have applied for the ethical clearance from the Humanities and Social sciences Research Ethics Committee. Should you have any further questions/ concerns or queries related to the study, please contact the researcher on [redacted] or email to matsidiso.semela@gmail.com. If you have any questions or concerns about your rights as a study participant, or are concerned about an aspect of the study or the researchers then please contact UKZN humanities & Human Social Science Research Ethics administration: Tel: 031 260 4557/4609 or Email: HssrecHumanities@ukzn.ac.za

Thank you for your contribution to this research.

DECLARATION

I, [redacted] (full names of participant)
hereby declare that I have read and understood the content of this document and the nature of
the research project conducted by Matsidiso M.Mngadi, and I consent/ do not consent to
participate in the research project. I understand that I can withdraw from the project at any time.

Signed [redacted] Participant

Date 30-06-2020

APPENDIX G: PARTICIPANTS' CONSENT LETTERS

Dear participant, please note that

- Your privacy, anonymity and confidentiality are guaranteed, your inputs will not be ascribed to you in person, but reported only as a population member opinion.
- The interview may last for about 60 minutes and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Your involvement is strictly for academic purposes only, and there are no financial benefits involved.
- You have a choice to participate, not participate or stop participating at any time during the research. You will not be penalized for taking such an action.
- You will be given my transcripts to read and verify if the information is accurate.

If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Yes	No
I am willing to be interviewed	☒	☐
I am willing to allow for the interview to be recorded	☒	☐

I have applied for the ethical clearance from the Humanities and Social sciences Research Ethics Committee. Should you have any further questions/ concerns or queries related to the study, please contact the researcher on [redacted] or email to matsidiso.semela@gmail.com. If you have any questions or concerns about your rights as a study participant, or are concerned about an aspect of the study or the researchers then please contact UKZN humanities & Human Social Science Research Ethics administration: Tel: 031 260 4557/4609 or Email: HssrecHumanities@ukzn.ac.za

Thank you for your contribution to this research.

DECLARATION

I, [redacted] (full names of participant) hereby ~~confirm~~ do not confirm the contents of this document and the nature of the research project conducted by Matsidiso M.Mngadi, and I consent/ do not consent to participating in the research project. I understand that I can withdraw from the project at any time, should I so desire.

Signature of the Participant

[redacted]

Date

2020/06/30

APPENDIX H: PARTICIPANTS' CONSENT LETTERS

Dear participant, please note that

- Your privacy, anonymity and confidentiality are guaranteed, your inputs will not be ascribed to you in person, but reported only as a population member opinion.
- The interview may last for about 60 minutes and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Your involvement is strictly for academic purposes only, and there are no financial benefits involved.
- You have a choice to participate, not participate or stop participating at any time during the research. You will not be penalized for taking such an action.
- You will be given my transcripts to read and verify if the information is accurate.

If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Yes	No
I am willing to be interviewed	✓	
I am willing to allow for the interview to be recorded	✓	

I have applied for the ethical clearance from the Humanities and Social sciences Research Ethics Committee. Should you have any further questions/ concerns or queries related to the study, please contact the researcher on 0737353667 or email to matsidiso.semela@gmail.com. If you have any questions or concerns about your rights as a study participant, or are concerned about an aspect of the study or the researchers then please contact UKZN humanities & Human Social Science Research Ethics administration: Tel: 031 260 4557/4609 or Email: HssrecHumanities@ukzn.ac.za

Thank you for your contribution to this research.

DECLARATION

I, ... (full names of participant)
hereby confirm that I have read and understood the contents of this document and the nature of
the research project conducted by Matsidiso M. Mngadi, and I consent/ do not consent to
participating in the research project. I understand that I can withdraw from the project at any time,
should I so desire.

Signature of the Participant

Date
30-06-2020

APPENDIX I: PARTICIPANTS' CONSENT LETTERS

Dear participant, please note that

- Your privacy, anonymity and confidentiality are guaranteed, your inputs will not be ascribed to you in person, but reported only as a population member opinion.
- The interview may last for about 60 minutes and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Your involvement is strictly for academic purposes only, and there are no financial benefits involved.
- You have a choice to participate, not participate or stop participating at any time during the research. You will not be penalized for taking such an action.
- You will be given my transcripts to read and verify if the information is accurate.

If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Yes	No
I am willing to be interviewed	☒	☐
I am willing to allow for the interview to be recorded	☒	☐

I have applied for the ethical clearance from the Humanities and Social sciences Research Ethics Committee. Should you have any further questions/ concerns or queries related to the study, please contact the researcher on 0737353667 or email to matsidiso.semela@gmail.com. If you have any questions or concerns about your rights as a study participant, or are concerned about an aspect of the study or the researchers then please contact UKZN humanities & Human Social Science Research Ethics administration: Tel: 031 260 4557/4609 or Email: HssrecHumanities@ukzn.ac.za

Thank you for your contribution to this research.

DECLARATION

I, ... (full names of participant)
hereby declare that I have read and understood the contents of this document and the nature of the research project conducted by Matsidiso M.Mngadi, and I consent/ do not consent to participating in the research project. I understand that I can withdraw from the project at any time, should I so desire.

Signature of the Participant

Date

30/06/2020

APPENDIX J: PARTICIPANTS' CONSENT LETTERS

Dear participant, please note that

- Your privacy, anonymity and confidentiality are guaranteed, your inputs will not be ascribed to you in person, but reported only as a population member opinion.
- The interview may last for about 60 minutes and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Your involvement is strictly for academic purposes only, and there are no financial benefits involved.
- You have a choice to participate, not participate or stop participating at any time during the research. You will not be penalized for taking such an action.
- You will be given my transcripts to read and verify if the information is accurate.

If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Yes	No
I am willing to be interviewed	☒	☐
I am willing to allow for the interview to be recorded	☒	☐

I have applied for the ethical clearance from the Humanities and Social sciences Research Ethics Committee. Should you have any further questions/ concerns or queries related to the study, please contact the researcher on 0737353667 or email to matsidiso.semela@gmail.com. If you have any questions or concerns about your rights as a study participant, or are concerned about an aspect of the study or the researchers then please contact UKZN humanities & Human Social Science Research Ethics administration: Tel: 031 260 4557/4609 or Email: HssrecHumanities@ukzn.ac.za

Thank you for your contribution to this research.

DECLARATION

I, ... (full names of participant)
hereby and the contents of this document and the nature of
the research project conducted by Matsidiso M.Mngadi, and I consent/ do not consent to
participating in the research project. I understand that I can withdraw from the project at any time,
should I so desire.

Signature of the Participant

[Redacted Signature Box]

Date 6th July 2020

APPENDIX K: DEPARTMENT OF EDUCATION LETTERS



GAUTENG PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

INTERNAL MEMO

Enquiries: Ms. Vangile Moeketsane
Directorate: ISSP
Tel +27 (0)16 440 1905
Fax + (27) 86 226 3944
Ref: ISSP 0017/2020

TO : THE PRINCIPAL AND SGB CHAIRPERSON



CC : MS. M.M. MNGADI

FROM : MR. B. P. METSING
DISTRICT DIRECTOR: SEDIBENG EAST

DATE : 05 JUNE 2020

SUBJECT : PERMISSION TO CONDUCT RESEARCH

This communicate serves to confirm that permission was granted to Ms. M. M. Mngadi to conduct research in your school. The purpose of her research is to explore the experiences of the Grade 12 Mathematics educators since the implementation of Progression Policy was introduced to the FET phase, particularly grade 12.

Ms. M. Mngadi will negotiate appropriate and relevant time schedules between 06 June and 30 September 2020 with your school to conduct the research. However, the process must under no circumstances interfere with teaching and learning times.

Your support and cooperation in making the research a success will be appreciated.

Regards


MR. B.P. METSING
DISTRICT DIRECTOR: SEDIBENG EAST DISTRICT
DATE: 05/06/2020

APPENDIX L: DEPARTMENT OF EDUCATION LETTERS



GAUTENG PROVINCE

Department: Education
REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	01 June 2020
Validity of Research Approval:	04 February 2020 – 30 September 2020 2019/463
Name of Researcher:	Mngadi MM
Address of Researcher:	3585 Dakile Street Ext 23 Heidelberg
Telephone Number:	0737353667
Email address:	Matsidiso.semela@gmail.com
Research Topic:	The South African Further Education and training (FET) Educators Experience s of the Implementation of the Progression Policy
Type of qualification	Masters of Education
Number and type of schools:	5 Secondary School
District/s/HO	Sedibeng East

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

1. Letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.

1

Making education a societal priority

Office of the Director: Education Research and Knowledge Management

7th Floor, 17 Simmonds Street, Johannesburg, 2001

Tel: (011) 355 0488

Email: Faith.Tshebalala@gauteng.gov.za

Website: www.education.gpg.gov.za

2. The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.
3. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.
4. A letter / document that outline the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.
5. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.
6. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
7. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
8. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
9. It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.
10. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
11. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
12. On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.
13. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.
14. Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

Mr. Gumani Mukatuni
Acting CES: Education Research and Knowledge Management

DATE: 01 June 2020.....

Office of the Director: Education Research and Knowledge Management

7th Floor, 17 Simmonds Street, Johannesburg, 2001

Tel: (011) 355 0488

Email: Faith.Tshabalala@gauteng.gov.za

Website: www.education.gpg.gov.za

APPENDIX M: DEPARTMENT OF EDUCATION LETTERS



GAUTENG PROVINCE

REPUBLIC OF SOUTH AFRICA

Enquiries: Gumani Mukatuni
Directorate: ER & KM
Tel: (011) 355 0775/ 082 515 5412
Gumani.Mukatuni@gauteng.gov.za

MEMO

TO: Head of the Department, DDGs, Chief Directors, Directors, Districts, Principals, Universities and Research organisations
FROM: Faith Tshabalala
Acting Director: Education Research and Knowledge Management
SUBJECT: Regulations on access to schools by Researchers due to COVID 19 pandemic
DATE: 10/06/2020

Dear Sir/madam

Kindly note that visitors are currently NOT permitted into the GDE school premises because of the pandemic (Covid 19) challenges, as the Department is not certain of the status of the learners or teachers; this includes Researchers.

Researchers may, however collect data online, telephonically or may make arrangements for Zoom with the school Principal. Requests for such arrangements should be submitted to the GDE Education Research and Knowledge Management directorate. The approval letter will then indicate the type of arrangements that have been made with the school.

The Researchers are advised to make arrangements with the schools via Fax, email or telephonically with the Principal.

Yours sincerely

Ms Faith Tshabalala

Acting Director: Education Research and Knowledge Management

Date: 10/06/2020

APPENDIX N: ETHICAL CLEARANCE



23 June 2020

Mrs Matsidiso Mary Mngadi (206523803)

School Of Education

Edgewood Campus

Dear Mrs Mngadi,

Protocol reference number: HSSREC/00001436/2020

Project title: South African Further Education and Training (FET) Educators Experiences of the implementation of the Progression Policy

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 05 June 2020 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 23 June 2021.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)

/dd

Humanities & Social Sciences Research Ethics Committee
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Tel: +27 31 260 8350 / 4557 / 3587
Website: <http://research.ukzn.ac.za/Research-Ethics/>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

INSPIRING GREATNESS

APPENDIX O: DATA GENERATING TOOLS

SEMI STRUCTURED INTERVIEW SCHEDULE

INSTRUCTIONS:

1. Kindly respond to all questions
2. The interview schedule consists of 5 sections.
3. Mark with an "X" where relevant

Please note that All the information gathered will be kept confidential.

Interview protocol

My name is Matsidiso Mary Mngadi and I am a student at the University of KwaZulu Natal, Edgewood Campus. I am conducting a research on the Experiences of the Mathematics educators towards the Implementation of Progression Policy in the FET phase. The aim of this research is to explore how these FET Mathematics educators experience the Implementation of the Policy since it was introduced to the FET phase.

The interview should take about 60 minutes at most to complete. Please note that all the information generated during this interview will be private and confidential, there will not be any mentioning of your name. You have a right to decide to stop the interview at any time should you not feel comfortable to continue.

There are no wrong or right answers and any input in this research process will have a high impact on the findings of the study. If it is okay with you, I will be recording our conversation as I might not be able to capture down all your inputs and your recording will not be published to anyone, all the memory will be code encrypted. All the documents that you have brought over will not be published, and the names of educator, learner, management, school or administrators will be covered/hidden when copies are made.

I have applied for the ethical clearance from the Humanities and Social sciences Research Ethics Committee

Contact Details:

██████████

Matsidiso.semela@gmail.com

Supervisor: Dr T. Mnisi

Email: Mnisi@ukzn.ac.za

You may also contact the Research Office through:

P. Mohun or P. Ximba

HSSREC Research Office,

Tel: 031 260 4557/4609

E-mail: HssrecHumanities@ukzn.ac.za

Thank you once more for agreeing to take part in this study, your input is highly valued...

SECTION A: Biographical Information**1.1 Gender**

Male	Female
------	--------

1.2 Age

20-30 years	31-40 years	41-50 years	Other
-------------	-------------	-------------	-------

1.3. Qualification level

Grade 12 or Standard 10	
Teacher's Diploma	
B.Ed.	
Other (specify)	

1.4 Educational Specialisation

Mathematics FET	
Mathematics Senior Phase	
Other (specify)	

1.5 Teaching Experience

5-10 years	11-16 years	16-21 years	Other specify
------------	-------------	-------------	---------------

SECTION B: Research Questions

2.1 What made you choose teaching Mathematics (as a career)?

2.2 What do you enjoy most about teaching Mathematics in the FET Phase?

2.3 How would you describe your experience in Mathematics teaching for the years you have taught?

2.4 How would you describe your understanding of "Progression Policy?"

2.5 How would you describe the implementation Progression Policy for Grade 12?

2.6 How would you describe your experience in Mathematics teaching before and after the Progression Policy was introduced *en masse* in the FET Phase?

2.7 Describe the challenges or successes you have encountered since the Implementation of Progression Policy in the FET phase as a Mathematics educator.

2.8 Based on your experience as a Mathematics educator, do you think there is any other way in which this Progression Policy could have been implemented in the FET phase?

2.9 How much involved is the School Management Team (SMT), District Management Team and the Provincial Management Teams in developing Mathematics educators on curriculum reforms, eg, CAPS?

2.10 Describe your involvement in a case whereby learners have been progressed from previous grade into Grade 12, how and when do you offer support?

2.11 What happens in a case whereby a learner has taken an MOE opportunity, what support as a Mathematics do you offer to the learner?

- 2.12 How do you feel about learner retention from the lower grades? Do you think it would have an impact on the performance in Mathematics in Grade 12?
- 2.13 Describe how teaching and learning is affected if/when large numbers of learners are progressed or promoted to grade 12.
- 2.14 In your experience, how is the performance of the progressed learners in Mathematics in Grade 12?
- 2.15 According to you as a Mathematics educator, how do you feel when the Matriculation results are released annually?
- 2.16 Do you think the mark adjustment for Mathematics in grade 12 is justified?
- 2.17 How do you think curriculum-related policies should be implemented in the FET phase, especially those that concern Mathematics teaching and learning?
- 2.18 Please, give recommendations on how best you think Progression Policy could be implemented, especially in Grade 12.

SECTION C: School Environment

- 3.1 How would you describe the area around the school? Is it poor or wealthy?
- 3.2 Is the school environment conducive for teaching and learning?
- 3.3 Describe how you make use of the necessary Learner Teacher Support Materials and infrastructure such as laboratories, libraries, computers, etc?
- 3.4 What are the challenges that the school in the community experience? Explain.
- 3.5 Are parents actively involved in school activities which foster academic performance?
- 3.6 Would you describe the school functional or non-functional?
- 3.7 Describe some positive achievements that the school has come across over the past 10 years.
- 3.8 Does the have any challenges with theft or vandalism, perhaps? Explain.

Thank you for your participation in the study

Matsidiso Mary Mngadi (206523803)

Contact Details:



Matsidiso.semela@gmail.com

Supervisor: Dr T. Mnisi

Email: Mnisi@ukzn.ac.za

You may also contact the Research Office through:

P. Mohun or P. Ximba

HSSREC Research Office,

Tel: 031 260 4557/4609

E-mail: HssrecHumanities@ukzn.ac.za

APPENDIX P: DATA GENERATING TOOLS

Documents

Participant, please note that:

The names of the participants on all the documents will not be published so that their confidentiality, privacy and anonymity will be protected. The names of the school, learner, management and/or educator will be erased when copies are made.

The review of documents in this study is to determine whether they are comprehensive, reliable and accurate reflections of the classroom practice.

Analysis of the assessment criteria in classroom

What educators needs to be familiar with	What the educator practices in classroom	How the educator interprets the importance of each assessment
1. The forms of assessment Informal assessments Formal assessments		
2. Assessment strategies		
3. The principles of assessment (transparency, authenticity and consistency)		
4. Assessment criteria or standards		
5. Programme of assessments		
6. Feedback of assessments		
7. School assessment policy		
8.		

Analysis of recordings of assessments

What educators needs to be familiar with	What the educator practices in classroom	How the educator interprets the importance of each assessment
1. Progression/promotion schedule		
2. Formal assessments		

Analysis of the relevant curriculum policy documents

What educators needs to be familiar with	What the educator practices in classroom	How the educator interprets the importance of each assessment
1. Mathematics CAPS document for grade 12		
2. White Paper 6		
3. ATP 4. NPPPPR 5. NPA 6. Circular 38 of 2005		

Analysis of the intervention programmes

What educators needs to be familiar with	What the educator practices in classroom	How the educator interprets the importance of each assessment
1. The number of progressed learners in each classroom		
2. Intervention plan (when and how)		

Thank you for participating in the study.

Matsidiso Mary Mngadi (206523803)

Contact Details:



Matsidiso.semela@gmail.com

Supervisor: Dr T. Mnisi

Email: Mnisi@ukzn.ac.za

You may also contact the Research Office through:

P. Mohun or P. Ximba

HSSREC Research Office,

Tel: 031 260 4557/4609

E-mail: HssrecHumanities@ukzn.ac.za

APPENDIX Q: TURN IT IN REPORT

SOUTH AFRICAN FURTHER EDUCATION AND TRAINING (FET) EDUCATORS' EXPERIENCES OF THE IMPLEMENTATION OF THE PROGRESSION POLICY

ORIGINALITY REPORT

12%	12%	3%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	hdl.handle.net Internet Source	2%
2	uir.unisa.ac.za Internet Source	1%
3	researchspace.ukzn.ac.za Internet Source	1%
4	repository.up.ac.za Internet Source	1%
5	libdspace.ufh.ac.za Internet Source	1%
6	www.opensaldru.uct.ac.za Internet Source	<1%
7	manualzz.com Internet Source	<1%
8	scholarworks.waldenu.edu Internet Source	<1%

ujcontent.uj.ac.za