

**CHALLENGES CONFRONTING SCHOOL MANAGEMENT TEAMS IN THE
IMPLEMENTATION OF SCHOOL-BASED MODERATION OF MATHEMATICS
ASSESSMENT TASKS IN THE THOHOYANDOU CLUSTER IN THE LIMPOPO
PROVINCE, SOUTH AFRICA**

by

TENDANI ELIZABETH NNDWAMATO

A Dissertation in Fulfillment of the Requirements for the Degree of

MASTER OF EDUCATION IN EDUCATIONAL MANAGEMENT

in the

SCHOOL OF EDUCATION

UNIVERSITY OF VENDA

SUPERVISOR : Mrs TE Tshiovhe

CO-SUPERVISORS : Prof RJ Monobe

: Mrs NO Mulaudzi

FEBRUARY 2017

DECLARATION

I, **TENDANI ELIZABETH NNDWAMATO** declare that: “**Challenges Confronting SMT members in the Implementation of School-based Moderation of Mathematics Assessment Tasks in the Thohoyandou Cluster in the Limpopo Province, South Africa**” is my work and all sources that I have used have been acknowledged by means of complete references.

Signature: ----- Date: -----

TENDANI ELIZABETH NNDWAMATO

ACKNOWLEDGEMENTS

- Firstly, I would like to thank God Almighty who gave me all the strength, health and courage to do this research project.
- I would like to thank my supervisors, Mrs T.E. Tshiovhe, Prof R.J. Monobe and Mrs N.O. Mulaudzi, whose patience, encouragement and insight during the development of this study were invaluable. I am really thankful for their effort and time, they have devoted to this study. Without you, I would not make it. May the God Almighty showers you with all the blessings.
- To the District Senior Manager, Dr. N.G.Rambiyana, who gave me a permission to conduct my research in Vhembe District, he deserves my special thanks.
- I would also like to thank my family, my husband, Mr Tshifhiwa Tshiololi, my children, Khodani, Tshifhiwa Tikani, Tshedza, Andani and Muvhulawa and my grandsons, Maano and Khathutshelo, for their sacrifices, prayers, assistance and understanding in these years of my studies while I was not there for them. Without them I would not have gone this far.
- To my brothers, sisters and my only surviving parent (my mom, VHO NYADZANGA) thank you for the support. Your encouragement and motivations were the pillars of my strength in this journey. God will always be with you for my sake.
- I would also like to thank SMT members of schools, Curriculum advisors, teachers for mathematics in Tshinane, Mvudi, Mutshindudi and Sibasa circuits for their cooperation.
- I would also like to thank my typist, Mr A Musetsho, who has gone an extra mile in helping me with the task of typing. I want to express my thanks and appreciation to my colleagues who contributed a lot to my completion to this study, without their support , this study would not have yielded these kinds of achievements.

DEDICATION

This book is dedicated to my family who encouraged and supported me while I was busy with the project.

LIST OF ACRONYMS AND ABBREVIATIONS

CAPS	:	Curriculum Assessment Policy Statement
SMT	:	School Management Team
FET	:	Further Education and Training
SC	:	Senior Certificate
QCE	:	Queensland Certificate of Education
DoE	:	Department of Education
CASS	:	Continuous Assessment
ZPD	:	Zone of Psychological Development
SAQA	:	South African Qualification Authority
NEPA	:	National Education Policy Act
SPSS	:	Statistical Package for Social Sciences

TABLE OF CONTENTS

CONTENT	PAGE
DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENT	iii
LIST OF ACRONYMS AND ABBREVIATIONS	iv
LIST OF TABLES	xv
ABSTRACT	xix
CHAPTER 1: INTRODUCTION, BACKGROUND OF STUDY AND STATEMENT OF THE PROBLEM	
1.1 INTRODUCTION	1
1.2 BACKGROUND OF THE STUDY	1
1.3 STATEMENT OF THE PROBLEM	3
1.4 AIM AND OBJECTIVES OF THE STUDY	4
1.5 RESEARCH QUESTIONS	4
1.6 RESEARCH ASSUMPTIONS	5
1.7 RESEARCH DESIGN AND METHODOLOGY	5
1.8 SIGNIFICANCE OF THE STUDY	6
1.9 DEFINITION OF CONCEPTS	6
1.9.1 Moderation	6
1.9.2 School-based moderation	7
1.9.3 Quality teaching and learning of mathematics in the FETband	7
1.9.4 Continuous Assessment (CASS)	8
1.9.5 School Management Team (SMT)	8
1.10 DELIMITATIONS OF THE STUDY	8
1.11 DIVISION OF RESEARCH CHAPTERS	9
1.12 SUMMARY	9

CHAPTER 2: LITERATURE REVIEW: SCHOOL-BASED MODERATION OF MATHEMATICS IN THE FETBAND

2.1	INTRODUCTION	10
2.2	THEORETICAL FRAMEWORK	10
2.3	THE PURPOSE OF SCHOOL BASED MODERATION	11
2.4	CONCEPTUAL FRAMEWORK	14
2.4.1	School-based moderation and assessment of Mathematics in FET band	14
2.4.2	The origin of school-based moderation of Mathematics in FET band	16
2.4.3	Why should school-based moderation in the FETband be practiced?	16
2.4.4	The role of school-based moderation of mathematics in the FETband	16
2.4.5	Tools used in moderation of Mathematics	17
2.4.6	Documents to be moderated in Mathematics	17
2.4.6.1	Mathematics teacher's portfolio	17
2.4.6.2	The learner's evidence of performance of Mathematics in FET Band	18
2.4.7	Comparing moderation of China, Australia and South Africa	18
2.4.7.1	School-based moderation of Mathematics in China	18
2.4.7.2	School-based moderation of Mathematics in Australia	19
2.4.7.3	School-based moderation of Mathematics in South Africa	19
2.4.8	Levels of moderation	21
2.4.8.1	School level	21
2.4.8.2	District level	22
2.4.8.3	Provincial level	22
2.4.8.4	National level	22
2.4.9	Moderation and assessment	23
2.4.10	Forms of assessment	24

2.5	THE IMPACT OF SCHOOL-BASED MODERATION TOWARDS THE QUALITY OF TEACHING AND LEARNING OF MATHEMATICS IN THE FETBAND	24
2.6	CHALLENGES OF CONTRIBUTING SMT MEMBERS IN THE IMPLEMENTATION OF SCHOOL-BASED MODERATION	25
2.6.1	Lack of self-determination	26
2.6.2	Lack of integrity	26
2.6.3	Misconception of school-based moderation of Mathematics	27
2.6.4	Inadequate understanding of school-based moderation	27
2.6.5	Lack of dedication of commitment of their work	28
2.6.6	Inadequate self-confidence	28
2.6.7	Lack of problem-solving skill	29
2.6.8	Poor time management	29
2.6.9	Inadequate teachers' progress monitoring	30
2.6.10	The need of technology enhanced progress monitoring System	31
2.7	STRATEGIES TO BE USED IN SCHOOL-BASED MODERATION OF MATHEMATICS ASSESSMENT TASKS	
2.7.1	Departmental workshop	31
2.7.2	School-based workshop	31
2.7.3	Recording and reporting	32
2.7.4	Self- monitoring	32
2.7.5	Involvement of students in assessment progress	32
2.7.6	Support, monitoring and evaluation	33
2.8	SUMMARY	33
 CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY		
3.1	INTRODUCTION	35
3.2	RESEARCH DESIGN	35
3.3	RESEARCH METHODOLOGY	35
3.3.1	Qualitative methods	36

3.3.2	Quantitative methods	36
3.4	POPULATION AND SAMPLING	36
3.4.1	Population	36
3.4.2	Sampling procedure	37
3.4.3	Sampling size	37
3.5	RESEARCH INSTRUMENTS	38
3.5.1	Interview schedule	38
3.5.2	Questionnaires	38
3.6	PILOT STUDY	38
3.7	DATA COLLECTION PROCEDURE	39
3.8	DATA ANALYSIS	40
3.8.1	Qualitative data analysis	40
3.8.2	Quantitative data analysis	40
3.9	MEASURE OF QUALITY CONTROL	
3.9.1	Validity and Reliability of the Research instrument	40
3.9.1.1	Validity	41
3.9.1.2	Reliability	41
3.9.2	Trustworthiness of the study	41
3.9.2.1	Transferability	42
3.9.2.2	Credibility	42
3.9.2.3	Confirmability	42
3.9.2.4	Dependability	42
3.10	RESEARCH ETHICS	42
3.11	SUMMARY	44
CHAPTER 4: DATA ANALYSIS AND INTERPRETATIONS		
4.1	INTRODUCTION	45
4.2	QUALITATIVE DATA ANALYSIS	45
4.2.1	Understanding of school-based moderation of Mathematics in FET band	45
4.2.2	The purpose of school-based moderation of Mathematics in the FET	

band	44
4.2.3 Understanding of the quality of teaching and learning of Mathematics	47
4.2.4 School-based moderation ensuring the quality of teaching and learning of Mathematics	48
4.2.5 Understanding of pre- moderation for assessment for Mathematics	49
4.2.6 Pre-moderation of the quality of teaching and learning of Mathematics	50
4.2.7 Understanding post-moderation of assessment of Mathematics	51
4.2.8 The impact of school-based moderation on the quality of teaching and learning of Mathematics	51
4.2.9 Strategies for positive impact of school-based moderation on the quality teaching and learning of Mathematics	52
4.2.10 Challenges of school-based moderation of Mathematics in FET band in schools	53
4.2.10.1 Lack of self-determination	53
4.2.10.2 Lack of integrity	54
4.2.10.3 Misconception of school-based moderation of mathematics	55
4.2.10.4 Inadequate understanding of school-based moderation	56
4.2.10.5 Lack of dedication and commitment to the work	57
4.2.10.6 Inadequate self-confidence	58
4.2.10.7 Lack of problem-solving skills	59
4.2.10.8 Poor time management	59
4.2.10.9 Inadequate teachers progress monitoring	60
4.2.10.10 The need for technology enhanced progress monitoring system	61
4.2.11 Strategies be used in school-based moderation to improve the Situation	62
4.2.11.1 Departmental workshop	62

4.2.11.2 School-based workshop	63
4.2.11.3 Recording and reporting	64
4.2.11.4 Self- monitoring	65
4.1.11.5 Involvement of learners in assessment processes	66
4.2.11.6 Support, monitoring and evaluation	67
4.3 QUALITATIVE DATA ANALYSIS	68
4.3.1 General information	68
4.3.1.1 Gender	69
4.3.1.2 Age Category	69
4.3.1.3 Academic Qualifications	69
4.3.1.4 Professional Qualifications	70
4.3.1.5 Major subjects at tertiary institutions	70
4.3.1.6 Number of years teaching Mathematics	71
4.3.1.7 Total number of learners being taught by teachers in Mathematics	72
4.3.1.8 Positions held in the school	73
4.3.2.1 School-based moderation is important	73
4.3.2.2 Teachers understand school-based moderation	74
4.3.2.3 School-based moderation of Mathematics serves its purpose	75
4.3.2.4 Problem-solving skills considered important when assessing	76
4.3.2.5 Knowledge is considered important when assessing Mathematics tasks	76
4.3.2.6 Tasks measure the aspects which are important to measure	77
4.3.2.7 Diversity and harmonious cultural relations are understood by teachers	78
4.3.2.8 Harmonious cultural relations are done	78
4.3.2.9 Assessment accurately represents the social phenomenon	79
4.3.2.10 Performance reflects marks as an accurate portrayal of performance	79
4.3.2.11 School-based moderation involves assessment and monitoring	80
4.3.2.12 The accurate assessment data is what is measured	81

4.3.2.13 Learners with same performance have similar knowledge and Skills	81
4.3.2.14 Equal opportunities to learners' results in achievement of Outcomes	82
4.3.2.15 The assessment is fair when learning the same thing	83
4.3.2.16 Teachers are given opportunities	84
4.3.2.17 School-based moderation is the process of controlling and monitoring	84
4.3.3.1 Mathematics teachers are determined to get the job done	85
4.3.3.2 Moderation is done before and after tasks are administered	86
4.3.3.3 School-based moderation promotes standardized tasks	86
4.3.3.4 Teachers show characteristics of taking the initiative	87
4.3.3.5 Teachers have persistence to do their job	88
4.3.3.6 Teachers show determination and drive	88
4.3.3.7 Teachers are willing to access themselves	88
4.3.3.8 Mathematics teachers have integrity in school-based moderation	89
4.3.3.9 Teachers have the quality of honesty and trustworthiness	90
4.3.3.10 Teachers take responsibility for their actions	91
4.3.3.11 Teachers adhere to their policies and implementation of Moderation	91
4.3.3.12 Mathematics teachers have self confidence in teaching Profession	92
4.3.3.13 Mathematics teachers have problem-solving skills	92
4.3.3.14 Teachers are dedicated to their work	93
4.3.3.15 Teachers have misconception in school-based moderation	94
4.3.3.16 Teachers find it difficult to undergo the process of being moderated	95
4.3.3.17 Mathematics teacher have the time management skills to cover all the topics	95
4.3.3.18 Teachers should have understanding of school-based Moderation	96

4.3.3.19 The role of moderation in the quality education should be Seen	97
4.3.3.20 Teachers should be dedicated to maintain the quality of Education	98
4.3.3.21 Teachers should aquire problem-solving skills for quality education	99
4.3.3.22 Time management is needed to cover the work schedule	99
4.3.3.23 Teachers should learn how to use new technologies	99
4.3.4.1 Teacher's portfolios are collections of all formal assessment tasks and their records	100
4.3.4.2 A portfolio is used to show quality of assessment tasks given learners and provide record againgst which learners can be moderated	101
4.3.4.3 A learner evidence of performance is a collection of a learner's formaassessment tasks	101
4.3.4.4 Moderation is done by SMT members	102
4.3.4.5 Teacher submits formal assessment tasks to the SMT for moderation	103
4.3.4.6 Moderation tool is used to check the quality of submitted tasks	103
4.3.4.7 Teachers submit record sheet for sampling	104
4.3.4.8 Samples of 10% of learners' evidence are moderated	104
4.3.4.9 Curriculum advisers moderate portfolios at district level	105
4.3.4.10 Knowledge and challenge of learners' progress are evaluated	106
4.3.4.11 Teachers' moderated is part of their ongoing self evaluation practice	106
4.3.4.12 Learners are assessed through out the year	107
4.3.5.1 School-based moderation improves results for a school	108
4.3.5.2 School-based moderation helps teachers' improve in their work	108
4.3.5.3 School-based moderation plays an important role in improving teachers' performance	109

4.3.5.4 SMT members are obliged to monitor and give support for quality education	109
4.3.5.5 Moderation ensures the quality of assessment of Mathematics Tasks	110
4.3.5.6 School-based moderation promotes quality teaching and learning	111
4.3.5.7 Moderation ensures the skills and knowledge are assessed	112
4.3.5.8 Moderation ensures that aspects needed by the society are measured	112
4.3.5.9 Moderation ensures that learners's knowledge and skills are measured	113
4.3.5.10 Learners of the same knowledge and skills are equally assessed	114
4.3.6.1 Department of education should conduct workshops of Moderation	114
4.3.6.2 SMT members should conduct workshops about moderation in schools	115
4.3.6.3 SMT members should do workshops about the role of moderation	116
4.3.6.4 Mathematics teachers should do self-monitoring of their work	117
4.3.6.5 Teachers should involve in the assessment process	117
4.3.6.6 Teachers should give feedback to learners after assessing them	118
4.3.6.7 Curriculum advisers and SMT members should support teachers	118
4.3.6.8 Teachers' work should always be evaluated to review departmental policies	119
4.3.6.9 Recording and reporting should be done	119
4.3.6.10 Monitoring of teachers' progress is a component of precision teaching	120
4.4 SUMMARY	121

CHAPTER 5: OVERVIEW, CONCLUSIONS, MAJOR FINDINGS, RECOMMENDATIONS AND CONCLUDING REMARKS	
5.1 INTRODUCTION	122
5.2 OVERVIEW OF THE STUDY	122
5.3 MAJOR FINDINGS PERTAINING TO THE STUDY	123
5.3.1 Major findings pertaining to research question 1	123
5.3.2 Major findings pertaining to research question 2	123
5.3.3 Major findings pertaining to research question 3	123
5.3.4 Major findings pertaining to research question 4	124
5.4 CONCLUSIONS	125
5.5 RECOMMENDATIONS	125
5.5.1 Recommendations pertaining to research question 1	126
5.5.2 Recommendations pertaining to research question 2	126
5.5.3 Recommendations pertaining to research question 3	126
5.5.4 Recommendations pertaining to research question 4	127
5.5.5 Recommendations for further studies	128
5.5 LIMITATIONS TO THE STUDY	128
5.6 CONCLUDING REMARKS	128
REFERENCES	129
APPENDICES	135
APPENDIX A: INTERVIEW SCHEDULES FOR SMT MEMBERS AND CURRICULUM ADVISORS	135
APPENDIX B: QUESTIONNAIRES FOR MATHEMATICS TEACHERS	137
APPENDIX C: VERBATIM INFORMATION	147
APPENDIX D: APPLICATION FOR PERMISSION TO CONDUCT RESEARCH	176
APPENDIX E: LETTER OF PERMISSION TO CONDUCT RESEARCH	177
APPENDIX F: LETTER TO ALL PARTICIPANTS	178

LIST OF TABLES

	Page
Table 4.1: Gender	69
Table 4.2: Age categories	69
Table 4.3: Academic qualifications	70
Table 4.4: Professional qualifications	70
Table 4.5: Major subjects at tertiary institutions	70
Table 4.6: Number of years teaching Mathematics	71
Table 4.7: Total number of learners being taught by teachers in Mathematics	73
Table 4.8: Positions held in the school	73
Table 4.9: School-based moderation is important	74
Table 4.10: Teachers' understanding of school based moderation	75
Table 4.11: School-based moderation of mathematics serves some purpose	75
Table 4.12: Skill is considered important when assessing	76
Table 4.13: Knowledge is considered important when assessing	77
Table 4.14: Tasks measure the aspects which are important to measure	77
Table 4.15: Diversity and harmonious cultural relations are understood by teachers	78
Table 4.16: Harmonious cultural relations are done	79
Table 4.17: Assessment accurately represents the social phenomena	80
Table 4.18: Performance reflects marks as an accurate portrayal of performance	
Table 4.19: School-based moderation involves assessment and monitoring	81
Table 4.20: Accurate assessment of data generated is what is measured	81
Table 4.21: Learners with same performance have similar knowledge and Skills	82
Table 4.22: Equal opportunities to learners results in achievement of outcomes	81
Table 4.23: The assessment is fair when learning the same thing	83
Table 4.24: Teachers are given equal opportunities	83
Table 4.25: School-based moderation is the process of controlling and	

monitoring	84
Table 4.26: Mathematics teachers are determined to get the job done	85
Table 4.27: Moderation is done before and after tasks are administered	86
Table4.28: School-based moderation promotes standardized tasks	87
Table4.29:Teachers show characteristics of taking the initiative	87
Table 4.30: Teachers have persistence to complete their job	88
Table 4.31: Teachers show determination and drive	88
Table4.32:Teachers are willing to assess themselves	89
Table 4.33: Mathematics teachers have integrity in school-based moderation	90
Table 4.34: Teachers have the quality of honesty and trustworthiness	90
Table 4.35: Teachers take responsibility for their actions	92
Table 4.36: Teachers adhere to the policies and implementation of moderation	92
Table 4.37: Mathematics teachers have self-confidence in their Teaching Profession	93
Table 4.38: Mathematics teachers have problem-solving skills	93
Table 4.39: Teachers are dedicated to their work	94
Table 4.40: Teachers have some misconceptions about school-based moderation	94
Table 4.41: Teachers find it difficult to undergo the process of moderation	95
Table 4.42: Mathematics teachers have time management skills to cover all the topics	96
Table 4.43: Teachers should have a good understanding of school based moderation	96
Table 4.44: The role of moderation in the provision of quality of education should be evident	97
Table 4.45: Teachers should be dedicated to maintain quality of education	98
Table 4.46: Teachers should acquire problem-solving skills for quality education	99

Table 4.47: Time management is needed to cover the work schedule	97
Table 4.48: Teachers should learn how to use new technologies	100
Table 4.49: Teacher’s portfolios are collections with all formal assessment tasks	100
Table 4.50: A Portfolio is used to ensure quality of assessment tasks given To learners and provides a record against which learners can be moderated	101
Table 4.51: A learner performance is a purposeful collection of formal tasks	102
Table 4.52: Moderation is done by SMT members	102
Table 4.53: Teachers submit formal assessment tasks to the SMT s for moderation	103
Table 4.54: A moderation tool is used to check the quality of submitted task	104
Table 4.55: Teachers should submit record sheet for sampling	102
Table 4.56: A 10% Samples of learners’ evidence is moderated	105
Table 4.57: Curriculum advisors moderate portfolios at district level	105
Table 4.58: Knowledge and challenges of learners’ progress are evaluated	106
Table 4.59: Teachers moderate as part of their on-going self-evaluation practice	107
Table 4.60: Learners are assessed throughout the whole year	107
Table 4.61: School-based moderation improves the results of a school	108
Table 4.62: School-based moderation helps teachers improve in their work	109
Table 4.63: School-based moderation plays an important role	109
Table 4.64: SMT members are obliged to monitor and give support for quality education	111
Table 4.65: Moderation ensures the quality of assessment	111

Table 4.66: School-based moderation promotes quality teaching and learning	112
Table 4.67: Moderation ensures the skills and knowledge are assessed	113
Table 4.68: Moderation ensures that the aspects needed by the society are measured	113
Table 4.69: Moderation ensures that knowledge and skills are measured	113
Table 4.70: Learners of same knowledge and skills are equally assessed	114
Table 4.71: The Department of Education should conduct workshops of moderation	114
Table 4.72: SMT members should conduct workshops on moderation in schools	115
Table 4.73: SMT members should conduct workshops on the role of moderation	115
Table 4.74: Mathematics teachers should do self-monitoring of their work	116
Table 4.75: Teachers should involve learners in the assessment process	117
Table 4.76: Teachers should give feedback to learners after assessing them	118
Table 4.77: Curriculum advisors and SMT s should support teachers	119
Table 4.78: Teachers work always be evaluated to review departmental policies	120
Table 4.79: Recording and reporting should be done	120
Table 4.80: Monitoring teachers' progress is a component of precision teaching	121

ABSTRACT

The aim of the study was to investigate challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessment tasks. An in-depth study of literature was undertaken, taking into consideration the following research question: **What are the challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessment tasks in the Thohoyandou cluster of the Limpopo Province?** The study used the qualitative and quantitative approaches. Purposive sampling was used in the selection of participants for the qualitative data and simple random sampling was used in the selection of participants for the quantitative data. Qualitative data was collected through the interviews and quantitative data was collected through questionnaires. The interview schedule was employed to collect qualitative data and 12 participants (8 SMT members and 4 curriculum advisors for Mathematics in the Thohoyandou cluster) were interviewed. Questionnaires were used to collect quantitative data and were completed by 75 Mathematics teachers. Qualitative data was analysed thematically and quantitative data was analysed through SPSS version 23. The study revealed that: Lack of understanding and knowledge of the process of school-based moderation of mathematics is a serious worm that needs to be addressed soon. Moderation of school-based assessment was not monitored appropriately. The study recommended that the Department of Basic Education should conduct workshops and train SMT members on the importance of school-based moderation to ensure quality teaching and learning of Mathematics.

KEYWORDS: Continuous assessment, Moderation, Quality teaching and learning of Mathematics, School-based moderation, School Management Teams,



CHAPTER 1

INTRODUCTION, BACKGROUND OF STUDY AND STATEMENT OF THE PROBLEM

1.1 INTRODUCTION

Chapter one presents the background of the study, statement of the problem, aim and objectives, research questions, research assumptions, definition of concepts, research design and methodology, data analysis, significance of the study, delimitations of the study, division of the research topics and a summary of the whole chapter.

1.2 BACKGROUND OF THE STUDY

The current situation in South African schools and the principles of the Curriculum Assessment Policy Statement (CAPS) emphasize that in every subjects; learner performance should be moderated at schools by the School Management Team (SMT) members (Department of Education, 2003a:66). The SMT comprises of the Principal, Deputy Principal and Heads of Departments. As a teacher, the present researcher had a personal experience regarding school-based moderation of Mathematics in secondary schools, whereby the Department of Education requires all the subjects to be moderated at school, district, provincial and national levels. School-based moderation ensures good quality teaching and learning of Mathematics in Further Education and Training (FET) band.

Quality homework and classwork allow learners to practice and process information, introduce them to content that was discussed and prepare them for their examinations (John and Kahn, 2005:8). Class visits are of essential for opening up learning in Mathematics for the FET band. Most teachers work together in classrooms and observe learning and teaching, discuss ideas and challenges, so that they can improve (Donaldson, 2009:19).

Despite the importance of school-based moderation, it is surprising that school-based moderation is on the periphery. Some of the problems confronting school-based moderation are:

- Inadequate understanding of school-based moderation in most schools (DoE, 2010a:3).
- Lack of dedication and commitment of Mathematics teachers (Nemadzivhanani, 2007:21).
- Poor time management by Mathematics teachers in the FET(DoE, 2010b:2).

These problems are discussed below:

Most Mathematics teachers do not seem to understand the meaning and importance of school-based moderation. Further they do not see the role of school-based moderation. Some teachers do not understand why senior members of staff have to monitor their work as they consider themselves qualified and experienced teachers. In addition, they do not seem to understand that one of the duties of a senior teacher in a school is to supervise and monitor learners' and teachers' work (DoE, 2010b: 64).

The other issue that is also a challenge when SMT members are implementing school-based moderation is that teachers are not dedicated to their work. They submit documents for moderation when they have not put much effort to their work. Before formal assessment tasks are given to learners, they should be moderated by the SMT to check if they are of good quality (Nemadzivhanani, 2007:21). A teacher needs to work hard to achieve the required standard and if the teacher is not committed enough, s/he will find the task stressful.

Like any other factor, time management is very important for one to succeed in any situation. For teachers to cover all the themes and topics stated in the work programme and work schedule, good time management is needed. Therefore, if the teacher fails to cover all the topics on time, s/he will be reluctant to submit her portfolio, either school-basely or externally. Hoover (2002:23) describes ways SMT members to raise students' performance. Some of these ways is through regular school-based moderation and monitoring of teachers and learners work. School-

based moderation is a process aiming at ensuring that results recorded for authority subjects match (Queensland, 2010:6).

School-based moderation of Mathematics ensures that teachers and learners' tasks are assessed in an accurate and well-designed manner. School-based moderation ensures that all teachers use appropriate assessment tools, methods and make similar and consistent judgments about learners' performances in Mathematics (Ingvarson and Beavis, 2004:9). School-based moderation is also used in the tasks which are included in Continuous Assessment (CASS).

On the basis of these challenges the present researcher felt it was important to investigate:

“Challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessment tasks in the Thohoyandou cluster in the Limpopo Province, South Africa”.

1.3 STATEMENT OF THE PROBLEM

The study sought to investigate challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessment tasks in the Thohoyandou Cluster Limpopo Province, South Africa. Learners' learning is typically affected most directly by the quality of school-based moderation in schools. However, the quality of learning and teaching of Mathematics in the FET band is in turn affected by a wide variety of conditions at the school level (Ingvarson and Beavis, 2004:15). Some of the conditions that affect the quality of teaching and learning in the FET Band is failing to implement school-based moderation on assessment tasks. Each term, when Mathematics teachers' portfolios and learners' files are taken for cluster and district moderations, external moderators always criticize continuous assessment (CASS) tasks, for different reasons. These reasons include, among others, poor quality of tasks given, poor marking, strategies used, and ineffective use of marking tools in Mathematics exercises (DoE, 2010b:11). These could be prevented if the school-based moderation of Mathematics is done properly.

1.4 RESEARCH QUESTIONS

In this study, the main research question is: What are the challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessments tasks in the FET band in the Thohoyandou cluster in Limpopo Province?

The following are the sub-questions:

- What is the meaning of school-based moderation of assessment tasks?
- How is school-based moderation of Mathematics assessment tasks in the FET band conducted?
- What are the challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessment tasks?
- Which are the strategies that can be applied to address the challenges faced by SMT in the implementation of school-based moderation?

1.5 AIM AND OBJECTIVES OF THE STUDY

This section discusses the aim and objectives of the study.

The aim of the study was to examine the challenges facing SMT members in the implementation of school-based moderation of Mathematics assessments tasks in the FET band in the Thohoyandou Cluster in Limpopo Province.

The objectives were:

- To investigate the concept school-based moderation of assessment tasks;
- To investigate how school-based moderation of Mathematics assessment tasks in the FET band is conducted;
- To investigate the challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessment tasks;
- To suggest strategies that can be applied to address the challenges faced by SMT in the implementation of school-based moderation.

1.6 RESEARCH ASSUMPTIONS

In this study it is assumed that:

- Effective school-based moderation by SMT members of assessment tasks has a positive influence on the results of learners in the FET band and;
- Teachers have the appropriate knowledge of what moderation entails.

1.7 RESEARCH DESIGN AND METHODOLOGY

In this study, the mixed methods design was adopted. This is a type of research in which elements of qualitative and quantitative research approaches are combined for the purposes of the breadth and depth of understanding and corroboration (Creswell, 2010:123). The approach was used because it offers the respondents an opportunity to give their viewpoints and full explanation of the research problem. The quantitative approach is the one the approach tests objective theories by looking at how variables are related (Creswell, 2012:118).

Research methodology refers to the different techniques and procedures that are used in the process of implementing research design or research methods (Creswell, 2009: 18). In this study, both qualitative and quantitative methods were combined and applied. For qualitative approach, data was collected through interviews, and a questionnaire was used to collect data for the qualitative approach. Purposive sampling was used for qualitative sampling. For quantitative data, random sampling method was used to select the respondents. The literature review is presented in Chapter 2. Recent books, journal sources, newspapers and Internet sources, relevant to the challenges confronting SMT in the implementation of school-based moderation of mathematics assessment tasks were reviewed.

In the qualitative method, an interview schedule was used to collect data. According to McMillan and Schumacher (2009:115), an interview schedule is the guide an interviewer uses when conducting an interview. For this reason, the phenomenological approach was adopted.

Leedy and Ormrod, (2010:166) refer to questionnaire as an instrument that gather information through which a respondent answers questions in writing. The advantage of a questionnaire is that facts and opinions about a phenomenon from teachers were obtained and they are in the majority, as such it was impossible to interview them all. Thematic analysis was used to analyze the data collected through interviews. This is because it helps the researcher to control and make sense of unstructured information. These aspects of methodology are discussed in detail in Chapter 3.

1.8 SIGNIFICANCE OF THE STUDY

The study seeks to help the Department of Education understand challenges facing school-based moderation. Literature materials on school-based moderation is scarce. As such this study will help help in the improvement of knowledge in the field of school-based moderation. This type of study has never been done in the Thohoyandou area and this will improve school-based moderation in this area.

1.9 DEFINITION OF CONCEPTS

This section deals with definitions of concepts. Concepts that are defined are: CASS, moderation, quality of teaching and learning, school-based moderation and School Management Team (SMT). These are the concepts that are mostly used in the study:

1.9.1 Moderation

Moderation is a process aiming to make a point that results of the learners which are recorded match the requirements of the curriculum. Moderation is done at school level, district level, provincial level and national level. At district level, moderation is done to ensure that learning outcomes of specific subjects have been addressed in accordance with related assessment standards (Sieborgern & Macintosh, 2004:55). Each province has the responsibility to ensure that moderation is practiced with knowledge and skills in different subjects (Sieborgern & Macintosh, 2004:55). Moderation is conducted at the province by a panel of curriculum advisors.

At this level, a panel of curriculum advisors moderate learners' portfolios and teachers' work which have been moderated at the district and school level (DoE, 2010-c:20). In this study sampled learners' portfolios had been taken to the national level for moderation by UMALUSI.

1.9.2 School-based moderation

School-based moderation refers to the monitoring and evaluation of learners' and teachers' work by the SMT. This implies that SMT members are supposed to implement policies regarding the assessment and moderation that promote good quality learning and teaching (DoE, 2003d:3). Nemadzivhanani (2007:65) views moderation as "a process of ensuring that teachers are assessing work according to agreed standards, and that there is consistency from year-to-year and within districts, province and national". In this study school-based moderation is the process whereby tasks and scripts of learners are checked by an SMT to ensure good quality of tasks, proper marking of scripts as well as allocation of marks.

According to the Department of Education (2010c:4) school moderation refers to the "moderation which is conducted by the school Heads of Department or the SMT". At this level, the subject head selects a few learners' exercise books, moderates them and checks teachers' tasks before and after they are given to learners. Therefore, appropriate or inappropriate school-based moderations determine the successes or failures of the tasks and activities.

1.9.3 Quality teaching and learning of Mathematics in the FET Band

Mathebula (2004:5) refers to quality teaching and learning as a good, effective, and efficient and a fruitful type of education and assessment delivered by teachers to learners. Quality teaching and learning implies the effective and fruitful ways of delivering knowledge to learners as a way of preparing them to be useful and responsible citizens (Queensland Government, 2010:4).

1.9.4 Continuous Assessment (CASS)

The Department of Education(2003b:9) indicates that continuous assessment (CASS) is the process of collecting valid and reliable information about a learner's progress and performance. It is compiled from formal tasks which are tests, examinations, assignments, projects, research, investigations and others. Wydeman (2004:47) defines CASS as a continuous gathering of sufficient evidence of the learner's progress towards achieving the stated outcomes on an on-going basis. It requires teachers to record and report on the level of performance of learning. Luneta (2008:116) shares the same sentiment when he indicates that CASS is a process of collecting reliable data about a learner's progress and performance, and it requires a variety of tools to be used when evaluating the learner's evidence.

1.9.5 School Management Team (SMT)

School Management Team represents the structure which is responsible for the day-to-day running of the school and for putting the school's policies into operation. It is also responsible for working out how the school can be best categorised to bring about the vision of the school community (DoE, 2000c: 8). The School Management Teams of the schools that formed the population and sample of this study consisted of the school Principal, Deputy Principal and Heads of Departments (HODs).

1.10 DELIMITATION OF THE STUDY

The study was conducted in the secondary schools in the Thohoyandou Cluster in the Vhembe District of the Limpopo Province in South Africa. The circuits participated are Mutshindudi, Tshinane, Sibasa and Mvudi.

1.11 DIVISION OF THE RESEARCH CHAPTERS

This research is organized into 5 chapters, as outlined below:

Chapter 1 is concerned with the general orientation and identification of the research problem, which included background of the study, statement of the problem, aim and objectives of the study, research assumptions, research questions, research design and methodology, data analysis (Thematic and Statistical Package for Social Sciences) delimitations, definitions of concepts, significance of the study, breakdown of research chapters, and conclusion.

Chapter 2 outlines the literature review on the impact of school-based moderation on the quality of teaching and learning, its meaning and rationale, definitions of concepts, importance of school-based moderation, the impact of school-based moderation, the challenges of school-based moderation and strategies to be used in the implementation of school-based moderation. A literature study was conducted on the relevant and recent literature on school-based moderation.

Chapter 3 deals with the research design and methods the researcher used in the collection and analysis of data.

In chapter 4, the researcher presents the findings. The data collected and the findings are analyzed and interpreted.

In chapter 5, the researcher discusses the overview of the study, findings and provides recommendations as a way of concluding the study.

1.12 SUMMARY

In this chapter, the researcher provided an introduction of the study, an outline of some of the challenges that are confronted by the SMT, the statement of the problem, the main aim and objectives, definitions of the concepts used in the study, as well as the research design and methodology. Finally, the researcher outlined the significance of the study. A literature review on the challenges confronted by SMT in the school-moderation of Mathematics will be discussed in Chapter 2.

CHAPTER 2

LITERATURE REVIEW: SCHOOL-BASED MODERATION OF MATHEMATICS IN THE FET BAND

2.1 INTRODUCTION

This chapter presents a review of literature based on relevant topics for school-based moderation and how the quality of teaching and learning of Mathematics in the FETband is affected. In order to place school-moderation in its appropriate perspective, the researcher considered different views from different authors and scholars, as to what school-based moderation entails. This involved conceptualizing school-based moderation, theoretical framework for moderation, the impact of school-based moderation towards the quality of teaching and learning, the purpose of school-based moderation, the challenges of school-based moderation and the strategies to improve school-based moderation of Mathematics in the (FET) band.

2.2 THEORETICAL FRAMEWORK

This study was underpinned by the Constructivist Approach to Learning and teaching of which some of the theorists are Piaget and Vygotsky. Information Processing and Constructivists perspectives such as those by Piaget, tend to look at the individual information processor as the learner tries to understand the world. Woolfolk (2014:247) indicated that psychologists who emphasize the social construction of knowledge and situated learning affirm Vygotsky's notion that learning is inherently social and embedded in a particular cultural setting.

Woolfolk (2014:206) further indicated that theories about learning and knowledge by Piaget are that knowledge is constructed by transforming, organizing and reorganizing previous knowledge. The theory further states that even though experience influences knowledge, it does not reflect the whole external world. This means that exploration and discovery are more important than teaching. This type of theory is also known as exogenous constructivism.

In addition, Woolfolk, (2010: 206) indicated that the assumption about learning and knowledge by Vygotsky is that knowledge is constructed based on social interactions and experience. It reflects the outside world as filtered through and influenced by culture, language, beliefs, interaction with others, direct teaching and modelling. Guided discovery, teaching, models and coaching as well as the individual's prior knowledge, beliefs and thinking affect learning. Sieborgern and Macintosh (2004:59) also share the same sentiments when they indicate that moderation is checking to ensure that assessment is valid and as reliable as possible. They also indicate that moderation is conducted to ensure that the learning outcomes of a subject have been addressed and operated in accordance with agreed assessment standards.

2.3 THE PURPOSE OF SCHOOL-BASED MODERATION

Anderson (2002:361) indicates that one of the ways in which education authorities attempt to ensure that teaching and learning is of a high standard, is through the development of policies that guide teaching, learning and assessment practice. The development of curriculum framework, the formulation of standards for the development of resources and the regular retraining of teachers, all contribute to the maintenance or improvement of quality teaching, learning and assessment. There are many ways in which the quality of teaching and learning could be monitored one of which is moderation. DoE (2008:48) indicates that to ensure that the moderation process is both accountable and transparent, the moderator has to record his or her findings and recommendations in a written moderator's report.

Since assessment and moderation in CAPS are the integral parts of teaching and learning, they should be part of every lesson. Teachers should plan their learning activities so that school-based moderation is more effective and of important, to promote and sustain quality teaching and learning. This also creates an environment in which the school-based assessment mark is administered in a controlled manner (DoE, 2011:15). School-based moderation is compulsory at all South African schools, including the independent schools, which are registered under the Department of Education. Moderation is practiced in all schools to ensure the following aspects:

- **Validity:** Black et al. (2002:18) indicates that moderation should be done to ensure that the tasks given to learners measure the aspect of education which society feels it is important to measure. This implies that in validity we believe that the tasks set give learners the opportunity to demonstrate their investigation skills, their understanding of cultural diversity and their commitment to the creation and maintenance of harmonious cultural relations. Based on this evidence, one would say the tasks given to learners were valid. Silverman (2006:289) shares the same sentiment when indicating that , validity is the extent to which an account accurately represents the social phenomenon to which it refers.
- **Reliability:** This ensures that a learners' performance, as reflected by the allocated marks, is an accurate portrayal of the learners' mastery of knowledge, skills and values. Silverman (2006:282) points out that, reliability refers the degree to which findings of data are independent of accidental circumstances of their production. Black et al. (2008:10) also share the same sentiment when they state that reliability refers to the accurate assessment data which is generated, particularly through test and examinations written by all learners who are enrolled for that subject in the whole country, as an indicator of what we want to measure.
- **Comparability:** This is to ensure that through the moderation process, learners who performed in the same way have a similar degree of mastery of the knowledge, skills and values.
- **Fairness:** This ensures that all learners and teachers are given equal opportunities to give evidence of their achievement of the outcomes, and no learner or teacher should be disadvantaged (DoE, 2011:5). Black et al. (2002:19) also share the same sentiment by stating that the assessment is considered to be fair when learners who are taught the same things are assessed in the same way and time. It also involves accommodating differences in barriers to learning and performance. Each learner should therefore be given an equal chance to prove him/herself. Therefore

moderation is done to ensure that all the basic requirements for both learners and teachers' work are met. Thus, moderation is a means to ensure that the national standards in general and the provincial standards in a particular subject are met by all schools.

According to Van der Westhuizen (2002:12) an education leader is not only an administrator or one who carries out policy, but also someone who has authority in his/her own right. Reeves *et al.* (2005:34) also support the idea by stating that, individuals who have developed education management skills can bring about widespread changes in educational institutions and practices. This is also emphasized by DoE (2010c:5) which states that one of the roles or functions of SMT members is to control and monitor the work of teachers and learners.

Myers and Stonehell, (2000:95) indicate that management role is the rational component of a school organization. It consists of the portion of policy, daily operations and decision-making which is guided by the functional needs of conducting the work of the organization, which in this situation is the school.

School-based moderators which, are SMT's in a school situation, have specific roles to perform (DoE, 2011:35) some of which are as follows:

- To ensure that assessment is appropriate, consistent, fair, transparent and does not unintentionally discriminate against candidates with disabilities.
- To ensure that learners understand assessment requirements and are given opportunities to achieve against the assessment criteria.
- To ensure that the work done by learners is presented in such a way that it supports the moderation process.
- To ensure that what learners have achieved is mapped to the assessment criteria.

DoE (2008: 53) indicates that it is clear that moderators are expected to review and evaluate not only the quality of the end results but also the quality of the process and instruments that led to this. Moderators have to determine whether or not there are

mechanisms in place to ensure that learners do not have access to an instrument beforehand.

According to Peterson (2002:34) teachers have to make regular assessment and keep records of learners' knowledge and skills. The main purposes, amongst others, is to provide to the teacher information concerning whether instructions have been effective to the learners; whether learning has been effective and whether progress and standards have been attained. Grover and Connor (2010:207) also share the same sentiment when they indicate that quality management leads to quality teaching and learning. They further state that the quality teaching and learning are the fruits of school-based moderation and indicate that quality management approach is a way to strive to achieve continuous achievement. Quality management through planning, decision making and team work by the whole school can help schools achieve quality teaching and learning in Mathematics.

Grover and Connor (2000:210) further indicate that monitoring and moderation should not only focus on formal or written tasks but also on informal or verbal hearsays, speculations and gossips, as these are factors that also affect indirectly progress in schools. Moderation is conducted to ensure that teaching and learning is of quality and that it will lead to good results at the end of the year.

2.4 CONCEPTUAL FRAMEWORK

This section discusses school-based moderation and assessment of Mathematics in the FET band as well as the role of school-based moderation of Mathematics in the FET band.

2.4.1 School-based moderation and assessment of Mathematics in the FET band

The aim of school-based moderation is to ensure comparability in Mathematics assessment tasks. This implies that learners in schools who attain the same standard through an assessment programme on common syllabi are awarded the same level of achievement and equal opportunities (Queensland Government, 2010:4).

The school moderator is responsible for the assessment programme as well as moderation processes within the school. However there are also subject moderators or SMT members whose core functions are to plan and implement work programmes. These moderators use assessment criteria consistent with curriculum standard descriptors, and organize school-based moderation of mathematics in the FET band. These are required for preparing external moderation submissions (Queensland Government, 2010:4).

There are a number of reasons that mathematics teachers use assessment for. These include monitoring the pace; evaluating learners' progress and giving support. Teachers need to have a clear understanding of the different strategies and embed them in their practice, so that they will be fully effective and help learners to learn Mathematics. Effective assessment practices inform the next steps in learning and provide reassurance, at national, provincial, district and school level, that learners have achieved the level of skills, attitudes and knowledge are required if they are to compete in an increasing competitive world (Black, 2002:10).

Assessment also helps to improve learning experiences. Gardener, (2006:54) indicates that teachers also gather views as part of their ongoing self-evaluation practice. The findings of activities such as these can be used to help improve teaching and learning in Mathematics. Thus moderation is practiced in Mathematics to ensure the quality of teaching and learning in Mathematics. To reach this goal, summative and formative assessments are conducted. Summative assessment usually comes at the end of each learning episode or at the end of a term or year. Formative assessment is an ongoing and continuous process, where feedback can be given to learners as you are teaching Mathematics, to make sure that your learners understand the concepts.

Mathematics teachers use assessment for external purposes. Daugherty (2010:16) indicates that "the reliability of results becomes more important when assessment data are intended to be used outside of a school to form judgment on those institutions and when a tests or examinations are used as a form of assessment tools, they should contribute positively to the learners progress".

2.4.2 The origin of moderation of Mathematics in the FET band

The authority called South African Qualification Authority (SAQA) is the one that maintains the quality of education and training system in South Africa. In order to achieve quality education, SAQA has established a number of structures and policies to regulate the process and procedure followed by its members. Moderation is conducted to ensure that the learning objectives of a subject have been achieved (Sieborgern and Macintosh, 2004:680). The quality of assessment and teaching and learning could be monitored in many ways, one of which is school-based moderation (Queensland Government, 2010:6).

2.4.3 Why should school-based moderation in the FETBand be practiced?

Ingvarson and Beavis (2004:16) indicate that school-based moderation is one of the strategies aimed at ensuring the quality of assessment practices and procedures in teaching and learning. Its primary purpose is to ensure that the assessment of individuals is fair and consistent. They further advocate that school-based moderation helps teachers to realize that learners are neither from the same background nor having same and equal capacity in learning. School-moderators, who are SMT members have to record all the findings and recommendations in a moderator's report, to ensure that moderation process is both accountable and transparent.

2.4.4 The role of school-based moderation of Mathematics in the FET band

School-based moderation of Mathematics has a role to play in promoting and maintaining the quality of teaching and learning in schools. School-based moderation of Mathematics also serves as a way of avoiding the negligence of some parts of the curriculum which are difficult to teach because of lack of time. It also ensures some degree of control and promotes the authenticity of school-based moderation of Mathematics practices and creates an environment in which school-based assessment marks are administered in a controlled manner when teaching Mathematics (Sieborgern & Macintosh, 2004:61).

School-based moderation of Mathematics is a perfect route to quality learning and teaching and for teachers and learners to perform well at school. It encourages Mathematics teachers to improve their work because guidance and motivation are needed for quality learning and teaching, and for the school to perform. When SMT members monitor, supervise and moderate all the work given to learners by teachers, by checking the work before and after it has been written or done, the SMT members also evaluate, give support when it is necessary and motivate teachers. These help Mathematics teachers to improve and rectify their mistakes in case there were mistakes. As indicated by the DoE (2010c:64), one of the core duties of SMT members is to guide, supervise and offer professional advice on the work and performance of all staff in the school. SMT members are therefore obliged to monitor and give support for good quality education of Mathematics and for satisfactory results.

2.4.5 Tools used in moderation of Mathematics

According to Peterson (2002:34) the tools used in the moderation of Mathematics are the documents that display all the criteria or requirements needed by the moderator and the department in school-based moderation in order to assess student's performance. At the beginning of each academic year, the provincial office provides schools with moderation tools for each subject. These tools outline the quality indicators for each formal assessment task (DoE, 2010b:15). It is from this tool (document) that the SMTs for Mathematics should develop their own tools, which should vary from one subject to another, and be informed by the tools from the department.

2.4.6 Documents to be moderated in Mathematics

In moderation, the following documents for moderation are discussed:

2.4.6.1 Mathematics teacher's portfolio

A teacher's portfolio is a collection of all formal assessment tasks (including tools) and their records. All the tasks for school-based moderation are compiled, as well

as the corresponding assessment instruments of secondary Mathematics (Queensland Government, 2010:5). A teacher's portfolio is required for every learning area. DoE (2011:16) emphasizes that this portfolio is used to ensure that quality assessment tasks are given to learners and to provide a record against which learners' portfolios can be moderated. The following are moderated in the teachers' portfolio.

2.4.6.2 The learner's evidence of performance in Mathematics in the FET band

A learner's evidence of performance is a purposeful collection of a learner's formal assessment tasks, summary sheets and declaration forms. This document exhibits to the Mathematics teacher, learner, parent, SMT members curriculum advisors, district officials, as well as provincial officials, the progress, growth and achievements of the learner. A learner's portfolio needs to be accessible, so that relevant stakeholders can understand the thinking behind the decisions made and be able to interpret the evidence in the portfolio, so that they can monitor the progress of the learner (DoE, 2011:15).

2.4.7 Comparing moderation in China, Australia and South Africa

The present researcher compared the moderation of the systems of China, Australia and South Africa. The reason for comparing moderation in the schools of these countries is that the South African curricula, both NCS and CAPS, were designed based on or influenced by the curricula of these countries.

2.4.7.1 School-moderation of Mathematics in China

School-based moderation is the process of ensuring that the same assessment standards are applied to learners from every school doing a particular study. A set of rubrics and guidelines can be produced for teachers to follow, to give similar conclusions about learners' work. In Hong Kong, the Hong Kong Examination and Assessment Authority (HKEAA) proposed the use of moderation techniques to monitor school based assessment scores which was examined in 2012 (Bloxham, 2009:91). The commonly-used moderation includes statistical moderation,

consensus moderation and expert moderation. In consensus moderation, groups of teachers conduct moderation meetings occasionally. The teachers select samples of learners' work and bring them to the meeting.

2.4.7.2 School-based moderation of Mathematics in Australia

Moderation in Australia is viewed as a process of ensuring that the same assessment standards are applied to every school doing a particular study. In the state of Victoria, in Australia, consensus was used to moderate learners' course work. The main function of moderation in Australia is to ensure that different applications of standards remain within acceptable limits (Bloxham, 2009: 93). Moderation is the lynchpin of the school-based assessment system for senior secondary school certification in Queensland. It is the main means of quality assuring the achievement results are reported in the Senior Certificate (SC) in future on the student's Record of Achievement and to contribute to award of the Queensland Certificate of Education (QCE). As in Hong Kong (China), the Victorian certificate of education stated to include statistical moderation in their moderation process. Statistical moderation is a fair and impartial way of ensuring consistency of standards across schools, while maintaining the learners' rank order given by the school (Zhou, 2015:15).

In Queensland moderation is considered as one component of the overall process of quality assurance. In a school-based assessment system such as Queensland's, moderation is essential for delivering comparability of results in high stake assessment. Some of the challenges of quality assurance, and particularly for moderation, posed by proposed changes to the senior curriculum are considered with some ways in which these challenges might be addressed (Queensland Government, 2010:4).

2.4.7.3 School-based moderation of Mathematics in South Africa

Nemadzivhanani (2007:65) views moderation as *"a process that ensures that teachers are assessing work according to agreed standards , and that there is consistency from year to year and within districts, province and nationally"*.

According to the DoE (2010b:15) school-based moderation refers to “*the process which ensures that assessment of the described objectives and aims of the curriculum and assessment policy statement are fair, valid and reliable.*” This is done by “*monitoring and evaluating all the work done by learners and teachers throughout the year*”.

School-based moderation involves assessment, evaluation, monitoring, analyzing and controlling learners’ and teachers’ work (Hoover: 2002:190). It also refers to the monitoring and evaluation of student progress, and it is the duty of School Management Teams (Storehill, 2008:20).

It is the process of making sure that in a school the learners work is controlled, checked, assessed and monitored by their teachers. Moderation also includes monitoring tests, exams, marks and all the tasks given to learners before and after tasks done by learners. This implies that school-based moderation can also be defined as a process undertaken by a providing organization in which assessment practices and decisions are regularly sampled and evaluated and findings are acted upon to ensure that there is consistency and fairness.

Hoover (2002:10) describes some steps that SMT members can take to raise student performance. Some of the ways to do so is through regular moderation and monitoring of teachers’ and learners’ work.

SMT members are the key participants (Houlinhan, 2012:55) in terms of school effectiveness and efficiency. While there are numerous arguments to support the notion that teachers and SMT members can harmoniously work together, it is difficult to argue that without team work, effectiveness and good work are unlikely to be achieved. In terms of school effectiveness and good results in a school, the implementation of moderation and monitoring by SMT’s must be taken into consideration. School-based moderation is one of the tools for effective teaching and learning. According to the DoE (2005:9) moderation refers to “*a process in which someone reviews instruments process and results against specified criteria*”. This process is aimed at ensuring that no learner is disadvantaged.

2.4.8 Levels of moderation

The National Protocol on Recording and Reporting (NPPR) standardizes the recording and reporting processes for schools (Grades R–12) within the framework of the NCS. It provides a regulatory framework for the management of school assessment records and basic requirements for learner profiles, teacher portfolio, and learners' evidence of performance, report cards, records and schedules (DoE, 2011:2).

Moderation is always done at three levels, which are the following:

2.4.8.1 School level

At school level moderation is done by heads of departments/heads of subjects, heads of phases, Deputy principals and Principals and these people are collectively called SMT members. SMT members use black pens to moderate. School moderation consists of pre – administration moderation and post – administration moderation.

- **Pre–administration moderation**

Pre-moderation means the moderation is done by the SMUT; checking and verifying whether the paper meets the standard or not, and checking whether the examiner included all the cognitive levels or not. The subject teacher submits formal assessment tasks to the SMT for moderation (DoE, 2010c: 13). A moderation instrument is used to verify the quality of the tasks submitted. Only approved tasks should be administered to learners. Tasks should not be given to learners before it is moderated by an SMT member.

- **Post–administration moderation**

The teacher submits record sheets to the SMT for sampling. An SMT member draws a sample of 10% from the total number of learners' evidence of performance. In drawing the samples the SMT places an asterisk or a tick against the learners selected for moderation. The SMT should select the sample according to the framework derived from the 7-point scale. Learners are selected from each code.

The learners' evidence of performance selected should be spread equitably across the three ranges. The teacher, the SMT, and the SMT members sign all record sheets on all pages of approved learners' evidence of performance. The SMT then completes the moderation tool for moderating the administered tasks in duplicate. The SMT should monitor the quality of marking of learner scripts and mark allocation. The original copy should be put in the teachers' portfolio while the other copy should be retained by the SMT (DoE, 2010a:18).

2.4.8.2 District level

At this level teachers and learners' portfolios are submitted to a specific venue, where there are subject advisors or subject specialists who are expected to moderate the portfolios according to the requirements and criteria speculated for that subject. The district officials moderate teachers' portfolios and learners' evidence of performance during the four terms on set dates using a green pen. Curriculum advisors sample the learners' portfolios and schools submit their sampled learners' evidence of performance, together with the teachers' portfolios, to the district level, for moderation (DoE, 2010a:15).

2.4.8.3 Provincial level

At the provincial level moderation is done by a panel of subject specialists appointed by the Department of Education. Moderation at this level is done by a moderation panel. The moderators moderate the sampled teachers' portfolios and learners' evidence of performance using a brown pen. It is at this level wherein the moderators check on the conduct of assessment done at the district level to determine if it was fair, valid and appropriate (DoE, 2010b: 15).

2.4.8.4 National level

At the national level moderation is done by Umalusi. However, a small portion of moderators do the job. These moderators should have an in-depth understanding of quality assurance. The moderators should be able to conduct moderation and assessment in a fair, consistent and unbiased manner (DoE, 2005:24).

2.4.9 Moderation and assessment

School-based moderation is designed to ensure that results are recorded and the requirements of the curriculum are matching. Queensland Government (2010:11) indicate that “a moderator is responsible for the total assessment programmes within the school. There are also subject moderators or SMT s who are directly responsible for preparing and implementing work programmes using assessment criteria consistent with curriculum standard descriptors, organizing school-based moderation processes where these are required and preparing external moderation submissions”.

Assessment also helps to improve new experiences. Black, Harrison and Lee, (2002:51) indicate that teachers also gather views as part of their ongoing self-evaluation practice. The findings of activities such as these can be used to help improve learning and teaching in Mathematics. Moderation is practiced in Mathematics to ensure the quality of teaching and learning. In order to reach this goal summative and formative assessment should be conducted (Gardener, 2006:28). Teachers use assessment for external purposes. Daugherty (2010:54) believes the reliability of results become more important when assessment data are intended to be used outside the school to help form judgments on those institutions. When tests and examinations are used as a form of assessment, they should contribute positively to the learners’ progress.

Assessment is a process of gathering valid and reliable information about the performance of a learner on an ongoing basis against clearly-defined criteria, using a variety of methods, tools and techniques in different context. The moderation of an assessment instrument takes place prior to the moderation event with a view to ensure that the instruments are valid, reliable and fair. Moderation of the assessment processes and results takes place after the assessment event and is aimed at ensuring that no learner was disadvantaged (DoE, 2008: 21).

2.4.10 Forms of assessment

Learners should be assessed in different forms throughout the year namely; using baseline assessment, diagnostic assessment, formative assessment, summative assessment and systematic assessment (DoE, 2005:6). Mathematics is an essential subject that needs to be monitored all the time in order for learners to pass adequately. Baseline assessment is the kind of assessment that a teacher applies at the beginning of each topic, so that he/she will be able to determine the knowledge learners have in that topic in Mathematics. Diagnostic assessment is used by Mathematics teachers in order to find challenges that learners are facing in the learning of Mathematics so that he/she will come up with suitable remedies. To reach this goal, summative and formative assessments are conducted. Formative assessment is an ongoing and continuous process where feedback can be given to learners as you are teaching Mathematics to make sure that your learners understand (Gardner, 2006:54). Summative assessment usually comes at the end of each learning episode or at the end of a term or a year. At the end of each term or topic a Mathematics teacher has to practice summative assessment.

2.5 THE IMPACT OF SCHOOL-BASED MODERATION ON THE QUALITY OF TEACHING AND LEARNING OF MATHEMATICS IN THE FET BAND

School-based moderation is a perfect route to good results for a school. In order to obtain good results and for teachers to perform well, therefore, school moderation should be practiced. School-based moderation by school management teams enhances teachers to improve in their work guidance and support needed by teachers to perform satisfactorily, can only be provided by the SMT after their work has been monitored and moderated (DoE, 2010a:13).

Makhaga (2009:13) indicates that in every school there are many factors affecting the performance of both teachers and learners. Wydeman (2004:43) argues that there should be a shift of roles for teachers, from teaching and learning, to be effective and identification of the roles. In order to manage and maintain good results, the teacher must understand his subject or content well. He or she should

plan effectively and manage his or her tasks well, so that learners could pass. This is also applicable in Mathematics.

According to Anderson (2002:314) the quality management system refers to management which is responsible for overseeing the design for quality teaching and learning. Such management (SMT) should provide sufficient and appropriate resources to implement quality school-based moderation of assessment.

School-based moderation is important as it promotes and maintains the quality of learning and teaching in schools because it also serves as a way of avoiding the negligence of some parts of the curriculum, as was the case in the past (Sieborgern & Macintosh, 2004:66). It ensures some degree of control and promotes the authenticity of school-based moderation practices and creates an environment in which school-based assessment marks are administered in a controlled manner.

Furthermore, moderation helps the DoE, the school and parents by ensuring that the compilation of school-based moderation in Further Education and Training (FET) band is done in accordance with the requirements of the applicable provincial guidelines, which are informed by the national policy (DoE, 2010a:11).

School-based moderation is a perfect route to quality learning and teaching, and for teachers and learners to perform well at school. It encourages teachers to improve their performance because guidance and motivation are needed for better quality of learning and teaching, and for the school to perform well. SMT members monitor, supervise and moderate all the work given to learners by teachers, by checking the work before and after it has been written or done. The SMT members also evaluate, give support when it is necessary and motivate teachers. These help teachers to improve and rectify their mistakes. As indicated by the DoE (2010a:64), one of the core duties of SMT members is *“to guide, supervise and offer professional advice on the work and performance of all staff in the school.”* SMT members are therefore obliged to monitor and give support for good quality teaching and learning and for better results.

2.6 CHALLENGES CONFRONTING SMT MEMBERS IN THE IMPLEMENTATION OF SCHOOL-BASED MODERATION

Moderators and teachers face many challenges when they perform school-based moderation. This is because teachers view moderation as a tool to oppress and suppress them. As such, they dislike or resist it. These are amongst others, some of the challenges of school-based moderation experienced by Mathematics teachers:

2.6.1 Lack of self-determination

Northouse (2010:20) indicates that, determination is a desire to get a job done, and this includes characteristics such as initiative, persistence, dominance and drive. Teachers who are determined, are willing to assess themselves; they are proactive and have the capacity to persevere in the face of obstacles. However, teachers who lack determination are unable to get their jobs done. Therefore, they resist the process of moderation. When a Mathematics teacher is lacking self-determination, he/she cannot teach effectively and this affects the performance of learners in Mathematics negatively. Therefore, school-based moderation of Mathematics tasks cannot be well implemented. Mathematics needs practice and learners have to do this everyday. This can be done by learners with teachers. It also needs some extra lessons, so that learners would be able to pass.

2.6.2 Lack of integrity

According to Northouse (2010:21) integrity is the quality of honesty and trustworthiness. Mathematics teachers should comply to strong sets of principles and responsibilities, so that they instil the love of Mathematics to learners. Teachers who lack integrity do not have the quality of honesty and trustworthiness and they do not adhere to a strong set of principles. Teachers like these are not loyal, are dependable and deceptive. Mathematics teachers also need to be loyal, so that they do their work properly and finish their syllabi so that learners can pass. It is through school-based moderation and monitoring of teachers' progress that teachers will have integrity. Therefore, the lack of integrity leads to non-adherence to the policies and poor implementation of school-based moderation.

2.6.3 Misconceptions about school-based moderation of Mathematics

Nemadzivhanani (2007:21) indicates that teachers sometimes fail to satisfy the requirements of the process of moderation, not because they do not understand the process but because they do not want to comply with the procedures and policies regarding moderation.

Mathematics teachers have wrong conceptions about moderation. They view it as way to punish them. Once Mathematics teachers view school-moderation as a punishment, it affects their teaching and the learning of Mathematics is also affected negatively because Mathematics needs a healthier and free mind that will be able to apply theorems and principles. Many Mathematics teachers believe school-based moderation is just a tool used by the Department of Education, through SMT members, to punish them. Consequently, they develop a negative attitude towards it. Once a Mathematics teacher develops a negative attitude towards school-based moderation, it results into ineffectiveness, and this affects teaching and learning and the implementation of school-based moderation of Mathematics tasks becomes difficult. This is one of the factors that negatively affects the smooth-running of teaching and learning in the school (Makhaga, 2009:13).

2.6.4 Inadequate understanding of school-based moderation

Most teachers do not seem to understand the meaning and importance of school-based moderation. Furthermore, they do not understand the role of moderation and they also do not understand who should perform it in a school situation. In addition some teachers do not understand why their seniors have to monitor their work because they consider themselves qualified and well experienced teachers (Knight & Downton, 2006:89). They seem to fail to understand that one of the duties of a senior teacher (for an example, SMT members) in a school is to supervise and monitor learners' and teachers' work (DoE, 2010: 64). Teaching is a calling, especially teaching Mathematics. This is because Mathematics is one of the most important subject in life. Mathematics teachers need to have a good understanding of school-based moderation, so that they can get some help where necessary.

2.6.5 Lack of dedication and commitment to their work

Before tests, examinations, assignments, practical, researches, projects, investigations and other formal tasks of Mathematics are given to learners, they should be moderated by the SMT member, who is also in the department of Mathematics, to check if they are up to standard (Nemadzivhanani, 2007:21). As Mathematics teachers, they have to work hard to achieve that and if the teacher is not committed enough s/he will find the task stressful. Another factor that causes Mathematics teachers to reject moderation is that they are neither fully committed to their work nor dedicated. They know that they must work hard as Mathematics teachers to prepare their portfolios and that of their learners before they submit them for moderation. However, they do not put much effort into the exercise. As a result, they end up not doing the work effectively (Jeffares, 2015:38).

Donaldson (2008:25) also shares the same sentiment when indicating that teachers should be committed and dedicated enough to their school work, so as to maintain the standards and achieve quality teaching and learning. He further states that this can be achieved by sharing ideas with other Mathematics teachers. Many Mathematics teachers work with others in classrooms, looking at ways to overcome challenges they experience and strategies they can apply for better teaching and learning so that at the end learners gain more knowledge and pass Mathematics satisfactorily. Mathematics teachers also have to go to class thoroughly prepared before going to class, for effective teaching and learning so that when moderators check their work, they must find it satisfactory

2.6.6 Inadequate self-confidence

Northhouse (2010:20) indicates that self-confidence implies the ability to be certain about one's competencies and skills. It includes self-esteem, self-assurance and belief that one can make a difference. A Mathematics teacher who lacks self-confidence does not believe in himself or herself and he/she cannot do well in the Mathematics classroom. This implies that he/she does not believe in him/herself and in making a difference. As a result he/she cannot teach Mathematics effectively so that learners will be able to apply what they learn in class when they get to the real

world. S/he therefore finds it difficult to undergo the process of being moderated. When a teacher lacks self-esteem s/he regards moderation as a tool to punishment her and finds it very stressing.

2.6.7 Lack of problem-solving skills

According to Northhouse (2010:90) problem-solving skills refers to the ability to solve new unusual, ill-defined work problems. The skills includes being able to define significant problems, gather information problems, formulate new understanding about the problems and generating prototype plans for problem solutions. Problem-solving skills would also mean that teachers know what to do and when is the right time to manage their subjects and therefore apply possible solutions specifically for their subjects. A teacher who lacks problem-solving skills will fail to gather information regarding that problem and will be unable to formulate a new understanding about the problem. S/he cannot generate prototype plans for problem-solving as s/he does not understand his or her own capacity as a manager of the subject. Teachers who are unable to overcome challenges in their subjects, will not be co-operative when school-based moderation has to be implemented. Mathematics teachers are problem solvers because that is what their job entails. If a Mathematics teacher fails to solve problems, it becomes difficult for the teacher to solve mathematical problems in the classroom.

2.6.8 Poor time management

Time management is very important for one to succeed in life or in any situation. For teachers to cover all the themes and topics stated in a work programme and work schedule, good management of time is needed. Therefore, if the teacher fails to cover all the topics on time, s/he would not want to be moderated, either at school level or externally (DoE, 2010:2). The Mathematics syllabus is very long. It needs a teacher who can manage time, by going to class on time and finishing lessons on time.

2.6.9 Inadequate teachers progress monitoring

According to the DoE (2010b:13) one of the strategies to be used in school-based moderation is by teachers' progress monitoring. Just as the progress of a learner need to be monitored often, sodoes that of Mathematics teachers. DoE (2010a:13) indicates that systematic monitoring of teachers' progress towards desired academic and behavioral goals likely had its origin in the precision teaching work. Progress monitoring become a critical component of precision-teaching, data-based programme, modification, curriculum-based assessment, instructional consultation and the variety of collaborative problem-solving team models referred to as Mathematics teacher assistance teams. Mathemaitics is a vital subject that cannot be neglected in order for learners to perform satisfactory. However, Mathematics is not doing well as a subject nationally and this can be curbed through school-based moderation of Mathematics. When this is done, teachers will do their best, knowing that their work will be monitored.

2.6.10 The need for technology enhanced progress monitoring system

According to DoE (2010c:16), the use of computers in the assessment process consists of computer–adaptive testing, computer-assigned instruction, computerized collection of data on teacher performance and the use of technological teaching media such as overhead projectors. These make teaching and learning to be effective. The use of computer to manage data and performance analyses and reporting functions such as scoring and graphing may help Mathematics teacher concerned to illustrate his/her performance as expected by the moderators. If a teacher is computer literate and or can use technology well, he./she can help learners to download some of the questions for revision and other Mathematics problems can be solved through computers. Then the teacher will get enough time to prepare the portfolios for moderation.

2.7 STRATEGIES TO BE USED IN SCHOOL-BASED MODERATION OF MATHEMATICS ASSESSMENT TASKS

The term ‘strategies’ refer to mechanisms or things that one can use in order for school-based moderation to succeed or to be effective. These are methods or ways of conducting school-based moderation in such a way that it becomes effective and fruitful. The following are, among others, the strategies to be applied in order for school-based moderation of Mathematics assessment tasks to be effective or serve its purpose.

2.7.1 Departmental workshops

The Department of Education, should conduct workshops, and not for SMT members only, but also for all teachers who are involved in the school situation. These workshops should be about the importance of school-based moderation and how it affects the quality of learning Mathematics. Gardener (2006:10) shares the same sentiment when saying that the Department of Education should conduct workshops only for SMT member but also for all teachers, so as to train them on the role and importance of school-based moderation.

During these workshops, Mathematics teachers should be trained in planning and conducting assessment events and the setting and maintenance of common standards. This means that the moderation manager could consider setting up approaches aimed at creating and maintaining of common standards, used with some success all over the world (DoE, 2008:62).

2.7.2 School-based workshops

SMT members are required to develop staff training programmes, both school-based and school-focused so as to develop and achieve educational objectives, in accordance with the needs of the school. While post-moderation meetings are essential and valuable, real changes can only occur if education managers create opportunities for their staff to be trained as moderators at schools (Gardener, 2006:11). In these workshops, trainers will train Mathematics teachers on the

importance of school-based moderation of Mathematics and how to implement it effectively

2.7.3 Recording and reporting

DoE (2011:55) refers to recording as the process by which the teacher is able to document the level of a learner's performance in a specific assessment task. It indicates a learner's progress towards the achievement of knowledge, as prescribed. Records of learner performance should provide evidence of the learner's conceptual progression and his or her readiness to progress or to be promoted to the next grade. These records should also be used to monitor the progress made by teachers and learners in the teaching and learning progress. DoE (2011:55) further indicates that recording is a process of communicating a learner's performance to learners, parents, school and other stakeholders. In Mathematics, learner performance can be reported in many ways. It is through recording and reporting that a teacher being helped by his or her SMT can use this as a strategy for school-based moderation to serve its purpose.

2.7.4 Self-monitoring

According to Stephen (2009:494), one of the strategies that can help in school-based moderation is self-monitoring. When Mathematics teachers monitor their activities in the school before their activities are monitored by their seniors, it helps the teacher to find out his/her mistakes and improve on them or correct them before someone who is moderating sees them. Mathematics teachers can also help each other on how to assess their learners in Mathematics in an effective way. This affects school-based moderation of Mathematics because Mathematics teachers will be able to check their progress and improve before their work is monitored by someone else

2.7.5 Involvement of learners in the assessment processes

Bloxham (2009:217) indicates that one of the strategies for school-based moderation to be effective is to involve learners as partners in the assessment process. It is important for Mathematics learners to assess themselves and receive feedback as

well as recommendations from their teachers. Eventually these learners will be able to provide their own feedback and understand the standard they are aiming for and can judge and change their own performance in relation to that standard. Mathematics is a subject that needs much discussion, both by learners and teachers. The involvement of learners will help them to understand and be able to discuss on their own how to improve their performance based on the assessment requirements.

2.7.6 Support, monitoring and evaluation

Support refers to the efforts of the Department of Basic Education to assist institutions that aim to improve the quality of learning and teaching of Mathematics in schools (DoE, 2006:18). Monitoring and evaluation refers to the responsibility of both the institution and the wider education system to monitor the extent to which efforts to transform our institutions have succeeded, and to constantly evaluate and review the efficiency of our policies and practices. When the department provides these to schools, quality of teaching and learning improves for the better.

2.8 SUMMARY

In this chapter, a literature review of the theoretical framework, conceptual framework, purpose of school-based moderation, impact of the implementation of school-based moderation, challenges confronting SMT members in the implementation of school-based moderation and strategies that can be used to overcome challenges, were discussed.

In a nutshell, moderation is done to ensure that all learning outcomes and assessment standards in all the subjects, including Mathematics, are addressed and all the basic requirements for both learners and teachers' work are met. This implies that moderation is conducted frequently in school levels, district levels, provincial level, and national level to ensure that the national standards in general and the provincial standards in particular are met by schools. Consequently, school-based moderation is conducted in schools to ensure that the teaching and learning of Mathematics in schools, is effective and that it is of high quality. The present



researcher therefore, feels that school-based moderation has an impact on the quality of teaching and learning of Mathematics in the FET band in schools.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter discusses the research approach, research design, research method , population and sampling, research instruments, data collecting procedure, pilot study, data analysis and research ethics.

3.2 RESEARCH DESIGN

This study adopted both qualitative and quantitative methods. Creswell (2010:119) indicates that the mixed methods design is the type of research in which the researcher combines elements of both the qualitative and quantitative research approaches, for the purposes of breadth and depth of understanding and corroboration. The approach was used because it offers the respondents an opportunity to give their viewpoints and provide a full explanation of the research problem. The quantitative approach is a means of testing objective theories by examining the relationship amongst variables (Creswell, 2009:4). Finally the approach was used because it is constant and stable.

3.3 RESEARCH METHODOLOGY

Research methodology is mainly a process whereby the researcher gathers and analyses data (Babbie,2001:36). According to Leedy and Ormond (2010:139), research methodology depends on the nature of data to be collected and the nature of the problem of research. For this investigation, the researcher used the literature review and a combination of qualitative and quantitative methods, as highlighted in the following paragraphs.

According to De Vos et al (2005:123), a literature review refers to the material that has been published and it contributes towards a clear understanding of the nature and meaning of the problem that has been identified. A literature review was

conducted in Chapter 2. Recent books, journal sources, newspapers and Internet sources relevant to the challenges confronting SMT in the implementation of school-based moderation of Mathematics assessment tasks were reviewed.

3.3.1 Qualitative method

For the qualitative component, an interview schedule was used to collect data. According to McMillan and Schumacher (2011:114), an interview schedule is the guide an interviewer uses when conducting an interview. Interviews were conducted because an interview offers respondents an opportunity to give his/her viewpoints and a full explanations of the research questions. For this reason, the a phenomenological approach was adopted.

3.3.2 Quantitative method

Questionnaires were used to collect quantitative data. A questionnaire is a data-gathering instrument through which a respondent answers questions in writing (Leedy and Ormrod, 2010:166). The purpose of using the questionnaire was that facts and opinions about a phenomenon from teachers are obtained and they are in majority and as such it was impossible to interview them all.

3.4 POPULATION AND SAMPLING

This section discusses the population and sampling procedures.

3.4.1 Population

Black (2002:41) defines population as any group that shares a set of common traits. According to Banerjee (2010:22), the population is a complete set of people that possesses the same common characteristics, defined by the sampling criteria established by the researcher. Melville and Goddard (2013:291) describe the population as a group that is the subject of research interest. This means that a population refers to all members of a well-defined class of people. In this study, the

population comprised of all Mathematics teachers, SMT members and curriculum advisors in the Thohoyandou Cluster teaching at FET Band.

3.4.2 Sampling procedure

Mcmillan (2011:86) describes a sample as a group of elements from which data is obtained. The researcher regards a sample as people or events from which the information about the study is collected.

For quantitative sampling, random sampling methods were used to select teachers who participated in the study. Random sampling is a simple method in which all members of the population have an equal and independent chance of being selected as part of the sampling. From each school, Mathematics teachers participated in accordance with their grades level, namely, the FET Band (Melville & Goddard, 2013:292).

3.4.3 Sample size

The researcher obtained information from the SMT members, curriculum advisors and Mathematics teachers with relevant knowledge. Eight schools were chosen from the Thohoyandou Cluster. A total of 8 SMT members were sampled by virtue of their schools being chosen as they are in charge of school-based moderation, one SMT member per school. Four (4) curriculum advisors of Mathematics were selected on the grounds that the schools that fall under their jurisdictions have been selected. Out of the 146 teachers, 75 Mathematics teachers were sampled because they are the ones whose assessment tasks are moderated.

3.5 RESEARCH INSTRUMENTS

The interview schedule and questionnaire were used for gathering data.

3.5.1 Interview schedule

According to Farroq (2013:11), an interview schedule is a set of questions with which structured answers guide an interviewer or researcher. The responses for the set of questions asked are completed in on the sport in a face-to-face interaction with another person.

3.5.2 Questionnaires

The researcher designed questionnaires that were used to collect data related to the study. The questionnaire was guided by the main four research questions, as stated in Chapter 1. The questionnaire consisted of eighty(80) closed-ended questions only. John and Kahn (2005:31) state that *“a questionnaire encompasses a variety of instruments in which the subject responds to written questions to elicit reaction, believes and attitudes”*. Brace (2008:2) states that questionnaires are the media of communication between the researcher and the subject.

3.6 PILOT STUDY

A pilot study is a process that the researcher designs to show that questions have no flaws and ambiguities. In order to increase the validity of this study, a questionnaire and interview questions were first piloted, to determine whether they elicited the intended responses (Hallway & Jefferson, 2007:94). It is a process intended to check on the options in closed-ended items and on the feasibility of the study. The researcher has designed a questionnaire and handed the instrument to Mathematics teachers at Tshilamba Circuit, in order to check if there were possible misunderstandings and ambiguities, and to gain new insights into the research and to determine whether the findings were reliable.

For this exercise the researcher learnt that statements that are ambiguous in the instrument could cause serious confusion and misunderstanding on the part of the respondents, which in turn, might have a negative impact on the direction of the study as a whole. The researcher also found that the instrument did not show any flaws and ambiguities. The researcher then concluded that the coding responses do not cause any misunderstanding to the respondents. A total of a10 questionnaires were given to teachers who were not part of the study for piloting. These were teachers from Tshilamba Circuit. These teachers answered the questionnaires with ease which showed that the instrument does not show flaws and ambiguities.

3.7 DATA COLLECTING PROCEDURE

The researcher also visited some schools to conduct personal interviews with SMT members. She also visited the circuit offices to interview curriculum advisors. The researcher made appointments with the sampled SMT members and curriculum advisors for the interview. Copies of the covering letters, which explained clearly the research details, the purpose of the study and importance of the respondents' contributions, were handed over to the SMT members and curriculum advisors..

The researcher interviewed SMT members and curriculum advisors on the challenges facing SMT members in the implementation of school-based moderation of Mathematics assessment tasks. Eight (8) SMT members of the eight sampled schools and four (4) curriculum advisors were interviewed. Their responses were recorded with a tape recorder. Eleven (11) questions were asked in the interview (See Appendix A).

The researcher also visited schools and handed over copies of the questionnaire to be completed by Mathematics teachers and made appointments with the Mathematics teachers. These were given to respondents as invitation to participate in the research project.

3.8 DATA ANALYSIS

This section presents both qualitative data analysis and quantitative data analysis

3.8.1 Qualitative data analysis

The reason for using qualitative analysis is that it affords the respondents opportunity to give their view points and full explanation of the research problems. Qualitative information was combined and compared, so as to make sense out of it. The researcher interviewed people and tape-recorded their responses. Thematic analysis was used to analyze data collected through interviews, because it helps the researcher to manage, shape and make sense of unstructured information.

3.8.2 Quantitative data analysis

The responses from the questionnaires were analyzed through the Statistical Package for Social Sciences (SPSS) Version 23. The SPSS Version 23 was used because it is quick to administer and suitable for the type of data that was obtained.

3.9 MEASURE OF QUALITY CONTROL

The following section discusses the validity and reliability of the research instrument as well as the trustworthiness of the study:

3.9.1 Validity and reliability of the research instruments

The validity and reliability of the research instruments are discussed below

3.9.1.1 Validity

To ensure validity and reliability the researcher gave the questionnaires to the similar respondents who were not going to be part of the study, for pilot testing. According to McMillan and Schumacher (2001:90), validity refers to the extent to which inferences made based on numerical scores are appropriate, meaningful and useful to the sample. The purpose of pre-testing was to reduce the degree of limitations of certain measures as this study relies on valid, authentic and trustworthy, methods of collecting and presenting information and interpretations.

The measures were taken to enhance design validity for consistency of application. In the instance of this particular study, the measurement of validity pertains to quantitative techniques (questionnaire to be administered to teachers). A qualitative technique (SMT members and curriculum advisors) was used to identify the challenges that are faced in the implementation of school-based moderation of school Mathematics assessment tasks.

3.9.1.2 Reliability

Reliability of a test or instrument refers to the extent to which it consistently measures what it is supposed to measure (Creswell, 2010: 91). It ensures that the degree of consistency and accuracy with which a questionnaire measures its variables is maintained. The two instruments (questionnaire and interview schedule) were evaluated for reliability during pre-testing stage.

Validity and reliability are related because:

A test can be reliable but not valid. However, a test cannot be valid without being first reliable (Leedy & Ormrod, 2010:31).

3.9.2 Trustworthiness of the study

The researcher ensured that transferability, credibility, conformability and dependability are evident in the study.

3.9.2.1 Transferability

The researcher ensured that the research can be used by other researchers and provided proper acknowledgement is made. Transferability refers to whether the research can be transferred by allowing other researchers to make comparisons with the researcher's own work (Creswell, 2009:90). This was ensured by giving a detailed description of the research methodology, including the location and method of data collection.

3.9.2.2 Credibility

Credibility is the extent to which data collected can be controlled in an objective and reliable manner (Creswell, 2009:90). The researcher interviewed some of the respondents and they completed the questionnaire. This was done to avoid inaccurate and misleading conclusions.

3.9.2.3 Conformability

The researcher ensured that a similar sample size, respondents, and similar research instruments were used. This means that the research results were similar too. Conformability means achieving the same results, even when a different researcher conducted the research (Creswell, 2009:91). This was ensured when the researcher selected respondents who are implementing school-based moderation, such as SMT members and curriculum advisors.

3.9.2.4 Dependability.

According to Shenton (2004:63), a measure of quality of control of the study can also be determined by the dependability of the findings and that the quality in research is dependent on honest and forthright investigations. SMT members and curriculum advisors were informed on time so that they can prepare themselves for the interview. Evidence of the field research, in the form of research instruments, was used to draw the findings, conclusions and recommendations, in order to ensure research dependability.

3.10 RESEARCH ETHICS

The researcher was aware that she was using human subjects, whose rights should be respected at all times. As such the subjects were informed of the nature of the project. Participation was voluntary and could be terminated at any point if the participant intended to withdraw. In case of those who chose to remain anonymous, the researcher respected their decisions and ensured anonymity.

The present researcher applied for permission from the District Senior Manager to conduct the study in the Vhembe District. Appointments were made with Mathematics teachers and SMT members, as well as curriculum advisors. Letters

were given to participants as an invitation to take part in the research. Information was then be collected from them. The researcher personally distributed the questionnaires to the teachers. The questionnaires were collected after a two or three weeks, depending on the respondent's choice.

Participation was voluntary and could be terminated at any point should the participant intend to withdraw. In the case of those who chose to remain anonymous, the researcher was respect their decision and was ensure anonymity. The consent letters were given to all participants and was indicated that they were notcompelled to participate.

In view of the fact that respondents have the right to remain anonymous, the researcher assured all the participants that they would remain unknown to the public. This is because researcher was aware of the fact that she was going to use human subjects, whose rights should be respected at all times.

As such, the subjects were informed of the nature of the project, so that they could understand the importance of the project. Participation was voluntary and could be terminated at any point if a participant felt like withdrawing from the study. In the case of those who chose to remain anonymous, the researcher respected their decision and ensured their anonymity.

The researcher treated all the participants equally and with respect. The participants were not discriminated on the basis of factors such as be it age, sex, colour, or religion. All participants were given a chance to participate freely without being intimidated. Consent forms were given to all those who chose to participate so that they couldread and sign, as a way of acknowledging their rights and privacy. The consent forms were delivered to the participants' work-stations. Before the participants answered the questionnaires, the researcher read the consent forms to them and ensured that everyone understood them. No participant was forced to take part in the research.

3.11 SUMMARY

This chapter clearly stipulates the methodology and instruments that the researcher used to conduct the study. It also provides information on the purpose of the study, where the study was conducted, research design, research instrument, population and sampling, pilot study, data collecting procedure, data analysis, trustworthiness of the study and research ethics. Data analysis and interpretation are discussed in the next chapter which is Chapter 4.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATIONS

4.1 INTRODUCTION

This chapter discusses the analysis of qualitative and quantitative data collected from SMT members, curriculum advisors and Mathematics teachers in the FET band within Vhembe District in Limpopo Province. For each question, findings were presented, compared with the literature reviewed in Chapter 2 and then followed by the researcher's interpretations.

4.2 QUALITATIVE DATA ANALYSIS (See Appendix A)

Data was collected from 8 (eight) SMT members, 6(six) males and 2 (two) females, 4 (four) curriculum advisors. All were males. These data were analysed thematically. Eleven questions were asked under the interview schedule (See Appendix A). Their responses are presented below (See Appendix C).

4.2.1 Understanding of school-based moderation of Mathematics in the FET band in your School

SMT members and curriculum advisors indicated that school-based moderation of Mathematics assessment tasks is the checking and verification of learners' work and teachers' work on Mathematics assessment tasks in the school.

In response to the above findings, some of the SMT members said that:

Therefore, this simple refers to evaluation of the assessment task by the school management team that could be an SMT of the Mathematics. Trying to look to the standard or the task as to whether they meet all the level of assessment and also checking checking the marking of the teachers as to whether it is accurate according to the memorandum (See Ap,pendix C, Line2).

Yaa I think it is the checking of work to be written at the school, it is also the checking of the task before they are given to learners, whether they included all the cognitive levels according to Bloom's taxonomy. That's what I think it is(See Appendix C, Line 3).

To support the idea, one of the Curriculum advisors said that:

School-based moderation is about moderating formal assessment in preparation for the CASS marks for the learners .We have to see that the tasks are standardised. So we have to...when we collect the scripts.... learners scripts, we have to makes sure that teachers have marked them correctly without cheating the learners and that all scripts have been marked following the tools provided in memorandum, rubrics and so on (See Appendix, Line 106).

As can be seen, SMT members and curriculum advisors are well-versed with the literature review that says school-based moderation is a process of checking learners work through controlling and assessing their work through their teachers and this is done by SMT members. This implies that all the respondents have a common understanding of the meaning of school-based moderation (See Paragraph 2.3.4, p.14)

4.2.2 The purpose of school-based moderation of Mathematics in the FET-band

SMT members and curriculum advisors indicated that school-based moderation serves its purpose for quality teaching and learning, provided it is well practised.

One of the SMT members emphasised that:

Yes, it automatically serves its purpose, the reason being that after checking, and getting mistakes, we end up telling the teacher concern they have to go back and re-do I,t until it is done appropriately. From there it means when we talk about results, after learners have written, it will be quality assessment (See Appendix C, Line15).

In this regard, the curriculum advisor said that:

Yes ,it is serving its purpose because whenever we see some mistakes that teachers made, we try to call the teacher and address the problem and if we are not able to contact him oe her then we write in the moderation, as to what needs to be corrected (See Appendix C, Line 111).

The understanding of the purpose of School-based moderation by the SMT members and curriculum advisors concurs with the findings in the literature review, which indicates that school-moderation is done to ensure validity, reliability and fairness. School-based moderation is practised to ensure that all the basic requirements for both learners and teachers are met. This means that SMT members and curriculum advisors have a common understanding of the purpose of school-based moderation (See Paragraph 2.3.3 and 2.3.4 , p.15).

4.2.3 Understanding the meaning quality of teaching and learning of Mathematics

SMT members and curriculum advisors considered quality of teaching and learning of Mathematics as the type of education that ensures that the objectives, goals and learning outcomes of the concepts are met. This is achieved by teaching according to the syllabus, as explained by the work schedule or pace setter teaching education of a high quality and standard.

Some of the SMT members said that:

This means setting quality tasks which are up to standard and wherein all cognitive levels are recognised. It also involves setting tasks with questions of lower order, middle order and higher order and teaching the right stipulated time (See Appendix C, Line 25).

Ehh! These activities suggest the way of assessing the learners. The inclusion of various levels of questions is not that there are some of the question that will just need recall, some of the questions will need various levels of learning. Doing this assessment will make it a point that all the levels of testing are there, so that learners can learn in all spheres (See Appendix C, Line 29).

Some of the curriculum advisors supported the above view by saying that:

Quality teaching and learning of Mathematics refers to eeh...what the teacher needs to do in order to make sure that

those things in Mathematics are taught correctly and in the way that learners can gain knowledge more effectively (See Appendix C, Line 116).

In this regard, the literature review indicates that quality education is one that can be achieved through good planning, decision-making and team work by the whole school. This implies that both SMT members and curriculum advisors understand the meaning of quality of teaching and learning (See Paragraph 2.3.4, p.15).

4.2.4 School-based moderation ensuring quality of teaching and learning of Mathematics

SMT members and curriculum advisors indicated that school-based moderation ensures quality teaching and learning of Mathematics, by assessing learners' inclusion of various levels of questioning.

To support this, one SMT member said :

Yaa! I think that is teaching according to the syllabus and as explained by the work schedule of the subject I think it also include teaching that will result in achieving the learning outcomes of the specific topic in maths and then as a result learners will be interested in the teaching, they will end up understanding the aspect in that topic (See Appendix C, Line 21).

Some of the curriculum advisors emphasized that:

It is through moderation that the required levels are obtained because the CAPS document states the level that should be reached. So if it is followed, it can ensure the quality (See Appendix C, Line120).

School-based moderation ensures that there is adequate curriculum coverage by checking if tasks are testing the required content and skills taught during a specific period or term as indicated in the pace setter and caps document. It also checks for unwritten informal work, if it covers appropriate concepts and skills that are required for certain period (See Appendix C, Line 139).

SMT members and curriculum advisors share the same sentiment with the literature review. The SMT that stated that school-based moderation ensures quality teaching and learning of Mathematics, by monitoring teachers work regularly and learners' knowledge and skills should be assessed. The literature findings indicate that to ensure quality teaching and learning of Mathematics, the SMT should monitor teachers' progress and give support where necessary (See Paragraph 2.4, p.22).

4.2.5 Understanding of pre-moderation of assessment for Mathematics

SMT members and curriculum advisors considered pre-moderation of assessment for Mathematics as the checking and verification of tasks before they are given to learners or before they are administered or written by learners.

In this regard, one SMT members said :

When we talk about pre-moderation, we are looking at the teachers' work together with learners' work before learners are assessed or before learners are assessed. That will enable us to understand know the mistakes that teachers make or may be, say for instance when we talk about addition of marks, you will find that a teacher mistakes but If we do pre-moderation before they write, the tasks they end up knowing what is wrong, then they rectify it. When it goes to learners everything will be up to standard (See Appendix C, Line 42).

One of the curriculum advisors supported this when he was interviewed and said that:

By pre-moderation we mean the moderation of tasks before it is written by learners, checking if the right concepts and skills are assessed, ensuring that all the cognitive levels are covered in the assessment task. We also check the mark allocated of different questions and correspondence between question paper and memorandum .In this case we check if the numbering on the question papers correspond with the numbering on the memorandums. We also check if the marks allocated for specific questions on the question paper correspond with the marks allocated in the memorandum. They should correspond (See Appendix C, Line 123).

The SMT members and curriculum advisors have a common understanding regarding pre-school-based moderation. This means that before assessment tasks

are administered, they are moderated by SMT members. This implies that SMT members and curriculum advisors have a common understanding that assessment tasks should be moderated before it is given to learners (See Paragraph 2.3.8, p.22).

4.2.6 Pre-moderation of the quality of teaching and learning of Mathematics in the FET band

SMT members and curriculum advisors understand the effect of pre-moderation on the quality of teaching and learning of Mathematics in the FETband in a positive way as it enhances the quality of education. This is because learners can learn in all different levels. When pre-moderation of assessment is done, mistakes will be picked up, if they are there and corrections will be done, so the task will be of high standard.

SMT members understand this effect by stating that, when teachers realize that their work was moderated, they do it accurately and carefully by avoiding mistakes.

To support this view, one of the SMT members said:

Pre-moderation means the papers are prepared, then they are given to the SMT to check the type of questions that have been set, then when the moderator is satisfied or is not satisfied there could be some changes to ensure that the standard is high(See Appendix C, Line 41).

One of the curriculum advisors said:

Pre-moderation affects the quality of teaching and learning in Mathematics in the FETband because the teacher becomes focused and follows the prescribed content as stipulated in theCAPS document. If the teacher teaches relevant things to the learners. Sometimes you will find that e teacher is computer illiterate, this negatively affects the quality of school-based moderation and it is a challenge because he will be writing and mistakes will be made (See Appendix C, Line 128).

The findings on how pre-moderation affects the quality of teaching and learning of Mathematics by SMT members and curriculum advisors concur with the literature review, which indicates that the standard of quality of assessment tasks can be maintained if pre-moderation is conducted (See Paragraph 2.3.8, p.22).

4.2.7 Understanding the post-moderation of assessment for Mathematics

SMT members and curriculum advisors viewed post-moderation of assessment as the checking and verification of tasks, marks and scripts after the tasks have been written. In this regard, the SMT sample learners' scripts to be marked according to the memorandum for verification of marking and marks awarded.

In this regard, one of the SMT members emphasised that:

Post means after, so it means that this is the checking by the SMT after the learners have written the task and the teachers have marked. The teacher will mark a test, after marking the test he will send it to the SMT, the SMT will try to look into the marking of the teacher, to see as to whether the marks were allocated correctly or the teacher was marking according to the memorandum (See Appendix C, Line 56).

One of the curriculum advisors supported the above view and said :

Yaa! It is moderation after learners have written the paper, so that will be like, checking the marking, checking the additions, etc. (See Appendix C, Line 135).

SMT members and curriculum advisors have a common understanding of post-moderation that it is the checking of allocation of marks and the marking style. In this regard, it is clear that post-moderation includes the checking or verification of whether marks allocation was done properly, the marker marked according to the memo, marks were recorded properly and feedback was given or not (See Paragraph 2.3.8, p.22).

4.2.8 The impact of school-based moderation on the quality of teaching and learning of Mathematics

Curriculum advisors and SMT members have a common understanding of how school-based moderation impacts on the quality of teaching and learning because it ensures that there is fairness and justice in as far as the marking of scripts, recording of marks and conversion of marks are concern.

One of the SMT members indicated that:

So this school-based moderation, improves teaching and learning because it is done well it enhance the teaching and learning because learners are not just going to learn in the same way, the learners will know that our teachers are going to ask us various types of questions, others will need us to synthesize others will need us to think or reason, some will need us to just to reproduce and in that way the learners will know that learning should be done in various ways (See Appendix C, Line 65).

In this regard some of the curriculum advisors said :

The impact is that the teachers are able to follow and adhere to what we are advising them, as to what must be done in order for the tasks to be said to be to have passed the moderation criteria (See Appendix C, Line 141).

SMT members and curriculum advisors have a common views on the impact of school-based moderation on the quality of teaching and learning. This is also supported by the literature review when indicating that post-moderation of tasks also ensures the quality of teaching and learning because teachers were teaching all the topics stipulated in the policy document without omitting some topics. This implies that school-based moderation influences the quality of learning and teaching (See Paragraph 2.4, p. 25).

4.2.9 Strategies for a positive impact of school-based moderation on quality teaching and learning of Mathematics

Curriculum advisors and SMT members share the same interpretation to ensure that there is a positive impact of school-based moderation, school-based moderators (SMT members) must be well-equipped and trained or work-shopped so that they will be in the know of what to do in school-based moderation.

In this regard one of the SMT members indicated that:

Therefore, like I said in the beginning, the draw backs or the difficulties with moderation, number one, is that people who are moderating are not well-equipped I suggest that they are Thus, trained people and it must be the person of the specific learning area. Someone who is teaching history cannot go and moderate

Mathematics that it means that there must be training and again there must be a hiring of relevant SMT member that is like it was the same things and by the training I'm looking the fact that the moderators must be taught how to develop the moderating tools that can, you know, you cannot just go and take the moderation tool from somebody that you cannot use, so you need to develop your own moderation tool and know how to use It (See Appendix C, Line 76).

To support this, one of the curriculum Advisors said:

Teachers must be part of the strategic plan about the moderation process. They must have inputs and be work-shopped on how the moderation process can be managed. There must also be impact back from teacher whether moderation brings any improvement on their teaching and assessment skills and whether it improves the performance of the learners (See Appendix C, Line 143).

However, literature indicates that school-based moderation can be effectively implemented when teachers go to classes fully prepared and follow the prescribed curriculum. This implies that positive a impact of school-based moderation could be achieved if all the stakeholders are involved in the process of planning the implementation of school-based moderation (See Paragraph 2.4, p. 25).

4.2.10 Challenges of school-based moderation of Mathematics in the FET band in schools

This section discusses the views expressed by SMT members and curriculum advisors on the challenges that they face in the implementation of school-based moderation.

4.2.10.1 Lack of Self- determination

Lack of determination is one of the challenges that is faced by SMT members as indicated by SMT members and curriculum advisors.

In this regard, one of the SMT members said :

Mm I have got two suggestions to make when it comes to that one. The first one can either be a constant reminder of the due dates by management and to remind one the management can give themselves allowance in giving out the due dates so as to cover those who are going to submit late. Knowing that if we are saying today is the due date, we must also have may be two extra days which these teachers are not in the know. The second one is that it motivates our teachers to be determined and dedicated to their work, it can be successful (See Appendix C, Line 95).

To emphasize this statement, one of the curriculum advisors indicates that:

The biggest challenge is that most of the SMT that moderate Mathematics tasks were not trained for Caps because they are from different streams. They are not specialists in the subjects and they are not determined (See Appendix C, Line117).

The findings from the literature indicate that determination is a desire to get a job done and this includes characteristics such as initiative, persistence, dominance and drive. Teachers who are determined, are willing to assess themselves, are also proactive and have the capacity to persevere in the face of obstacles. However teachers who lack determination are not proactive and they have no capacity to persevere in the face of obstacles. This implies that those teachers were not getting their job done and therefore they resist the process of moderation (See paragraph 2.6.1, p. 26).

4.2.10.2 Lack of integrity

SMT members and curriculum advisors indicated that teachers do not have integrity. They cannot be trusted.

One of the SMT member indicated that:

Yaa! When we talk about challenges, you may find that, eh! Some of the teachers are, there are some who are lazy, who are not faithful, who don't even come to school even when we talk about the situation of moderation they feel that they are not doing their work (See Appendix C, Line 89).

A curriculum advisor supported that and said that:

Yaa! The challenge is that sometimes teachers do not feel at ease when moderators go there. Some of courses they have problems they have problems with Mathematics. They think curriculum advisors are there to find fault on them. Therefore, that is why sometimes there is a challenge(See Appendix C, Line149).

The literature reveals that integrity is the quality of honesty and trustworthiness. Teachers who have integrity are those teachers who adhere to a strong set of principles and take responsibilities for their actions. Therefore lack of integrity leads to lack of adherence to the policies and implementation of school-based moderation. This implies that SMT members concurred with curriculum advisor and the literature review in this aspect, that one of the challenges is lack of integrity (See paragraph 2.6.2, p. 27).

4.2.10.3 Misconceptions about of school-based moderation of Mathematics

SMT members and curriculum advisors indicate that teachers have wrong conceptions about moderation. They view it as a way to punish them. They believe school-based moderation is just a tool used by the Department of Education, through SMT members, to punish them. Consequently, they develop a negative attitude towards it. This is one of the factors that negatively affects, the smooth running of learning and teaching in the school.

One of the SMT members said:

So in our school, like I have said already, the lack of knowledge. The people who are moderating do not know what to look for on the question papers or in the learner's script. As I have said, they need to be trained so the challenge is that one of lack of knowledge. The second challenge is that one of fear of being victimised by the peers, you can feel scared to tell one of your colleagues that you are not marking correctly, you are not doing this correctly and another challenge is that where the government is unable to employ a relevant person, in some of the schools, the SMT members who is a historian will be forced to just go and put the ticks or moderate Mathematics which is not his field (See Appendix C, Line 85).

A Curriculum advisor emphasised this statement and said that:

Yaa! In most cases what we have is that the SMT is not maths specialist in Mathematics. So that is the challenge we see. And again the SMT do not monitor the moderation process and in many cases teachers themselves do some adjustments if necessary without proper consultation and these show lack of integrity on the side of a teacher (See Appendix C, Line 150).

The literature indicates that teachers sometimes fail to satisfy the requirements of the process of moderation not because they do not understand the process but because they do not want to comply with the procedures and policies regarding moderation (See Paragraph 2.6.3, p.27).

This implies that SMT members support the literature review on the aspect that teachers have misconception about school-based moderation.

4.2.10.4 Inadequate understanding of school-based moderation

SMT members also concurred with the curriculum advisors on one of the challenge that SMT members are confronted with in the implementation of school-based moderation. They believe that teachers have inadequate understanding of school-based moderation.

In this regard, one of the SMT members said :

So in our school, like I have said already, lack of knowledge is a major challenge. The people who are moderating they do not know to look for in the question papers or in the learner's script. As I have said, they need to be trained so the challenge is that one of lack of knowledge. The second challenge is that one of fear of being victimised by peers, you can feel scared to tell one of your colleagues that you are not marking correctly, you are not doing this correctly and another challenge is that one where the government is unable to employ a relevant person, in some of the schools, the SMT members who is a historian will be forced to just go and put the ticks or moderate Mathematics which is not his field (See Appendix C, Line 85).

One of the curriculum advisors said the following to support the view:

The biggest challenge is that most of the SMTs that moderate Mathematics tasks were not trained for Caps because they are from different streams. They are not specialists in the subjects. They are not determined. They cannot do justice in moderation maths activities since they do not have the knowledge thereof and also we had also have some union members who are not cooperative. They take moderation as witch-hunting and it also shows that they lack-self-confidence (See Appendix C, Line 151).

Literature review indicates that most of the teachers do not seem not to understand the meaning and importance of school-based moderation. They do not see the role of moderation and they also do not understand who should perform it in a school situation. This implies that SMT members and curriculum advisors have a common views in this regard (See Paragraph 2.6.4, p.28).

4.2.10.5 Lack of dedication and commitment to their work

The curriculum advisors and the SMT members concurred with the view that one of the biggest challenge is lack of dedication and commitment among teachers.

One of the SMT members indicated that:

Teachers do not understand the importance of school-based moderation and they do not seem to be dedicated to their work. (Response two) - Teachers have a negative attitude towards school-based moderation, they see it has fault finding(See Appendix C, Line 92).

To support the argument, one of the curriculum advisors said :

The biggest challenges are that you find that teachers do not adhere to the moderation tool that we are using so sometimes we expected them to the statistical analysis of the results they do not include it. This tells us that they lack understanding, sometimes they include only one work schedule, whereas we are expecting three, so we can also keep one. And the correction that are made on the mark schedule using challenges that we encounter (See Appendix C, Line 151).

The literature indicates that teachers should be committed and dedicated enough to their school work, so as to maintain the standard and to achieve and quality teaching

and learning. This implies that SMT members and curriculum advisors share the same view in this regard (See Paragraph 2.6.5, p.27).

4.2.10.6 Inadequate self-confidence

SMT members and curriculum advisors concurred with each other on the aspect that inadequate self-confidence is one of the challenges. They share the idea that teachers do not believe in themselves.

One of the SMT members indicated that:

Teachers are negative about school-based moderation they submit task late, they see it as something to find fault about their work, they have got wrong perceptions, they feel that they cannot do quality work. Some of the teachers are not computer literate, so it becomes a problem because most of the things now being done by computers. for example, if one wants to teach using overhead projector (See Appendix C, Line 87).

To support the above view, one of the curriculum advisors said:

The biggest challenge is that most of the SMsT that moderate Mathematics tasks were not trained for Caps because they are from different streams. They are not specialists in the subjects. They cannot do justice in moderation maths activities since they do not have the knowledge thereof and also we also have some union members who are not cooperative. They take moderation as witch hunting and it shows that they lack-self-confidence (See Appendix C, Line 151).

The literature review indicates that self-confidence implies the ability to be certain about one's competences and skills. This implies that SMT members and curriculum advisors have a common understanding indicating that when a teacher lacks self-esteem s/he regards moderation as a tool of punishment and finds it very stressing. He does not believe in him/herself in making difference (See Paragraph 2.6.6, p. 29).

4.2.10.7 Lack of problem-solving skills

SMT members and curriculum advisors both share the view that lack of problem-solving skills on the side of both management and teachers is one of the challenges.

One of the SMT members said:

The challenge is with little experience for to formulating your own questions it is a challenge but though time and experience, but majority of our teachers they are young and inexperienced so for them to have their own questions is not easy but with the teachers a getting there and they lack problem-solving skills” (See Appendix C, Line 88).

To support the above argument, one of the curriculum advisors said that:

For quality teaching teachers must have gone through participations, consult peers and people from other schools. They must apply a variety of teaching methods and acquire problem-solving skill in order to accommodate every learner in the classroom (See Appendix C, Line 113).

The literature review indicted that problem-solving skills is the ability to solve new unusual, ill–defined work problems. Problem-solving skills demand that teachers understand their own capacity as managers of their subjects and therefore apply possible solutions specifically for their subjects. This implies that curriculum advisors concur with the literature review, indicating that a teacher who lacks problem-solving skills will fail to gather information regarding that problem and will be unable to formulate new understanding about the problem (See Paragraph 2.6.7, p. 29).

4.2.10.8 Poor time management

Poor time management is another challenges as indicated by SMT members and curriculum advisors.

Some of the SMT members indicated that:

There are many challenges regarding school-based moderation. One of them is the attitudes teachers have towards school-based moderation. The other one is regarding time for submission teachers delay and submit on the last day for moderation (See Appendix C, Line 90).

Yaa! Hey, when it comes to my school, eh, guess, we do have a lot of maths teachers but amongst them we have got teachers who submit their task to be moderated on the last day or on the last minute which will result in little time for checking that paper before it is given to learners. And sometimes the paper is approved with mistakes, either be types or framing of questions even the instructions which are not clear to learners. These teachers most of them also submit their marked scripts on the last due date, this makes the moderator to have more time to go through the required number of scripts (See Appendix C, line 86).

One of the curriculum advisors indicated that:

School-based moderation is very important, as we have indicated. It saves time, we could not waste time we go there and moderate from there, from there we discuss everything with teachers. This also help us to teach our teachers to manage time because they sometimes fail to do things on time (See Appendix C, Line 139).

The literature review indicates that time management is very important for one to succeed in life or in any situation. For teachers to cover all the themes and topics stated in a work programme and work schedule, good management of time is needed. Therefore, if the teacher fails to cover all the topics on time, s/he would not want to be moderated, either In school level or externally. This implies that SMT members and the literature review have a common understanding that time management is one of the factors that is affecting the effectiveness of the implementation of school-based moderation (See Paragraph 2.6.8 P. 30).

4.2.10.9 Inadequate teachers progress Monitoring

SMT members and curriculum advisors indicated that, like the progress of a learners need to be monitored now and then, as well as teachers. The systematic monitoring of teachers' progress towards desired academic and behavioral goals likely had its origin in the precision teaching work.

One of the SMT members indicated the following to support the statement stated that:

Teachers resist the change because they are so slow to adjust on working with their SMT's and SMT s when submitting their work.

SMT s on the other hand are not getting enough time to monitor teachers' work (See Appendix C, Line 91).

To support the view of the SMT members above, a curriculum advisor said that:

Yaa! In most cases what we see is that the SMT are not Mathematics specialist. So that is the challenge we see. And again the SMT do not monitor the moderation process and in many cases teachers themselves do some adjustments if necessary without proper consultation and these show lack of integrity on the side of a teacher (See Appendix C, Line 150).

The literature review indicates that progress monitoring become a critical component of precision teaching, data-based programme, modification, curriculum-based assessment, instructional consultation and variety of collaborative problem-solving team models, referred to as teacher assistance teams. This implies that SMT members concur with the literature review that teachers' progress is not well managed by SMT members (See Paragraph 2.6.9, p. 30).

4.2.10.10 The need for technology enhanced progress monitoring system

The need for technology enhanced progress monitoring system is also a challenge as indicated by SMT members and curriculum advisors.

One of the SMT members said:

Teachers are negative about school-based moderation they submit task late, they see it as something to find fault about their work, they have got wrong perceptions, they feel that they cannot do quality work. Some of the teachers are not computer literate, so it becomes a problem because most of the things are done by computers. For example, if one wants to teach using an overhead projector (See Appendix C. Line 87).

To support this view .one of the curriculum advisors said:

Pre-moderation affects the quality of teaching and learning in Mathematics in the FET band because the educator become focused and follows the prescribed content, as stipulated in policy caps document. If marks the teacher teaches relevant things to the learners. Sometimes you will find that a teacher is computer illiterate, this affect the quality of school-based moderation and it is a challenge because he will be writing and mistakes will be made (See Appendix C, Line 128).

The literature indicate that the use of computers in the assessment process has consisted of computer–adaptive testing, computer-assigned instruction, computerized collection of data on teacher performance and the use of technological teaching media, like overhead projectors makes teaching and learning effective. The use of computer to manage data and do performance analyses and reporting functions like scoring and graphing, may help the teacher concerned to illustrate his/her performance, as expected by the moderators. This implies that SMT members concur with the literature, that the knowledge of technologies such as the use of a computer is of importance in the implementation of school-based moderation (See Paragraph 2.6.10, p. 31).

4.2.11 Strategies to be used in school-based moderation to improve the situation

The following are, among others, the strategies to be applied for school-based moderation to be effective or serve the purpose.

4.2.11.1 Departmental workshops

SMT members and curriculum advisors suggested that some of the strategies that can be applied are that the Department of Education must employ competent people to do school-based moderation and SMTs must be fair and just to their fellow colleagues and must not be afraid of them and must do the right thing. SMT members and curriculum advisors indicated that it is the duty of the department of education to conduct workshops to train teachers on the implementation of school-based moderation.

Some of the SMT members indicated that:

The strategies that can be implemented are teachers and SMTmembers should be work shopped. The Department of Education must conduct work-shops based on the implementation of school-based moderation. The dates for the submission should be realistic, so that everybody will get enough time to work (See Appendix C, Line 89).

There must be team work at school and SMT members must be work shopped by the Department on a monthly basis, in order to improve the situation (See Appendix C, Line 100).

A curriculum advisor supported this by indicating that:

Well, out-sourcing, we can also go for other Mathematics teachers we know to be good they must come and assist in some other schools that will be very beneficial very much. There must also be workshops both from the Department of Education and from schools themselves (See Appendix C, Line 154).

The literature indicates it should not be SMT members only, but all teachers who are involved in a school situation. These workshops must be for the importance of school-based moderation and how it affects the quality of learning Mathematics. Initially training could be aimed at the improvement of assessment instruments and on the improved collection and interpretation of assessment evidence. It could also train teachers in planning and conducting assessment events and the setting and maintenance of common standards. In this regard the moderation manager could consider setting up an approach aimed at the creation and maintenance of common standards, used with some success all over the world (See Paragraph 2.7.1 p.31).

4.2.11.2 School- based workshops

School-based work-shops or training can be one of the strategy that can be used to improve the situation as mentioned by SMT members and curriculum advisors.

As a way of supporting the above statement, one of the SMT members said that:

Organise workshops at schools for teachers on how moderation is done, what is to be moderated, discuss moderation tools with teachers and make sure teachers have moderation tools before they submit their task (See Appendix C, Line 96).

To support this, some of the curriculum advisors said that:

I think the best way is to meet with the teachers and tell them ,showing the instrument that we are using as to which other things must be involved in the moderation so that they know exactly what is expected and so that they will be able to do self-monitoring, using the same strategies that we use as curriculum advisors. This can be in the form of a workshop at schools (See Appendix C, Line 146).

One of the biggest strategy is that immediately after moderation, if possible we can meet with the teachers, to explain as to what needs to be corrected and so on .This will help them to acquire problem-solving skills that they do not have. The other thing is that it could be better if when we moderate we go to schools instead of collecting files because as soon as there is a problem we can easily address in the school situation (See Appendix C,Line 156).

The literature review indicates that SMT members have to develop staff training programmes both school-based and school focused so as to develop and achieve educational objectives, in accordance with the needs of the school. While post-moderation meetings are essential and valuable, real changes was only occur if education managers create opportunities for their staff to be trained as moderators at schools. Training workshops should be run by qualified and/or registered moderators and should focus on practical issues. SMT members and curriculum advisors have a common understanding with the literature review when they believed that one of the strategies for school-based moderation to be effective is through workshops of all the stakeholders. This implies that what moderators should be workshopped at schools on the process of moderation (See Paragraph 2.7.2, p.32).

4.2.11.3 Recording and reporting

Recording and reporting is said to be one of the strategies that can be used to improve the situation in school-based moderation, as indicated by SMT members and curriculum advisors.

One of the SMT members said:

The strategy we need is to adopt and mentor, because that is one area that can assist our situation. We need to assign our more experienced teachers to be mentors so that they teach young teachers on the recording and reporting of learners' performance to their senior teachers, so these young teachers will learn from experienced teachers and that they will learn from the master teacher. Young teachers will learn from the master teacher, in that way I think we will achieve our objectives (See Appendix C, Line 97).

A curriculum advisors emphasized these aspects and said :

All stakeholders must be involved in strategic planning of the moderation process, and if that is properly done they will have be a sense of ownership and cooperation. Another thing is that teachers and SMT must report progress of learners quarterly and monthly(See Appendix C, Line153).

The literature review describes recording as the process by which the teacher is able to document the level of a learner's performance in a specific assessment task. It indicates learner's progress towards the achievement of knowledge as prescribed. Records of learner performance should provide evidence of the learner's conceptual progression with a great enthusiasm and his or her readiness to progress or to be promoted to the next grade. Recording is also a process of communicating learner's performance to learners, parents, school and other stakeholders. In Mathematics learner performance can be reported in many ways. It is through recording and reporting wherein a teacher being helped by his or her SMT can use this as a strategy for school-based moderation to serve its purpose. This implies that SMT members concur with the literature review on the aspect of recording and reporting learners' progress (See Paragraph 2.7.3, p.33).

4.2.11.4 Self-monitoring

SMT members and curriculum advisors indicate that one of the strategies that can be applied is self-monitoring. Teachers have to monitor their work before they submit it to their school-based moderator.

One of the SMT members supported the aspect and said that:

Yaa, I think most moderators ehm... they need to undergo a very serious training so that they can perform their task easily knowing what they are to check when they are moderating may be a maths paper for avoid approving something which they are not up to standard. Teachers must be trained to monitor their own work before someone monitors it(See Appendix C Line 77).

To support this, one of the curriculum advisors said:

I think the best way is to meet with the teachers and tell them ,showing the instrument that we are using as to which other

things must be involved in the moderation so that they know exactly what is expected and so that they will be able to do self-monitoring using the same that we use as curriculum advisors. This can be in the form of a workshop at schools (See Appendix C, Line 146).

The literature review indicates that one of the strategies that can help in school-based moderation is self – monitoring. When teachers monitor their activities in school before these activities are monitored by their seniors, it helps the teacher to find out his/her mistakes and improve on them or correct them before someone who is moderated sees them. This implies that SMT members concur with the literature, which indicated that teachers should monitor their work before it is submitted to SMT s for school-based moderation (See Paragraph 2.7.4, p.33).

4.2.11.5 Involvement of learners in assessment processes

SMT members and curriculum advisors have a common understanding indicating that learners should be involved in assessment progress.

One of the SMT members indicated that:

The best strategy that I think is that when we talk about the education of a learner, we have to involve all stakeholders as a strategy, ranging from SMT members, teachers, and a learner together with parent. So we work hand in hand,, I think that kind of situation where we can improve our situation can happen very well and all of us must also become positive and becoming punctual we can end up doing things on time that will end up missing that even when exam are coming, the exam will find us being prepared (See Appendix C, Line 98).

One of the curriculum advisors supported the above statement by saying that:

All stakeholders must be involved in strategic planning of the moderation process and if that is properly done they will have sense of ownership and be cooperative (See Appendix C, Line 153).

The literature indicates that one of the strategies for school-based moderation to be effective is through involvement of learners as partners in assessment process. This implies that SMT members and curriculum advisors concurred with the idea that all

stakeholders, including learners should be involved in school-based assessment (See Paragraph 2.7.5, p.33).

4.2.11.6 Support, monitoring and evaluation

Support, monitoring and evaluation can be used as some of the strategies to improve the situation, as indicated by SMT members and curriculum advisors.

One of the SMT members indicated that:

...And even when we talk about ourselves as SMT members and SMT or SMT S even when we are telling teachers, we are not victimising them or it is not just like witch-hunt, we are telling them that in order for us to have good results, we support them. We have to do this through monitoring with support and if we become positive as from the SMT members and SMT together with our teachers (See Appendix C, Line 80).

In this regard, one of the curriculum advisors said that:

Well, out sourcing, we can also go other Mathematics teachers we know they are good they must come and assist by monitoring and support in some other schools that will be very good to assist, very much (See Appendix C, Line 154).

The literature describes support as the efforts of the Department of Education to assist institutions that aim to improve the quality of teaching and learning of Mathematics in schools. Monitoring and evaluation refers to the responsibility of both institution and the wider education system to monitor the extent to which efforts to transform our institutions have succeeded, and to constantly evaluate and review the efficiency of our policies and practices. When the department provides these to schools, quality of teaching and learning improves for better. This means that curriculum advisors concur with literature review on the statement that the department should give support to teachers as a way of improving the effectiveness of school-based moderation (See Paragraph 2.7.6, p. 33).

4.3 QUANTITATIVE DATA ANALYSIS (See Appendix B)

This Questionnaire was completed by teachers, senior teachers and departmental heads (SMTs). The questionnaire was divided into six sections. Section 1 was the general information, section 2 was the meaning of school-based moderation and its purpose, section 3 was about the challenges of school-based moderation, section 4 was issues and documents to be monitored, section 5 was about the impact of school-based and section 6 was about strategies to improve school-based moderation.

4.3.1 General information

In this section, the gender, age category, academic and professional qualifications are discussed and analyzed.

4.3.1.1 Gender

In Table 4.1, the results clearly show that both sexes were well-represented in this study. About 36% (27) of the respondents were females while 64% (48) were males. All of them responded and their opinions have a direct influenced in this study. Females were in the minority but nevertheless 36%(27) is representative enough to be considered views of females. This means that there are more male teachers who teach Mathematics than females.

Table 4.1: Gender

Gender	Frequency	Percent
Male	48	64
Female	27	36
Total	75	100

4.3.1.2 Age category

The age distribution of the respondents is presented in the Table 4.2. According to Table 4.2, most of the respondents were in the age between 40-59 years when two categories are added and they formed 88%(66) of the respondents. No respondent was in the group of age of 60+ years. Only 2.7%(2) of teachers are youth. This means that young teachers are mostly not teaching Mathematics in the FETband.

Table 4.2: Age categories

Age	Frequency	Percent
20-29	2	2.7
30-39	7	9.3
40-49	38	50.7
50-59	28	37.3
60 +	0	0
Total	75	100

4.3.1.3 Academic qualifications

Table 4.3 presents the academic qualifications of the respondents. In Table 4.3 below, 33.3% (25) of the respondents had a Bachelor of Science in Education (BSc.Ed) qualification and 26.7% (20) had a B.A Honours. A high percentage of 33.3% (25) of the respondents have BSc.Ed. This implies that Mathematics is being taught by relevant people with relevant qualifications.

Table 4.3: Academic Qualifications

Academic Qualifications	Frequency	Percent
STD 10	8	10.7
BA.ED	11	14.7
Bsc.(Ed)	25	33.3
B.A. HONS	20	26.7
B.ED	11	14.7
Total	75	100

4.3.1.4 Professional qualifications

Table 4.4 indicates that 50.7% (38) of respondents had a professional Secondary Teachers Diploma (STD). 30.7% (23) of the respondents had a University Education Diploma (UED). 13.3%(10) had Bachelor in Technology (B. TECH). The majority, 81.4%(61) of participants are of teachers with Mathematics and sciences and they are relevant participants in the study. This implies that, when the percentage of participants with UED and those with STD are added together, they give a high percentage of 81.4%(61). Therefore, this is a high percentage of participants who are relevant to the study and they are qualified as teachers.

Table 4.4: Professional Qualifications

Professional Qualifications	Frequency	Percent
STD	38	50.7
UED	23	30.7
B.TECH	10	13.3
OTHER	6	8
Total	75	100

4.3.1.5 Major subjects at tertiary institutions

Table 4.5 indicates that 37.3% (28) of the Mathematics teachers took Mathematics as their major subject, 26.7% (20) took Mathematics and Physical Sciences as their major subjects, followed by Geography and Mathematics which is 17.3% (13). 1.3% (1) of respondents took Agricultural Sciences, Accounting, 4% (3) were those who

took Geography and those who did Life Sciences and Life Sciences and Mathematics, 2.7% (2) was for those who did Mechanical Technology and 1.3% (1) was for other subjects. This means that majority, 64%(48) of the respondents who teach Mathematics have done it as a major subject in high school or secondary. Therefore, they are relevant participants in this study.

Table 4.5: Major subjects at tertiary institutions

Major Subjects	Frequency	Percent
Agricultural Sciences	1	1.3
Accounting	1	1.3
Geography	3	4
Life Sciences	3	4
Mathematics and Physical Sciences	20	26.7
Mathematics	28	37.3
Mathematics and Geography	13	17.3
Mathematics and Life Sciences	3	4
Mechanical Technology	2	2.7
Other	1	1.3
Total	75	100

4.3.1.6 Number of years teaching Mathematics

Table 4.6 shows that 28% (21) of the respondents had taught Mathematics for 21-25 years, 21.3% (16) of the respondents taught for 16-20 years, 20% (15) taught for 26 years and above, 18.7% (14) taught for 11-15years, 8% (6) taught for 6-10years and 4% (3) of the respondents taught Mathematics for 0-5 years. Almost half, 49.3%(37). of the teachers have been teaching Mathematics for 16 to 25 years.

Table 4.6: Number of years teaching Mathematics

Number of Years Teaching Mathematics	Frequency	Percent
0-5	3	4
6-10	6	8
11-15	14	18.7
16-20	16	21.3
21-25	21	28
26 +	15	20
Total	75	100

4.3.1.7 Total Number of learners being taught by teachers in Mathematics

Table 4.7 represents the number of learners in the FET band doing Mathematics. The majority of teachers were teaching more than 350 learners. Some 32 % (24) of teachers who were teaching Mathematics in the FET band taught more than 350 and more learners at the time of the study. 16% (12) of the respondents were teaching 100-149, 150-199 and 201- 249 learners in the FETband. Teachers who were teaching 50-99 and 0-49 learners make 13.3% (10) and 6.7% (5) respectively. This implies that majority, 80%(60) of the teachers are teaching more than 100 learners in the FET band in Mathematics. Therefore, school-based moderation of Mathematics is done at more than 100 learners in most of the schools.

Table 4.7: Total number of learners being taught by teachers in Mathematics

Number of learners in the Mathematics FET Band	Frequency	Percent
0-49	5	6.7
50-99	10	13.3
100-149	12	16
150-199	12	16
200-249	12	16
350 +	24	32
Total	75	100

4.3.1.8 Position held in the school

Table 4.8 shows that 93.3% (70) of the respondents were Mathematics teachers college-secondary level 1 teachers (CS1). 6.7% (5) of the respondents are senior teachers. This implies that the majority, 93.3%(70) of teachers who are teaching Mathematics are level 1 teachers and very few teachers who teach Mathematics are senior teachers. This implies that a high percentage of participants are those that believe their assessment tasks should be moderated .

Table 4.8: Positions held in the school

Position Held in the School	Frequency	Percentage
Teachers	70	93.3
Senior Teachers	5	6.7
Total	75	100

SECTION 2: WHAT SCHOOL-BASED MODERATION IS AND ITS PURPOSE

4.3.2.1 School-based moderation is important

Table 4.9 indicated that, 64% (48) of the respondents strongly agreed, that school-based moderation is important and 36% (27) agreed to that which indicate that no one disagrees that. This shows that all, 100%(75) of teachers understood the

purpose of school-based moderation. Literature reviews that there are various ways in which the quality of teaching and learning could be monitored, one of which is through moderation. Therefore, moderation ensures that the quality of teaching and learning occurs. This implies that no teacher does not see the importance of school-based moderation and also take consideration the purpose of school-based moderation (See paragraph 2.3.3, p. 14).

Table 4.9: School-based moderation is important

	Frequency	Percentage
Strongly Agree	48	64
Agree	27	36
Strongly Disagree	0	0
Disagree	0	0
Total	75	100

4.3.2.2 Teachers understand school-based moderation

Table 4.10 shows that 4% (3) of teachers strongly disagreed and those teachers understood school-based moderation. 46.7% (35) of the teachers agreed, 49.3% (37) strongly agreed. The majority 96%(72) of the respondents agreed and strongly agreed that teachers understand school-based moderation. Literature review showed that teachers have a misconception about school-based moderation. However, the results show that teachers understand the meaning of school-based moderation (See Paragraph 2.3.1. p.12). This suggests that less or no challenges will be experienced in the implementation of school-based moderation because teachers are knowledgeable.

Table 4.10: Teachers' understanding school-based moderation

	Frequency	Percentage
Strongly Agree	37	49.3
Agree	35	46.7
Strongly Disagree	3	4
Disagree	0	0
Total	75	100

4.3.2.3 School-based moderation of Mathematics serves its purposes

Table 4.11 shows that 57.3% (43) teachers strongly agreed that school-based moderation had served its purpose. This makes only 10.7% (8) who strongly disagreed that school-based moderation had served its purpose, 32% (24) agreed with that statement, 10.7% (8) strongly disagreed and no one disagreed on that. Majority, 89.3%(67) agreed with the statement. Literature indicates that school-based moderation is one of the tools for effective learning and teaching as well as good results. Before the formal assessment tasks are given to learners, they should be moderated by the SMT to check if they are of good quality. This means that many teachers have realized that the process of school-based moderation is achieving its aims of which one of them is to ensure quality teaching and learning of Mathematics (See paragraph 2.5, p. 23).

Table 4.11: School-based moderation of Mathematics serves some purposes

	Frequency	Percentage
Strongly Agree	43	57.3
Agree	24	32
Strongly Disagree	8	10.7
Disagree	0	0
Total	75	100

4.3.2.4 Problem-solving skill is considered important when assessing

Table 4.12 indicates that 46.7% (35) of the teachers strongly agreed that there are skills considered important when assessing and 25.3% (19) agreed with the statement. Only 12% (9) disagreed with the statement and 16% (12) of the respondents strongly disagreed. The majority, 70.6%(54) of the respondents, agreed with the statement. The literature indicated that problem-solving skills are the ability to solve new unusual, ill-defined work problems. The skill includes being able to define significant problems, gather information problems, formulate new understanding about the problem and generates prototype plans for problem solutions. For a teacher to be effective in teaching Mathematics, there are some critical areas of concern ranging from skill acquisition to teaching styles or methods. It means that skills are considered important in assessing learners. Findings from literature also support the idea (See paragraph 2.5, p. 24).

Table 4.12: Skill is considered important when assessing

	Frequency	Percentage
Strongly Agree	35	46.7
Agree	19	25.3
Strongly Disagree	12	16
Disagree	9	12
Total	75	100

4.3.2.5 Knowledge is considered important when assessing

Table 4.13 shows that 53.3% (40) of teachers strongly agreed with the statement that knowledge is considered important when assessing Mathematics tasks, 46.7% (35) agreed with the statement and no teachers disagreed or strongly disagreed with the statement. All, 100%(75) of the respondents agreed with the statement Literature indicated that the assessment to learners would be fair when what is taught and learnt during the year is the same. This means that when learners are being assessed by teachers, but knowledge is an important aspect (See paragraph 2.5, p. 24).

Table 4.13: Knowledge is considered important when assessing

	Frequency	Percentage
Strongly Agree	40	53.3
Agree	35	46.7
Strongly Disagree	0	0
Disagree	0	0
Total	75	100

4.3.2.6 Tasks measure the aspects which are important to measure

Table 4.14 shows that 44% (33) of the teachers strongly agreed that tasks given to a learners measure aspects of education that are supposed to be measured and 40% (30) agreed. Only 14.7% (11) strongly disagreed and 1.3% (1) disagreed with the statement. The majority, 84%(63) of the respondents, agreed with the statement. Literature views moderation as a process of ensuring that teachers are assessing work according to agreed standards, and that there is consistency from year to year and within districts, province and nationally. Therefore, school-based moderation also measures the standards which are agreed upon. This implies that tasks given to learners measures aspects of education that are supposed to be measured (See paragraph 2.5, p. 24).

Table 4.14: Tasks measure the aspects which are important to measure

	Frequency	Percentage
Strongly Agree	33	44
Agree	30	40
Strongly Disagree	11	14.7
Disagree	1	1.3
Total	75	100

Table 4.15 indicates that 38.7% (29) agreed that understanding cultural diversity and harmonious cultural relations was done, 37.3% (28) also strongly agreed with that. But 20% (15) and 4% (3) strongly disagreed and disagreed respectively. The

majority, 76%(57) of the respondents, agreed with the statement. Therefore, many respondents agreed that understanding cultural diversity and harmonious cultural relations were done.

Diversity in the classroom refers to teaching learners with different cultural background and language backgrounds in the manner that all learners benefits and as a teacher, one must be able to create harmonious cultural relations. (See paragraph 2.5, p. 23).

Table 4.15: Diversity and harmonious cultural relations are understood by teachers

	Frequency	Percentage
Strongly Agree	28	37.3
Agree	29	38.7
Strongly Disagree	15	20
Disagree	3	4
Total	75	100.00

4.3.2.8 Harmonious cultural relations are done

Table 4.16 shows that 40% (30) of respondents agreed that harmonious cultural relations exist and 40% (30) strongly agreed with the statement. 16% (12) and 4% (3) strongly disagreed and disagreed respectively on the statement. Therefore if school-based moderation to be effective harmonious cultural relations should exist. The majority, 80%(60) of the respondents, agreed with the statement. Literature review shares the same sentiment by saying that the relationships learners in a classroom develop may also result in a long-lasting friendship, isolation or lack of belongingness can contribute to learner attrition and this will affect his /her performance in a negative way, either in group assessment tasks or in individual tasks. This implies that many teachers feel believe that harmonious relations are encouraged (See paragraph 2.5, p. 24).

Table 4.16: Harmonious cultural relations are done

	Frequency	Percentage
Strongly Agree	30	40
Agree	30	40
Strongly Disagree	12	16
Disagree	3	4
Total	75	100.00

4.3.2.9 Assessment accurately represents the social phenomena

With regard to Table 4.17 it is clear that 52% (39) of the respondents strongly agreed; 32% (24) agreed; 10.7% (8) strongly disagreed and 5.3% (4) agreed that assessment accurately represents the social phenomenon. The majority, 84 % (63) of the respondents, agreed with the statement. The literature reveals that validity is the extent to which an account accurately represents the social phenomenon to which it refers. This indicates that many teachers believe that assessment represents the social phenomenon (See paragraph 2.5, p. 24).

Table 4.17: Assessment accurately represents the social phenomena

	Frequency	Percentage
Strongly Agree	39	52
Agree	24	32
Strongly Disagree	8	10.7
Disagree	4	5.3
Total	75	100.00

4.3.2.10 Performance reflects marks as an accurate portrayal of performance

With regard to learners' performance, reflecting marks as an accurate portrayal of learners' mastery knowledge, skills and values, in Table 4.18, 33.3% (25) of the respondents agreed and 33.3% (25) strongly agreed with the statement and only 18.7% (14) strongly disagreed and 14.7% (11) disagreed with the statement. The majority, 66.7% (50) Of the respondents agreed with the statement. However, the present researcher's view is that the performance of learners is reflected by the

marks that portrays their knowledge, skills and values because learners are not only taught knowledge, but they also are taught values and norms ,like respect, honesty, punctuality, responsibility and so forth . The findings from literature indicated that that moderation should be done to ensure that the tasks given to learners measure the aspect of education which society feels is important to measure (See Paragraph 2.7.3, p.31).

Table 4.18: Performance reflects marks as an accurate portrayal of performance

	Frequency	Percentage
Strongly Agree	25	33.3
Agree	25	33.3
Strongly Disagree	14	18.7
Disagree	11	14.7
Total	75	100.00

4.3.2.11 School-based moderation involves assessment and monitoring

Table 4.19 shows that only 1.3% (1) disagreed that school-based moderation involves assessment, evaluation, monitoring, analyzing and controlling learners' work. No one strongly disagreed with the statement. Another 54.7% (41) strongly agreed and 44% (33) agreed with the statement that school-based moderation involves the assessment, evaluation, monitoring, analysis of and control of learners' work. Majority, 98.7%(74) of the respondents agreed, with the statement. Literature review further indicated that monitoring and moderation should not only focus on formal or written tasks. This implies that many respondents know what school-based moderation entails and that their work must be monitored (See paragraph 2.3.9, p. 20).

Table 4.19: School-based moderation involves assessment and monitoring

	Frequency	Percentage
Strongly Agree	41	54.7
Agree	33	44
Strongly Disagree	0	0
Disagree	1	1.3
Total	75	100.00

4.3.2.12 The accurate assessment of data generated is what is measured

Table 4.20 shows that 50.7% (38) strongly agreed that accurate assessment of data by tests and exams indicate what we are measuring and 41.3% (31) agreed on that. 6.7% (3) strongly disagreed and 6.7% (3) disagreed with the statement. The majority, 92%(69) of the respondents agreed with the statement. The literature review indicates that reliability refers to how accurate is the assessment data generated, particularly through national test and examinations as an indicator of what we want to measure. This is an indication that national or common tests and examinations are important in assessing learners (See paragraph 2.3.9, p. 20).

Table 4.20: Accurate assessment of data generated is what is measured

	Frequency	Percentage
Strongly Agree	38	50.7
Agree	31	41.3
Strongly Disagree	3	4
Disagree	3	4
Total	75	100.00

4.3.2.13 Learners with Same Performance have Similar Knowledge and Skills

Table 4.21 shows that 36% (27) strongly agreed and 50.7% (38) agreed that learners who perform in the same way have similar degree of mastery of knowledge, skills and values and only 4% (3) disagreed with the statement and 9.3% (7) strongly disagreed on that. This means that the majority, 86.7%(65) of the respondents

agreed that if learners are performing in the same way it means they have a similar degree of mastery of knowledge, skills and values (See paragraph 2.5 , p. 24).

Table 4.21: Learners with the same performance have similar knowledge and skills

	Frequency	Percentage
Strongly Agree	27	36
Agree	38	50.7
Strongly Disagree	7	9.3
Disagree	3	4
Total	75	100.00

4.3.2.14 Equal opportunities to learners' results in achievement of outcomes

Table 4.22 shows that 62.7% (47) respondents strongly agreed and 24% (18) agreed with the statement that all learners were given equal opportunities to give evidence of their achievement of outcomes. Only 5.3% (4) and 8% (6) strongly disagreed and disagreed respectively, on that. It implies that many respondents felt that there is equal treatment and equal justice is applied to all learners because they are given equal opportunities, no learner is disadvantaged from giving evidence of their achievement of outcomes. The majority, 86.7%(65) of the respondents, agreed with the statement. The literature indicates that that assessment is fair when what is taught and learnt during the year is more or less the same (See Paragraph 2.5, p. 23).

Table 4.22: Equal opportunities for learners' results in achievement of outcomes

	Frequency	Percentage
Strongly Agree	47	62.7
Agree	18	24
Strongly Disagree	4	5.3
Disagree	6	8
Total	75	100.00

4.3.2.15 The assessment is fair when learning the same thing

Table 4.23 indicates that 51% (38) strongly agreed and 44% (33) agreed on that assessment was fair when content that was taught and learnt was more or less the same. Only 5% (4) disagreed and 0% (0) strongly disagreed with the statement. This means that in order for assessment to be fair we must teach our learners the same thing and they must learn the same thing. The majority, 95%(71) of the respondents, agreed with the statement. In this regards findings from literature indicate that the assessment is said to be fair when what is taught and learnt during the year is more or less the same. It also involves accommodating differences in barriers to learning and performance. Each learner should therefore be given an equal chance to prove him/herself (See Paragraph 2.3.10, (p.21)

Table 4.23: Assessment is fair when learning the same thing

	Frequency	Percentage
Strongly Agree	38	51
Agree	33	44
Strongly Disagree	4	5
Disagree	0	0
Total	75	100.00

4.3.2.16 Teachers are given equal opportunities

Table 4.24 shows that 48% (36) of the respondents strongly agreed and 45.3% (34) agreed that all teachers were given opportunities to give evidence of their achievement of outcomes. Only 2.7% (2) of the respondents strongly disagreed and 4% (3) disagreed. Therefore, 93.3%(70) of respondents feel that they are given equal opportunities to give evidence of their achievement. Literature reveals that SAQA attempts to ensure quality education by developing policies that guide teaching, learning and assessment practices to be fair and accessible to all teachers. This implies that all learners and teachers are given equal opportunities to give evidence of their achievement of the outcomes, and no learner or teacher is disadvantaged (See paragraph 2.5, p .23).

Table 4.24: Teachers are given equal opportunities

	Frequency	Percentage
Strongly Agree	36	48
Agree	34	45.3
Strongly Disagree	2	2.7
Disagree	3	4
Total	75	100.00

4.3.2.17 School-based moderation is the process of controlling and monitoring

Table 4.25 indicates that 52% (39) strongly agreed and 42.7% (32) agreed that school-based moderation as a process of making sure that in a school learners' work was controlled, checked and monitored by teachers. Only 5.3% (4) strongly disagreed and no one disagreed. The majority, 94.7%(71) of the respondents, agreed with the statement. The Literature indicates that in every school there are various factors affecting the performance of both teachers and learners. It implies that many respondents know the process of school-based moderation as a way of making sure that learners' work is controlled, checked, and monitored by teachers (See paragraph 2.3.1, p. 12).

Table 4.25: School-based moderation is the process of controlling and monitoring

	Frequency	Percentage
Strongly Agree	39	52
Agree	32	42.7
Strongly Disagree	4	5.3
Disagree	0	0
Total	75	100.00

SECTION 3: CHALLENGES CONFRONTING SCHOOL MANAGEMENT TEAMS IN THE IMPLEMENTATION OF SCHOOL-BASED ASSESSMENT

4.3.3.1 Mathematics teachers are determined to get the job done

Table 4.26 shows that 53.3% (40) of the respondents strongly agreed that Mathematics teachers are determined to get the job done as well as 46.7% (35) agreed with that. 0% (0) of respondents strongly and disagree to the statement. This is an indication that all, 100%(75) respondents agreed and agreed strongly to the statement that Mathematics teachers are determined to do their job. It also implies that Mathematics teachers are determined and dedicated to their works, they always want to do their job effectively (See paragraph 2.6.1, p. 26).

Table 4.26: Mathematics teachers are determined to get the job done

	Frequency	Percentage
Strongly Agree	40	53.3
Agree	35	46.7
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.2. Moderation is done before and after tasks are administered

Table 4.27 indicates that 57.3% (43) of the respondents agreed that moderation includes the monitoring tests exam marks and all tasks given to the learner before and after it has been done by learners and 40% (30) of respondents strongly agreed on that. The majority, 97.3%(73) of the respondents understood the process of school-based moderation and what should be monitored. However it shows that there is 2.7% (2) who strongly disagree and 0% (0) who disagreed with that. It shows that many respondents understand school-based moderation and what should be monitored. Very few respondents disagreed with the statement. Literature indicates that the subject teacher submits formal assessment tasks to the SMT for pre-moderation which will be verified using the moderation tool. Only the approved tasks should be administered to learners (See paragraph 2.3.8, p. 19).

Table 4.27: Moderation is done before and after tasks are administered

	Frequency	Percentage
Strongly Agree	30	40
Agree	43	57.3
Strongly Disagree	2	2.7
Disagree	0	0
Total	75	100.00

4.3.3.3 School-based moderation promotes standardized tasks

Table 4.28 shows that 52% (39) of Mathematics teachers strongly agreed, 48% (36) agreed with the statement that school-based moderation ensures that tasks given to learners are up to standard. All, 100%(75) of the respondents, agreed with the statement. Literature indicated that “Moderation helps to see that assessment is valid and as reliable as possible”. Furthermore. Moderation is conducted to ensure that learning outcomes of a subject have been addressed and operated in accordance with agreed assessment standards.” This shows that all respondents agreed and strongly agreed with the statement. It implies that all Mathematics teachers agreed

that school-based moderation promotes standardized tasks (See Paragraph 2.3.1, p.12).

Table 4.28: School-based moderation promotes standardized tasks

	Frequency	Percentage
Strongly Agree	39	52
Agree	36	48
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.4 Teachers show characteristics of taking the initiative

Table 4.29 indicates that 52% (39) of the total respondents strongly agreed with the statement that teachers initiate the process and 44% (33) agreed but 4% (3) strongly disagreed and no one disagreed with that. The majority, 96%(72) of the respondents, agreed with the statement. The literature defines determination as the desire to get a job done and this includes characteristics such as initiative, persistence, dominance and drive. This implies that teachers show characteristics of taking initiative by stopping at nothing when they do their job of teaching. This helps in the implementation of school-based moderation of Mathematics (See paragraph 2.6.1, p. 27).

Table 4.29: Teachers show characteristics of taking the initiative

	Frequency	Percentage
Strongly Agree	39	52
Agree	33	44
Strongly Disagree	3	4
Disagree	0	0
Total	75	100.00

4.3.3.5 Teachers have persistence to do their job

Table 4.30 indicates that a large number of respondents agreed that teachers are persistent in their quest to do their job and 51% (38) and 45.3% (34) agreed that teachers are persistent but 4% (3) strongly disagreed with that and no one disagreed. Most 96.35%(72) of the teachers have characteristics such as initiative, persistence, dominance and drive. Therefore, many teachers have shown a lot of persistence to do their job regardless of the challenges coming on their way. This implies that teachers have the qualities that allow them to continue doing their job even when they are facing many challenges (See paragraph 2.6.1, p. 26).

Table 4.30: Teachers are persistence to complete their job

	Frequency	Percentage
Strongly Agree	38	51
Agree	34	45
Strongly Disagree	3	4
Disagree	0	0
Total	75	100.00

4.3.3.6 Teachers show determination and drive

Table 4.31 indicates that 61.3% (46) of the respondents agreed with the statement that teachers show determination and drive; 36% (27) agreed; 2.7% (2) strongly disagreed and no one disagreed. The majority, 97.3%(73) of the respondents agreed with the statement. Findings from the literature show that teachers who are determined are have the desire to get a job done and this includes characteristics such as initiative, persistence, dominance and drive. However teachers who lack determination are not proactive, not initiative and have no capacity to persevere in the face of obstacles. This implies that those teachers were not be able to get their job done and therefore they resist the process of moderation (See paragraph 2.6.1, p.26)

Table 4.31: Teachers show determination and drive

	Frequency	Percentage
Strongly Agree	46	61.3
Agree	27	36
Strongly Disagree	2	2.7
Disagree	0	0
Total	75	100.00

4.3.3.7 Teachers are willing to assess themselves

Table 4.32 shows that 53.3% (40) agreed that teachers were willing to assess themselves and 32% (24) strongly agreed with that. Few 8% strongly disagreed and 6.7% (5) disagreed to that. Majority, 85.3%(64) of the respondents agreed with the statement. The literature indicates that teachers who are determined, willing to assess themselves, they are proactive and have the capacity to persevere in the face of obstacles are effective. This implies that teachers are willing to assess themselves, so that they will be able to improve in their teaching methods (See paragraph 2.3.10, p. 21).

Table 4.32: Teachers are willing to assess themselves

	Frequency	Percentage
Strongly Agree	24	32
Agree	40	53.3
Strongly Disagree	6	8
Disagree	5	6.7
Total	75	100.00

4.3.3.8 Mathematics teachers show integrity in school-based moderation

Table 4.33 shows that 45.7% (34) of the respondents strongly agreed that teachers have integrity in school-based moderation and 42.3% (32) agreed with that. Only 4%

(3) strongly disagreed and 8% (6) disagreed with the statement. The majority, 88%(66) of the respondents agreed with the statement. The literature review indicates that integrity is the quality of honesty and trustworthiness. This therefore, implies that the majority of teachers have integrity in the process of school-based moderation (See paragraph 2.6.2, p. 26).

Table 4.33: Mathematics teachers show integrity in school-based moderation

	Frequency	Percentage
Strongly Agree	32	42.3
Agree	34	45.7
Strongly Disagree	3	4
Disagree	6	8
Total	75	100.00

4.3.3.9 Teachers have the Quality of Honesty and Trustworthiness

Table 4.34 indicates that 69.3% (52) of the respondents strongly agreed that teachers take responsibility for their actions and 30.7% (23) agreed on that. 0% (0) strongly disagreed and 0% (0) of the teachers also disagreed on that. All, 100%(75) of the respondents agreed with the statement. The literature review indicates that teachers who lack integrity do not have the quality of honesty and trustworthiness and they do not adhere to a strong set of principles. The researcher's view about the responses is that most of the teachers have both the qualities of honesty and trustworthiness (See paragraph 2.6.2, p. 26).

Table 4.34: Teachers have the qualities of honesty and trustworthiness

	Frequency	Percentage
Strongly Agree	52	69.3
Agree	23	30.7
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.10 Teachers take responsibility for their actions

Table 4.35 indicates that 56% (42) of the respondents strongly agreed that teachers take responsibility for their actions and 44% (33) of the respondents agreed on that. None (0) of teachers strongly disagreed and none (0) also disagreed on that. All, 100%(75) respondents agreed with the statement. The literature review indicates that teachers take responsibility for their actions. This implies that most of the teachers take responsibility for their actions (See paragraph 2.6.5., p 29).

Table 4.35: Teachers take responsibility for their actions

	Frequency	Percentage
Strongly Agree	42	56
Agree	33	44
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.11 Teachers adhere to the policies and implementation of moderation

The information in Table 4.36 shows that 46,7% (35)of the respondents agreed and 51% (38) that teachers adhered to the policies and implementation of school-based moderation, and only 2.3% (2) strongly disagreed and 0% (0) of the respondents disagreed to that. This implies that, one of the roles or functions of SMT members, is to control and monitor the work of teachers and learners. The majority, 97.7%(73)of the respondents agreed with the statement. The literature agreed to this view by indicating that teachers sometimes fail to satisfy the requirements of the process of moderation not because they do not understand the process but just because they do not want to comply with the procedures and policies regarding moderation. This implies that many teachers adhere to the policies and implementation of school-based moderation so that it becomes more effective for the quality of teaching and learning of Mathematics (See paragraph 2.3.2, p. 13).

Table 4.36: Teachers adhere to the policies and implementation of moderation

	Frequency	Percentage
Strongly Agree	38	51
Agree	35	46.7
Strongly Disagree	2	2.3
Disagree	0	0
Total	75	100.00

4.3.3.12 Mathematics teachers have self-confidence in teaching profession

Table 4.37 shows that 53.3% (40) of Mathematics teachers strongly agreed that teachers have self confidence in their teaching profession and 33.3% (25) of Mathematics teachers agreed. But 6.7% (5) of them disagreed and 6.7% (5) of them strongly disagreed with the view. Majority, 86.6%(65) of the respondents agreed with the statement. Literature review indicates that self-confidence implies the ability to be certain about one's competences and skills. This implies that many Mathematics teachers indicate that they have self-confidence (See paragraph 2.6.6, p.29).

Table 4.37: Mathematics teachers have self-confidence in teaching profession

	Frequency	Percentage
Strongly Agree	40	53.3
Agree	25	33.3
Strongly Disagree	5	6.7
Disagree	5	6.7
Total	75	100.00

4.3.3.13 Mathematics teachers have problem-solving skills

Table 4.38 shows that 54.7% (41) strongly agreed that teachers have problem-solving skills in work-related problems and 45.3% (34) agreed. There were none that disagreed and strongly disagreed with the view. All, 100%(75) of the respondents agreed with the statement. The literature indicates that problem-solving

skills demand that teachers understand their own capacity as managers of their subjects and therefore apply possible solutions specifically for their subjects. A teacher who lacks problem-solving skills fails to gather information regarding that problem and will be unable to formulate new understanding about the problem. This is an indication that all respondents believe that teachers can solve their work related problems (See Paragraph 2.6.7, p.28).

Table 4.38: Mathematics teachers have problem-solving Skills

	Frequency	Percentage
Strongly Agree	41	54.7
Agree	34	45.3
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.14 Teachers are dedicated to their work

Table 4.39 shows that 41.3% (31) of the respondents strongly agreed and agreed that teachers are dedicated to their work while 56% (42) of respondents agreed that because teachers are dedicated to their work, moderation of Mathematics becomes effective. Another 2.7%(2) and none strongly disagreed and disagreed respectively. The majority, 97.3%(73) of the respondents agreed with the statement. Literature review raised similar views when it said that teachers should be committed and dedicated enough to their school work so as to maintain the standard and to achieve and quality teaching and learning. This implies that many teachers who teach Mathematics are dedicated to their work. This result to effective school-based moderation, even though there are very few respondents who believe that teachers are not dedicated to their work (See paragraph 2.6.5, p. 27)

Table 4.39: Teachers are dedicated to their work

	Frequency	Percentage
Strongly Agree	31	41.3
Agree	42	56
Strongly Disagree	2	2.7
Disagree	0	0
Total	75	100.00

4.3.3.15 Teachers have some misconceptions about school-based moderation

The information in Table 4.40 indicates that 57.3% (43) of the teachers responded that they strongly agree that teachers had misconceptions about school-based moderation and 42.7% (32) agreed that they had misconception about school-based moderation. None(0) strongly disagreed and disagreed with the statement. They believe school-based moderation is just a tool used by the Department of Education, through SMT members to punish them. Consequently, they develop a negative attitude towards it. All, 100%(75) the respondents agreed with the statement. The literature review indicates that teachers have a misconception about school-based moderation. This is one of the factors that negatively affect, the smooth-running of schools. It implies that many teachers have misconception about school-based moderation which implies that they are not certain as to whether school-based moderation should be done and it benefits both the teachers and learners. They still regard it as a witch-hunt or a faultfinder (See paragraph 2.6.3, p. 27).

Table 4.40: Teachers have some misconceptions about school-based moderation

	Frequency	Percentage
Strongly Agree	43	57.3
Agree	32	42.7
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.16 Teachers find it difficult to undergo the process of moderation

Table 4.41 shows that 45.3% (34) strongly agreed and 48% (36) agree that teachers find it difficult to undergo the process of being moderated. However 4% (3) strongly disagreed and 2.7% (2) disagreed that they found difficult to undergo the process of moderation. The majority, 93.3%(70) of the respondents agreed with the statement. The literature indicates that teachers view school-based moderation as just a tool used by the Department of Education, through SMT members to punish them. Consequently, they develop a negative attitude towards it. This implies that many teachers do not feel comfortable to undergoing school-moderation (See paragraph 2.6.3, p. 27).

Table 4.41: Teachers find it difficult to undergo the process of moderation

	Frequency	Percentage
Strongly Agree	34	45.3
Agree	36	48
Strongly Disagree	3	4
Disagree	2	2.7
Total	75	100.00

4.3.3.17 Mathematics teachers have time management skills to cover all the topics

Table 4.42 shows that from the total of 100% (75) respondents, 51% (38) indicated that Mathematics teachers have time management skills to cover all the topics stated in their work schedules and 44% (33) strongly agreed, while 1.3% (1) and 4% (3) said that teachers did not have the time management skills acquired. The majority, 95%(71) agreed that Mathematics teachers have time management skill to cover all the topics. The literature reveals that for a teacher to cover all the topics on time, time management is a skill that one must acquire. This implies that, a very small number of teachers felt that the they lack time management skill and for teachers to cover all the topics stated in their work schedules, they must be able to manage time, they must not waste time and they must always remember that the time they

use in Mathematics 142 hours is allocated for normal teaching, revision and informal assessment (See paragraph 2.6.8, p. 28).

Table 4.42: Mathematics teachers have time management skills to cover all the topics

	Frequency	Percentage
Strongly Agree	33	44
Agree	38	50.7
Strongly Disagree	1	1.3
Disagree	3	4
Total	75	100.00

4.3.3.18 Teachers should understand of school-based moderation

Table 4.43 shows that 51% (38) and 49% (37) of the respondents agreed and strongly agreed respectively that teachers should have a good understanding of school-based moderation and no one disagreed or strongly disagreed with the statement. All, 100%(75) of the respondents agreed with the statement. The literature indicates that some teachers do not understand why their seniors have to monitor their work as they consider themselves qualified and well-experienced teachers. This means that the effectiveness of school-based moderation lies in the understanding of moderation by teachers (See paragraph 2.6.4, p. 27).

Table 4.43: Teachers should have understanding of school-based moderation

	Frequency	Percentage
Strongly Agree	37	49
Agree	38	51
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.19 The role of moderation in the provision of quality education should be evident

Table 4.44 shows that 56% (42) of the respondents agreed and 44% (33) of the respondents strongly agreed that they should see the role of school-based moderation. None of the one respondents disagreed. All, 100%(75) of the respondents agreed with the statement. The literature indicates that school-based moderation of Mathematics also serves as a way of avoiding the negligence of some parts of curriculum. This means that no respondent is against the idea that teachers should be able to see the role of school-based moderation in quality of teaching and learning (See paragraph 2.3.4, p. 14).

Table 4.44: The role of moderation in the quality education should be seen

	Frequency	Percentage
Strongly Agree	33	44
Agree	42	56
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.20 Teachers should be dedicated to maintain the quality of education

Table 4.45 shows that 49.3% (37) of the respondents strongly agreed and 48% (36) agreed that teachers should be more dedicated to their work. Only 2.7% (2) strongly disagreed and no one disagreed. The majority, 97.3%(73) of the respondents agreed with the statement. The literature indicates that a teacher has to work hard to maintain standards. It implies that for the school-based moderation to be effective, teachers must be dedicated to their work (See paragraph 2.6.5, p.27).

Table 4.45: Teachers should be dedicated to maintain the quality of education

	Frequency	Percentage
Strongly Agree	37	49.3
Agree	36	48
Strongly Disagree	2	2.7
Disagree	0	0
Total	75	100.00

4.3.3.21 Teachers should acquire problem-solving skills for quality education

Table 4.46 indicates that 52% (39) of the respondents strongly agreed that teachers should maintain quality teaching and learning and that they should acquire problem-solving skills. Another 37.3% (28) indicated that problem-solving skills are the ability to solve new unusual, ill-defined work problems and 10.7% (8) strongly disagreed on that. The majority, 89.3%(67) of the respondents agreed with the statement. Some of the skills to be acquired are ,being able to define significant problems, gather information about problems, formulate new understanding about the problem and generates prototype plans for problem solutions. When teachers have problem-solving skills, they will be able to understand their own capacity as managers of their subjects and therefore apply possible solutions for their subjects. A teacher who lacks problem-solving skills would fail to gather information regarding that problem and would be unable to formulate new understanding about the problem (See Paragraph 2.6.7, p.28).

Table 4.46: Teachers should acquire problem-solving skills for quality education

	Frequency	Percentage
Strongly Agree	39	52
Agree	28	37.3
Strongly Disagree	8	10.7
Disagree	0	0
Total	75	100.00

4.3.3.22 Time management is needed to cover the work schedule

Table 4.47 shows that, 52% (39) of the respondents strongly agreed that teachers should manage their time to cover all the topics. Another 48% (36) strongly agreed to the opinion. All, 100%(75) of the respondents agreed with the statement. The literature indicates that teachers need to cover all the topics stated in their work schedules, they must be able to manage time. This implies that if teachers manage their time well, school-based moderation would be implemented with ease and it would also be effective (See paragraph 2.6.8, p.27).

Table 4.47: Time management is needed to cover the work schedule

	Frequency	Percentage
Strongly Agree	36	48
Agree	39	52
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.3.23 Teachers should learn how to use new technologies

Table 4.48 indicates that 57.3% (43) strongly agreed and 42.7% (32) agreed to that. All, 100%(75) of respondents agreed that teachers should learn new technologies and no one strongly disagreed and disagreed with that. The findings from the literature indicate that teachers should be able to use technologies, like computers, to manage data and performance analyses as well as reporting functions such as scoring and graphing, as expected by the moderators. This implies that all respondents have realized that they must learn new technologies to manage data and do a performance analysis of their learners (See paragraph 2.6.10, p.29).

Table 4.48: Teachers should learn how to use new technologies

	Frequency	Percentage
Strongly Agree	32	42.7
Agree	43	57.3
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

SECTION 4: ISSUES AND DOCUMENTS TO BE MONITORED

4.3.4.1 Teacher's portfolios are collections of all formal assessment tasks and their records.

Table 4.49 shows that 52% (39) respondents, answered that they strongly agreed that teachers' portfolios should be collected with all formal assessment tasks and their records for moderation and 45.3% (34) agreed with the statement. Only 2.7% (2) strongly disagreed and no one disagreed with the statement. The majority, 97.3%(73) of the respondents agreed with the statement. The literature indicates that a teacher's portfolio needs to be accessible, so that relevant stakeholders can understand the thinking behind the decisions made and be able to interpret the evidence in the portfolio, so that they can monitor assessment tasks given to learners. This implies that during moderation teachers' portfolios are collected with all the formal tasks and submitted together with learner's evidence of performance (See Paragraph 2.3.6, p.15).

Table 4.49: Teacher's portfolios are collections of all formal assessment tasks

	Frequency	Percentage
Strongly Agree	39	52
Agree	34	45.3
Strongly Disagree	2	2.7
Disagree	0	0
Total	75	100.00

4.3.4.2 A portfolio is used to ensure quality of assessment tasks given to learners and provide as a record against which learners can be moderated

Table 4.50 clearly indicates that 48% (36) of the respondents agreed and 46.7 % (35) agreed that portfolios are used to ensure quality assessment tasks given to learners. A small percentage strongly disagreed and that is 5.3% (4) and no one disagreed to that. The majority, 94.7%(71) of the teachers agreed that a portfolio must be used to ensure quality assessment tasks given to learners and provide records. The portfolio holder should be in the form of a file, a book, a folder or a box (See paragraph 2.3.6.1, p.15).

Table 4.50: A portfolio is used to ensure quality of assessment tasks given to learners and provides a record against which learners can be moderated

	Frequency	Percentage
Strongly Agree	35	46.7
Agree	36	48
Strongly Disagree	4	5.3
Disagree	0	0
Total	75	100.00

4.3.4.3 Learner evidence of performance is a collection of a learner's formal assessment tasks

Table 4.51 shows that 49.3%(37) of the respondents agreed and 44% (33) strongly agreed that a portfolio is learner evidence of performance and purposefully collected learner's formal assessment tasks. However 5.3% (4) and 1.3% (1) disagreed and strongly disagreed respectively. The majority, 93.3%(70) of the respondents agreed with the statement. The literature indicates that in Mathematics learner evidence of performance is a purposeful collection of a learner's formal assessment. This implies that formal assessment tasks are very important and they should pre-moderated (See paragraph 2.7.3, p. 31).

Table 4.51: A learner evidence of performance is a collection of a learner's formal assessment tasks

	Frequency	Percentage
Strongly Agree	33	44
Agree	37	49.3
Strongly Disagree	4	5.3
Disagree	1	1.3
Total	75	100.00

4.3.4.4 Moderation is done by SMT members

Table 4.52 shows that 66.7% (50) strongly agreed and 33.3% (25) agreed that moderation in school is done by SMT s, heads of phases, and heads of subjects, SMT members and curriculum advisors. None (0) of respondents strongly disagreed and no one disagreed with that. All, 100%(75) of the respondents agreed with the statement. This is also emphasized by literature that one of the roles or functions of SMT members is to control and monitor the work of teachers and learners. This implies that the SMT members should monitor and supervise teachers and learners assessment tasks, to ensure that there is quality education through school-based moderation (See paragraph 2.3.3, p. 14).

Table 4.52: Moderation is done by SMT members

	Frequency	Percentage
Strongly Agree	50	66.7
Agree	25	33.3
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.4.5 Teacher submits formal assessment tasks to the SMT for moderation

Table 4.53 shows that 62.7% (47) respondents strongly agreed and 37.3% (28) agreed that teachers must submit formal assessment tasks to the SMT for moderation. All, 100%(75) the respondents agreed with the statement. The literature indicates that a subject teacher submits formal assessment tasks to the SMT for moderation and the SMT member uses a moderation tool to verify the quality of the submitted tasks. Only the approved tasks should be administered to learners and these tasks should not be given to learners before they are moderated by an SMT member. This is an indication that school-based moderation becomes easier to implement if everyone knows what to do (See paragraph 2.3.6.1, p. 15).

Table 4.53: Teacher submits formal assessment tasks to the SMT for moderation

	Frequency	Percentage
Strongly Agree	47	62.7
Agree	28	37.3
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.5.6 A moderation tool is used to check the quality of submitted tasks

Table 4.54 shows that 58.7% (44) respondents strongly agreed and 36% (27) agreed with the idea that a moderation tool is used to check the quality of submitted tasks. Only 5.3%(4) of the respondents were against the idea. The majority, 94.7%(71) of the respondents agreed with the statement. The literature indicates that quality management through planning, decision-making and team work by the whole school can help to achieve quality teaching and learning in Mathematics and moderators should use the moderation tool. It implies that SMT members are just approving the tasks without checking them thoroughly or without using the right moderation tool (See paragraph 2.3.8, p. 19).

Table 4.54: A moderation tool is used to check the quality of tasks submitted

	Frequency	Percentage
Strongly Agree	44	58.7
Agree	27	36
Strongly Disagree	4	5.3
Disagree	0	0
Total	75	100.00

4.3.4.7 Teachers submit record sheets for sampling

In Table 4.55, it shows that 52% (39) of the respondents strongly agreed that teachers submit record sheets for sampling, 44% (33) agreed with that, 4% (3) strongly disagreed and no one disagreed. The majority, 96%(72) of the respondents agreed with the statement. The literature review indicates that teachers want their record sheets to be moderated so that when the curriculum advisors come they find that everything in order and learners will be fairly assessed (See paragraph 2.3.8, p. 19).

Table 4.55: Teachers should submit record sheet for sampling

	Frequency	Percentage
Strongly Agree	39	52
Agree	33	44
Strongly Disagree	3	4
Disagree	0	0
Total	75	100.00

4.3.4.8 A 10% Samples of learners' evidence is moderated

Table 4.56 shows that 49.3% (37) of the respondents strongly agreed to the idea that 10% of the total scripts are sampled for moderation while 46.7% (35) agreed. However, there are those who disagreed with the statement 2.7% (2) and 1.3% (1) reporting that they disagreed and strongly disagreed with the statement. This shows 96% of the respondents agreed and strongly agreed to that but some teachers' feel

that 10% of the scripts should be sampled. The majority, 96%(72) of the respondents agreed with the statement. Literature indicates that schools submit their sampled learners' evidence of performance together with the teachers' portfolios to the district level for moderation. This implies that school-based moderation serve as a preparation for district moderation (See paragraph 2.3.8, p. 19).

Table 4.56:A 10% samples of learners' evidence is moderated

	Frequency	Percentage
Strongly Agree	37	49.3
Agree	35	46.7
Strongly Disagree	1	1.3
Disagree	2	2.7
Total	75	100.00

4.3.4.9 Curriculum advisors moderate portfolios at district level

Table 4.57 shows that 52% (39) agreed and 48% (36) strongly agreed that portfolios are submitted to the district at specific venues. No respondent strongly disagreed or disagreed with the sentiment. All, 100%(75) of the respondents agreed with the statement. The findings from literature indicate that district officials moderate teachers' and learners' portfolios of assessment tasks. This implies that all respondents have an understanding and some knowledge about the procedure and processes regarding moderation of Mathematics (See paragraph 2.3.8,p. 19).

Table 4.57: Curriculum advisors moderate portfolios at district Level

	Frequency	Percentage
Strongly Agree	36	48
Agree	39	52
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.4.10 Knowledge and challenges of learners' progress are evaluated

The results in Table 4.58 show that 53.3% (40) strongly agreed that teachers use assessment for various reasons, including pace, testing knowledge, challenges and evaluating learner's progress and 46.7% (35) agreed on that. All, 100%(75) respondents agreed with the statement. The literature review indicates that during school-based moderation knowledge and challenges confronting learners' progress are evaluated. It implies that all respondents believe that assessment is done for a number of reasons, and that there are many teachers who understand why learners should be assessed (See paragraph 2.5, p. 24).

Table 4.58: Knowledge and challenge of learners' progress are evaluated

	Frequency	Percentage
Strongly Agree	40	53.3
Agree	35	46.7
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.4.11 Teachers' moderation as part of their on-going self-evaluation practice

Table 4.59 indicates that 78.7%(59) of the respondents strongly agreed and 17.3% (13) agreed that teachers moderate as part of their on-going self-evaluation practice. The majority 96%(72) of the respondents who are of the idea that teachers practice moderation as a way of evaluating themselves. The literature reveals that school-based moderation encourages teachers to improve their performance because it is an ongoing process. This implies that teachers get a chance to evaluate themselves using the evaluation tool (See paragraph 2.3.9, p. 20).

Table 4.59: Teachers moderate as part of their on-going self-evaluation practice

	Frequency	Percentage
Strongly Agree	59	78.7
Agree	13	17.3
Strongly Disagree	1	1.3
Disagree	2	2.7
Total	75	100.00

4.3.4.12 Learners are assessed throughout the whole year

Table 4.60 indicates that 49.3% (37) strongly agreed and 45.3% (34) agreed with the idea that learners are assessed throughout the year through baseline, diagnostic, formative and summative assessment. Only 5.4% (4) disagreed to that and no one strongly disagreed. This shows that many teachers understand different forms of assessment that a learner undergoes every year. The majority, 94.6%(71) of the respondents agreed with the statement. Literature review indicates that school-based moderation is done throughout the whole year. This indicates that teachers are assessing their learners throughout the year and this helps school-based moderation to be effective because learners' progress will be monitored and evaluated since the beginning of the year (See paragraphs 2.3.9 and 2.3.10, pp, 20-21).

Table 4.60: Learners are assessed throughout the year

	Frequency	Percentage
Strongly Agree	34	45.3
Agree	37	49.3
Strongly Disagree	0	0
Disagree	4	5.4
Total	75	100.00

SECTION 5: THE IMPACT OF SCHOOL-BASED MODERATION

4.3.5.1 School-based moderation improves results for a school

In Table 4.61, 73.3% (55) of the respondents ,strongly agreed that school-based moderation improves results for a school and also 26.7% (20) agreed on that. All, 100%(75) of the respondents agreed with the statement. The literature review indicates that moderation is conducted to ensure that teaching and learning is of quality and that it will lead to good results when the year ends. This implies that if school-based moderation is done properly, the results of the school improves because quality teaching and learning would be assured through the process of school-based moderation (See paragraph 2.4, p. 22).

Table 4.61: School-based moderation improves the results of a school

	Frequency	Percentage
Strongly Agree	55	73.3
Agree	20	26.7
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.5.2 School-based moderation helps teachers improve in their work

Table 4.62 shows that 52% (39) of the respondents agreed that school-based moderation helps teachers to improve on their work and 46.7% (35) strongly agreed. Only 1.3% (1) disagreed that and no one strongly disagreed with that statement. The majority, 98.7%(74) of the respondents agreed with the statement. The literature review indicates that teaching and learning would be of high quality, and quality teaching and learning lead to an improvement in the results through moderation. It shows that if there is moderation at school, it would help teachers to work harder and improve their work.

Table 4.62: School-based moderation helps teachers improve on their work

	Frequency	Percentage
Strongly Agree	35	46.7
Agree	39	52
Strongly Disagree	0	0
Disagree	1	1.3
Total	75	100.00

4.3.5.3 School-based moderation plays an important role in improving teachers' performance

Table 4.63 shows that 52% (39) strongly agreed and 48% (36) agreed that school-based moderation has an important role to play in promoting and maintaining the quality of teaching and learning of Mathematics in schools. All, 100%(75) respondents agreed with the statement. This shows that most of the teachers understand the importance of school-based moderation as a process that plays a major role in promoting and maintaining quality teaching and learning in schools. When tests and examinations are used as a form of assessment, they should contribute positively to the learners' progress (See paragraph, 2.3.4, p. 14).

Table 4.63: School-based moderation plays an important role in improving the performance of teachers

	Frequency	Percentage
Strongly Agree	39	52
Agree	36	48
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.5.4 SMT members are obliged to monitor and give support to ensure quality education

Table 4.64 indicates that 51% (38) of the respondents strongly agreed with the statement, while 49% (37) respondents agreed. All, 100%(75) respondents agreed with the statement. This implies that SMT members have the legitimate power to implement school-based moderation and teachers are aware of that policy. It also implies that there will be minimum challenges that the SMT will encounter when implementing school-based moderation. School-based moderation involves assessment, evaluation, monitoring, analyzing and controlling learners and teachers' work. It also refers to the monitoring and evaluation of student progress and it is the duty of school management teams (See paragraph 2.4, p 22).

Table 4.64: SMT members are obliged to monitor and give support for quality education

	Frequency	Percentage
Strongly Agree	38	51
Agree	37	49
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.5.5 Moderation ensures quality assessment of Mathematics tasks

Table 4.65, shows that 49% (37) of the respondents strongly agreed, while 51% (38) agreed to that moderation ensure qualities at assessment tasks are given to learners in schools. All respondents, 100%(75) agreed with the statement. The literature indicates that moderation ensures that there is quality assessment and procedures of educational institutions. This implies that if school-based moderation is implemented effectively in schools, there will be quality results and learners who will be responsible in the society (See paragraph 2.3.9, p. 20).

Table 4.65: Moderation ensures that there is quality of assessment

	Frequency	Percentage
Strongly Agree	37	49
Agree	38	51
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.5.6 School-based moderation promotes quality teaching and learning

Table 4.66 indicates that all respondents are of the view that school-based moderation promotes and sustains teaching and learning. It shows that 51% (38) of the respondents strongly agreed and 49% (37) of the respondents agreed. All, 100%(75) agreed with the statement. This is an indicative of the fact that all respondents support school-based moderation and realizes its importance in the promotion and sustenance of quality teaching and learning. Findings from the literature indicate that school-based moderation plays a major role in maintaining the quality of teaching and learning in schools. This implies that if school-based moderation is done properly, the results of the school will improve because quality teaching and learning would be assured through the process of school-based moderation (See paragraph 2.3.9 , p. 20).

Table 4.66: School-based moderation promotes quality teaching and learning

	Frequency	Percentage
Strongly Agree	38	51
Agree	37	49
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.5.7 Moderation ensures the skills and knowledge are assessed

Table 4.67 indicates that all the respondents fell in the categories of strongly agreed and agreed, that moderation ensures that skills and knowledge that were considered were assessed. This makes 48% (36) and 52% (39) respectively. None disagreed. All, 100%(75) respondents agreed with the statement. The literature review indicates that in all the levels of moderation, learners will be able to compete in future. This implies that assessment tasks set would give learners the opportunity to display their investigation skills as one of the aims and objectives of school-based moderation, in order to improve the quality of teaching and learning of Mathematics (See paragraph 2.3.9, P.21).

Table 4.67: Moderation ensures that skills and knowledge are assessed

	Frequency	Percentage
Strongly Agree	36	48
Agree	39	52
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.5.8 Moderation ensures that aspects needed by the society are measured

Table 4.68 shows that 51% (38) of the respondents strongly agreed and 46.7% (35) of the respondents agreed. Only 2.7% (2) of the respondents disagreed with the idea that moderation ensures that tasks given to learners measures important aspects of education which are needed by the society. The majority, 97.7%(73) of the respondents understood the importance of school-based moderation and the procedure thereof. The literature reveals that during this school-based moderation, there are skills that learners will acquire, which are important in everyday life. This implies that school-based moderation is essential, as it ensures that the performance of learners is an accurate portrayal of their knowledge, skills and values (See paragraph 2.5, p.24).

Table 4.68: Moderation ensures that the aspects needed by the society are measured

	Frequency	Percentage
Strongly Agree	38	51
Agree	35	46.7
Strongly Disagree	0	0
Disagree	2	2.7
Total	75	100.00

4.3.5.9 Moderation ensures that learners' knowledge and skills are measured

Table 4.69 shows that 57.3% (43) of the respondents strongly agreed and 40% (30) agreed that moderation ensures that learners' performance as reflected by the allocated marks, was accurately portrayal of learner's knowledge, skills and values. Only 2.7% (2) of the respondents seem disagree with the idea. The majority, 97.3%(73) of the respondents agreed with the statement. The findings from the literature emphasized that learners are assessed not only for knowledge but for other skills and values that they will need in their communities. This means that we are not teaching learners so that they acquire knowledge only, but also install values like "Ubuntu" or kindness and caring, as well as respect, as they are the citizens of tomorrow (See paragraph 2.5, p. 25).

Table 4.69: Moderation ensures that learners' knowledge and skills are measured

	Frequency	Percentage
Strongly Agree	43	57.3
Agree	30	40
Strongly Disagree	2	2.7
Disagree	0	0
Total	75	100.00

4.3.5.10 School-based moderation ensures that learners of the same knowledge and skills are equally in the same way

Table 4.70 indicates that 46.7% (35) of the respondents strongly agreed and 49.3% (37) of the respondents agreed that through moderation learners who perform in the same way have similar degrees of knowledge, values and skills. However 4% (3) strongly disagreed but none disagreed. The majority, 96%(72) of the respondents agreed with the statement. Findings from literature indicate that most of the teachers understand why school-based moderation should be conducted as it benefits both teachers and learners. This implies that learners who were taught the same curriculum are assessed in the same manner (See paragraph 2.5, p. 25)

Table 4.70: Learners with the same knowledge and skills are assessed equally

	Frequency	Percentage
Strongly Agree	35	46.7
Agree	37	49.3
Strongly Disagree	3	4
Disagree	0	0
Total	75	100.00

SECTION 6: STRATEGIES TO IMPROVE SCHOOL-BASED MODERATION OF MATHEMATICS ASSESSMENT TASKS

4.3.6.1 Department of Education should conduct regular workshops on moderation

Table 4.71 shows that 64% (48) of the respondents strongly agreed and 33.3% (25) agreed that the Department of Education, Limpopo Province should conduct regular workshops on the importance of moderation. Only 2.7% (2) of the respondents disagreed with the statement. The majority, 97,3%(73) of the respondents agreed with the statement. The question was aimed at finding out whether the department should conduct workshops about the importance of moderation or not. Many teachers supported this idea which is an indication that teachers are ready to learn

and they want to acquire more knowledge about school-based moderation. From the literature, it has been revealed that the Department of Education is not for SMT members and SMT s only but also for all teachers so as to educate them on the role and importance of school-based moderation (See Paragraph 2.7.1, p 30).

Table 4.71: The Department of Education should conduct workshops of moderation

	Frequency	Percentage
Strongly Agree	48	64
Agree	25	33.3
Strongly Disagree	0	0
Disagree	2	2.7
Total	75	100.00

4.3.6.2 SMT members should conduct workshops about moderation in schools

Table 4.72 shows that 45.3% (34) of the respondents strongly agreed with the idea that SMT members should conduct workshops about moderation in schools. Another 49.3% (37) agreed with that. Only 2.7% (2) disagreed and another 2.7% (2) strongly disagreed to that. This shows that 94.6%(71) of the respondents support the idea that workshops should be conducted on the implementation of school-based moderation. The literature indicates that staff members should be trained and workshopped so that they would understand and implement the important policies effectively. It implies that there are very few teachers who seem to be sure about moderation, who do not need to be work shopped (See Paragraph 2.7.2, p. 30).

Table 4.72: SMT members should conduct workshops on moderation at schools

	Frequency	Percentage
Strongly Agree	34	45.3
Agree	37	49.3
Strongly Disagree	2	2.7
Disagree	2	2.7
Total	75	100.00

4.3.6.3 SMT members should do workshops about the role of moderation

Respondents in Table 4.73 agreed 51% (38) and strongly agreed 44% (33) that SMT members should conduct workshops on the role of school-based moderation. However, 2.7% (2) strongly disagreed and another 2.7% (2) disagreed that SMT members should conduct workshops on the role of school-based moderation. Majority, 95%(71) of the respondents agreed with the statement. The literature indicates that it is the duty of the SMT to develop staff training programs both school-based and school focused so as to develop and achieve the goals and educational objectives. This is an indication that most of the teachers were willing to work and improve their work provided they receive support from their seniors. In addition SMT members should conduct workshops because it is important for the teachers to understand school-based moderation (See paragraph 2.7.2, p. 30).

Table 4.73: SMT members should conduct workshops about the role of moderation

	Frequency	Percentage
Strongly Agree	33	44
Agree	38	51
Strongly Disagree	2	2.7
Disagree	2	2.7
Total	75	100.00

4.3.6.4 Mathematics teachers should do self-monitoring of their work

Table 4.74 indicates that 46.7% (35) of the respondents strongly agreed and 49.3 % (37) agreed with the idea that Mathematics teacher should do self–monitoring. However 4% (3) of the respondents disagreed. In this study it is clear that majority, 96%(72) of the teachers do self-monitoring of their work before they submit it to their SMT members. The literature findings indicate that one of the strategies that can help in school-based moderation is through self-monitoring. This implies that teachers should monitor them in school before their activities are monitored by their seniors. This helps the teacher to find out his/her mistakes and improve on them or correct them, before someone who is moderating does so (See paragraph 2.7.4, p. 31).

Table 4.74: Mathematics teachers should do self-monitoring of their work

	Frequency	Percentage
Strongly Agree	35	46.7
Agree	37	49.3
Strongly Disagree	0	0
Disagree	3	4
Total	75	100.00

4.3.6.5 Teachers should involve learners in the assessment process

Table 4.75 indicates that 46.7% (35) of the respondents strongly agreed that teachers should involve learners in the assessment process and 49.3% (37) agreed on that. However 4% (3) of the respondents disagreed. The majority, 96%(72) of the teachers feel that learners are part and parcel of the assessment, while others did not see it that way. The literature review indicates that one of the strategies for school-based moderation to be effective is through involving learners as partners in the assessment process. This implies that when we involve learners in the assessment process it alerts on what them of what is expected of them and they work harder to achieve their goals (See paragraph 2.7.5, p. 31).

Table 4.75: Teachers should involve learners in the assessment process

	Frequency	Percentage
Strongly Agree	35	46.7
Agree	37	49.3
Strongly Disagree	3	4
Disagree	0	0
Total	75	100.00

4.3.6.6 Teachers should give feedback to learners after assessing them

In Table 4.76 below, 62.7% (47) of the respondents strongly agreed and 37.3% (28) agreed with the idea that teachers should always give feedback to learners after assessing them. All, 100%(75) respondents agreed with the statement. The literature review indicates that after assessment, teachers give feedback to learners so that they know where to improve and how to improve. This implies that teachers concur with the literature review when indicating that the quality of education is also assured in the aspect that teachers should give feedback to all stakeholders (See paragraph 2.7.3, p. 31).

Table 4.76: Teachers should give feedback to learners after assessing them

	Frequency	Percentage
Strongly Agree	47	62.7
Agree	28	37.3
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.6.7 Curriculum advisors and SMT s should support teachers

Table 4.77 shows that all the respondents strongly agreed and agreed with the idea that teachers should always receive good support from their subject advisors. Out of all the respondents 52% (39) strongly agreed and 48% (36) agreed with the statement. All, 100%(75) agreed with the statement. No respondents disagreed or

strongly disagreed. The literature review states that SMT members should develop staff training programs, to develop and achieve educational objectives and the needs of the school. This is an indication that most of the teachers are willing to work and improve their work, provided they get support from their seniors (See Paragraph 2.7.6, p.32).

Table 4.77: Curriculum advisors and SMT should support teachers

	Frequency	Percentage
Strongly Agree	39	52
Agree	36	48
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.6.8 Teachers' work should always be evaluated to review departmental policies

Looking at Table 4.78, it is clear that every respondent agreed and strongly agreed with the idea that teachers' work should be evaluated regularly. It also shows that 53.3% (40) strongly agreed and 46.7% (35) agreed on that. All, 100%(75) of the respondents agreed with the statement. No respondent disagreed or strongly disagreed.. The literature reveals that a teacher's portfolio is required for every learning area. The teacher's portfolio is used to ensure that the evidence of performance that will be moderated in the learner portfolio is the same as the one in the teacher's portfolio. It implies that teachers understand that their work should always be evaluated because it will assist the evaluator to review the policy of the department on school-based moderation (See paragraph 2.7.6, p. 32).

Table 4.78: Teachers' work should always be evaluated to review departmental policies

	Frequency	Percentage
Strongly Agree	40	53.3
Agree	35	46.7
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.6.9 Recording and reporting should be done

Table 4.79 shows that 52% (39) of the respondents strongly agreed and 48% (36) agreed with the idea that recording and reporting should be used as a way of assessing the learners' evidence. All, 100% agreed with the statement. It is clear that most of the teachers record the marks of learners and issue reports to parents and learners about the performance of learners. The literature indicates that the records of learner performance should provide evidence of the learners' conceptual progression, with a grade and his or her readiness to progress or to be promoted to the next grade. These records should also be used to monitor the progress made by teachers and learners in the teaching and learning progress. This means that recording and reporting are always part of assessment because parents should know how their learners are progressing throughout the year. This implies that the recording and reporting should be done properly (See Paragraph 2.7.3, p. 31).

Table 4.79: Recording and reporting should be done

	Frequency	Percentage
Strongly Agree	39	52
Agree	36	48
Strongly Disagree	0	0
Disagree	0	0
Total	75	100.00

4.3.6.10 Monitoring of teachers' progress is a component of precision teaching

Table 4.80 indicates that 49.3% (37) of the respondents strongly agreed and 45.3% (34) agreed with the idea that monitoring teachers' progress is critical component of precision teaching. Only 5.3 % (4) disagreed with the statement. This shows that that monitoring teachers' progress is essential and should be done. The majority, 94.6%(71) respondents agreed that monitoring of teachers progress is important and this concurs with the literature (See Paragraph 2.3.7.3, p17).

Table 4.80: Monitoring of teachers' progress is a component of precision teaching

	Frequency	Percentage
Strongly Agree	37	49.3
Agree	34	45.3
Strongly Disagree	4	5.3
Disagree	0	0
Total	75	100.00

4.4 SUMMARY

This chapter therefore successfully presented the data collected from curriculum advisors, SMT members, and SMT and Mathematics teachers in the FETband in the Vhembe District in the Limpopo Province. It has become evident though the majority of the teachers have much knowledge regarding school-based moderation and also have negative attitudes towards the process of school-based moderation. Most of the respondents feel that the department should conduct workshops on the importance of school-based moderation and how and when it should be conducted for quality of teaching and learning. Chapter 5 discusses the major findings and recommendations of the study.

CHAPTER 5

OVERVIEW OF THE STUDY, MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter discussed the overview of the study, major findings, conclusion, recommendations and concluding remarks. The purpose of this study was to investigate the challenges confronting School Management Teams in the implementation of school-based moderation of Mathematics assessment tasks in the Thohoyandou cluster in Limpopo Province, South Africa. The objectives of the study were:

- To investigate the concept school-based moderation of assessment tasks;
- To investigate how school-based moderation on Mathematics assessment tasks in the FET band is conducted;
- To investigate the challenges confronting SMT members in the implementation of school-based moderation of Mathematics assessment tasks;
- To suggest strategies that can be applied to address the challenges faced by SMT members in the implementation of school-based moderation.

5.2 AN OVER-VIEW OF THE STUDY

Chapter 1 presented the background of the study, statement of the problem, aim and objectives of the study, research questions, definition of concepts, research design and methodology, data analysis, significance of the study, division of chapters and conclusion.

The literature study on the challenges confronting SMT in the implementation of school-based moderation was reviewed and discussed in Chapter 2. The research instruments were drawn on the basis of the literature review. In chapter 3, the

research design and methodology were presented. The qualitative data was analyzed thematically and quantitative data analyzed through the SPSS version 23. The analysis was presented in chapter 4.

5.3 MAJOR FINDINGS PERTAINING TO THE STUDY

The major findings pertaining to the study are discussed hereunder.

5.3.1 Major findings pertaining to research question one (What is the meaning of school-based moderations of mathematics in the FET Band?) (See Paragraph 1.4)

All respondents have a common understanding on the meaning of school-based moderation. They understand that school-based moderation is a practice where learners' work is looked into and to determine whether teachers have considered all the cognitive levels according to Blooms Taxonomy when setting tasks and if they cover all the necessary skills (See paragraph 4.3.2.1, p.73).

5.3.2 Major findings pertaining to research question number 2 (How is school-based moderation on Mathematics Assessment in the FET Band conducted? (See Paragraph 1.4)

Moderation is conducted in two ways; namely pre-moderation and post-moderation. Pre-moderation is moderation before assessment tasks are administered and post-moderation is done after the tasks are given to learners (See Paragraph 4.3.2.2, p. 74).

5.3.3 Major findings pertaining to research Question 3 (Challenges confronting the SMT in the implementation of school-based moderation for Mathematics in the FET Band) (See Paragraph 1.4)

Mathematics teachers had different views to those raised by SMT members and curriculum advisors. The teachers believe that they are determined and responsible their work (See Paragraph 4.3.3.1, p. 85).

School-based moderation was a burden because it requires meticulous administration because it consumes teaching time (See Paragraph 4.3.3.2, p.85). Mathematics teachers have an inadequate understanding of school-based moderation (See Paragraph 4.3.3, 3, p.86). Thus, Mathematics teachers seemed to differ with SMT members and curriculum advisors in this aspect because they indicated that they are committed, as they honoured their lessons and give learners tasks to do (See Paragraph 4.3.3.5, p. 87)

Teachers had self-confidence and they comply when school-based moderation is conducted (See Paragraph 4.3.3.6, p.88). Lack of problem-solving skills was a challenge for Mathematics teachers. Teachers understood their own capacity as managers of their subjects and therefore applied the possible solutions specifically for their subjects (See paragraph 4.3.3.7, p. 88). Poor time management was a challenge for Mathematics teachers, as they failed to submit assessment tasks on time for moderation to their seniors (See Paragraph 4.3.3.8, p. 88).

SMT members had many periods to teach and this led to inadequate moderation of Mathematics assessment tasks (See paragraph 4.3.3.9, 90).

5.3.4 Major findings pertaining research Question 4 (Strategies that should be used to prevent the challenges of school-based moderation of Mathematics in the FET Band) (See Paragraph 1.4)

SMT members and teachers should be capacitated in order to know and understand the process of school-based moderation (See Paragraph 4.3.6.1, p. 114).

The needs of the school should be considered when school-based moderation is conducted (See Paragraph 4.3.6.2, p, 115). In addition, learner's evidence of performance should be recorded as evidence of learners' progression (See Paragraph 4.3.6..3, p. 116).

Teachers should monitor their work before the SMT moderate and notice mistakes (See Paragraph 4.3.6.4, p.117). Furthermore, learners should be actively involved in the assessment process so that they will know what is expected from them (See

Paragraph, 4.3.6.5, p. 118). SMT members should continuously moderate teachers' assessment tasks to support them (See Paragraph 4.3.6.6, p 118).

5.4 CONCLUSIONS

The major findings on the challenges confronting SMT members in the implementation of school-based moderation of Mathematics are:

- All the respondents had common understanding of the meaning of school-based moderation.
- Lack of understanding and knowledge of the process of school-based moderation of Mathematics was a serious challenge that needs to be urgently addressed by both teachers and SMT members.
- It was also found that the monitoring of teachers progress was a critical issue for precision teaching.
- School-based moderation of Mathematics assessment tasks should be a continuous process.
- Mathematics teachers need to be motivated in order for them to be honest and trustworthy.
- SMTs should support and motivate teachers on the implementation of school-based moderation.
- SMTs and curriculum advisors have the responsibility of ensuring that school-based moderation is appropriately implemented, to ensure quality teaching and learning of Mathematics.

5.5 RECOMMENDATIONS

This section discussed the recommendations pertaining to the four research questions:

5.5.1 Recommendation pertaining to the meaning of school-based moderation of Mathematics in the FET band (Research Question 1)

It is recommended that school-based moderation should be a continuous process, so that teachers will not forget what they already know (See paragraph 4.3.2.1, p.73).

5.5.2 Recommendations sustaining how School-based moderation of mathematic assessment tasks in the FET band is Conducted (Research Question 2)

The recommendation is that SMT members should ensure that school-based moderation is conducted in all phases, namely; pre-moderation and post-moderation. It is further recommended that Mathematics assessment tasks should be approved if they meet the required standards, if not, the teacher has to set another paper or improve the existing one (See paragraph 4.3.2.2, p. 74).

5.5.3 Recommendations pertaining the challenges confronting SMT in the implementation of school-based moderation (Research Question 3)

It is recommended that teachers should be motivated in order to be determined and dedicated to their work (See paragraph 4.2.10.1, p. 53). Mathematics teachers must have the following qualities: honesty, trustworthiness and loyalty for effective moderation of Mathematics assessment tasks

The Department of Education has a responsibility of ensuring that teachers and SMTs members are capacitated in the implementation of school-based moderation of Mathematics (See Paragraph 4.2.10.2, p. 54).

SMT members should ensure that proper moderation tools are used in the process of school-based moderation (See paragraph 4.3.5.6., p. 110).

SMTs should have adequate problem-solving skills that are related to school-based moderation of Mathematics (See paragraph 4.3.3.21, p. 97).

SMT members should constantly remind teachers about the due dates for submission of tasks and adhere to the policies (See paragraph 4.3.2.22., p.98).

SMT members as well as Curriculum advisors should give proper support to all school-based moderators and teachers regarding school-based moderation of Mathematics (See paragraph 4.3.6.8, p.119).

The Department of Basic Education in Limpopo Province, must supply schools with computers and the Internet. Teachers must also learn how to use computers and record using soft-wares to reduce the amount of paperwork (See paragraph 4.2.10.10, p. 59).

5.5.4 Recommendations pertaining to strategies that can be applied to address the challenges faced by SMT in the implementation of school-moderation (Research Question 4)

The Department of Education should regularly organise workshops on the process of moderation as well as to train SMT members and Mathematics teachers on the importance of school-based moderation (See paragraph 4.3.6.1, p. 114).

Recording and reporting should be done regularly by both Mathematics teachers and SMT members, in writing and as well as in the form of report cards (See paragraph 4.3.6.9, p. 119).

Mathematics teachers should do self-evaluation as a way of helping themselves to have a better understanding of school-based moderation (See paragraph 4.3.3.7, p. 88).

5.5.5 Recommendations for further studies

Studies on challenges that confront SMT members in the implementation of school-based moderation should be conducted.

The following can be recommended for further studies:

- The value of workshops in school-based moderation implementation.
- Gender differences in school-based moderation.
- Perception of teachers on school-based moderation of Mathematics in the FETband.

5.6 LIMITATIONS TO THE STUDY

The research was conducted at Thohoyandou Cluster under Mutshindudi, Tshinane, Sibasa and Mvudi Circuit offices. Some of the SMT members and teachers refused to be interviewed and some kept postponing the interviews times

5.7 CONCLUDING REMARKS

All the respondents have a common understanding of the meaning of school-based moderation which should be done in all phases to ensure quality of education in schools. Mathematics teachers believe that they are determined and committed to their work and therefore the Department of Education should support them constantly. The Department of Basic Education should conduct workshops to train both SMTs and Mathematics teachers regarding the effectiveness of implementing of school-based moderation.

Both SMTs and teachers should acquire problem-solving skills in order to be able to overcome challenges confronting them in the implementation of school-based moderation. Curriculum advisors should regularly visit schools and support SMTs and teachers on the basis of effective implementation of school-based moderation for quality teaching and learning of Mathematics.

REFERENCES

Anderson, S.E. (2002). ***Improving Schools through Teacher Development.*** Ontario, Canada: University of Toronto, Sweets and Zeintlinger Publisher.

Babbie, E.R. (2001). ***The Practice of Social Research.*** California: Bacon, Wadworths Publishers.

Barnejeer, A. (2010). ***Statistics without Tears: Populations and Samples.*** Mumbai. India Medknow Publications.

Black, P. (2002). ***Working Inside the Black Box : Assessment for Learning in the Classroom.*** London: Kings College.

Black, A.J. (2014). ***Rethinking the Teaching and Learning of Mathematics (Conference Paper).*** South Africa, Eastern Cape: Rhodes University.

Black, P., Harrison, C. and Lee, C. 2002. ***Working Inside the Black Box: Assessment for Learning in the Classroom.*** London: Kings College.

Brace, I. (2008). ***Questionnaire Design. How to Plan, Structure and Write Survey Material for Effective Market Research (2nd Ed.).*** London. Kogan Page.

Bloxham E.R. (2009). ***The Practice of Social Research.*** California: Bacon, Wadworths Publishers.

Creswell, J.W. (2009). ***Research Design: Quantitative and Qualitative Approaches.*** London: Sage Publishers Ltd.

Creswell, J.W. (2010). ***Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research.*** New Jersey: Pearson Prentice Hall.

Daugherty, R. (2010). ***Summative Assessment in Press: The Role of Teachers (3rd Ed.)***. Oxford: Elsevier.

Donaldson, G.H.C. (2009). ***Report on Improving Scottish Education***. Scotland: HMIE.

De Vos, S., Strydom, H., Fouche, C. and Delport, C. (2005). ***Research at Grass Roots for the Social Sciences and Human Services Professions (3rd Ed.)***. Pretoria: Van Schalkwyk Publisher.

Department of Education (2003-a). ***Employment of Teachers Act, Act 76 of 1998, Personnel Administrative Measures***. Pretoria: Government Printers.

Department of Education, (2003-b). ***National Curriculum Statement. Assessment guidelines for Natural sciences: Intermediate and Senior Phase***. Pretoria: Government Printers.

Department of Education (2003-c). ***National Curriculum Statement. Grades 10-12. General Policy No. 2***. Pretoria: Government Printers.

Department of Education (2003-d). ***Teachers' Guide for the Development of Learning Programmes: Natural Sciences***. Pretoria: Government Printers.

Department of Education (2003-e). ***Employment of Teachers Act 76 of 1998, Personnel Administrative Measures (PAM)***. Pretoria: Government Printers.

Department of Education (2010-a). ***Guidelines for the Implementation of Continuous Assessment in the FET Band***. Pretoria: Government Printers.

Department of Education (2010-b). ***Curriculum and Assessment Policy Statement (CAPS) Mathematics Grade 10 – 12***. Pretoria: Government Printers.

Department of Education (2010-c). ***National Curriculum Statement Grade 10-12. General Policy***. Pretoria: Government Printers.

Department of Education (2011). ***Life Orientation: CASS Guideline for Teachers***. Pretoria: Government Printers.

Farroq, A. (2013). Interview Schedules: Definitions and Types. ***Study Lecture Notes***. <http://www.studylecturenotes.com/social-research/methodology/types-of-interviews>. Date Accessed: 25 November 2014.

Gardener, J. (2006). ***Assessment and Learning***. London: Sage (Assessment Reform Group Publication).

Grover, B.W. and Connor, J. (2000). Characteristics of the College Geometry Course for Pre-service Secondary Teachers. ***Journal of Mathematics Teacher Education***, 3(1): 47-67.

Hallway, W. and Jefferson, T. (2007). ***Doing Qualitative Research Differently: Free Association, Narrative and the Interview Method***. London: Sage Publication.

Hoover, J.P. (2002). ***A Dozen Ways to Raise Students Test Performance***. <http://www.ed.gov/pubs/or/consumerguide/baseman.htm>. (Accessed on March 2015).

Houlinhan, P. (2012). ***School Effectiveness: The Key Ingredients of School with Heart***. USA, Springfield: Charles C. Thomas Publisher.

Ingvarson, C. and Beavis S.(2004). ***The Ethics Challenge in Public Services (2nd Ed.)***. San-Fransisco: Jossey – Bass.

Jeffares, A. (2013). ***Teachers Dedication Work Helped Students Excel***. Sydney, Australia: Teachers College Press.

John, W.B. and Kahn, J.V. (2005). ***Research in Education***. San Fransisco: Macgraw-Hill Inc.

Knight, R. and Downton, A. (2006). ***Mathematics Assessment for Learning: Rich Tasks and Work Samples (2nd Ed.)***. Fitzroy, Australian: Catholic Church.

Leedy, P. D. and Ormrod, J.E. (2010). ***Practical Research: Planning and Design (9th Ed.)***. Upper Saddle River, NJ: Prentice Hall.

Luneta, K. (2008). ***Error Discourse in Mathematical Sciences: Perspective of Students' Misconception: An Unpublished Masters' Degree 'Dissertation***. Johannesburg: Witwatersrand University.

Makhaga, M.H. (2009) ***The SMT members' Management Styles and Teachers Performance. The Impact on Secondary School Learner Performance in Vhuronga II Circuit. An Unpublished Masters' Degree Dissertation***. Thohoyandou: University of Venda.

Mathebula, R.D. (2004). ***An Enquiry into Effective Mathematics Teaching in the Context of Large under Resourced Classes in Vuwani District. An unpublished Masters' Degree Dissertation***. Thohoyandou: University of Venda.

Mcmillan, J.H. and Schumacher, S. (2001). ***Research in Education: Evidence Based Inquiry (6th Ed.)***. New York: Peason Education Inc.

Mcmillan, J.H. (2011). ***Educational Research: Fundamentals for the Consumer***. USA, New York: Harper Collins College Press.

Mchmillan, J.H. and Schumacher, S. (2009). ***Research in Education: A Conceptual Introduction (3rd Ed)***. New York: Harper Collins College Publishers.

Melville, C.V. and Gordard, A. (2013). ***The Professional Teacher: A New Introduction to Teaching and Learning Strategies in Schools***. Belmont: Wadsworth Publishers.

Myers, D. and Stonehill, R. (2000). ***School-based Management***. Pietermaritzburg: Interpark Books,

Nemadzivhanani, F.F. (2007). ***The Study of Outcomes Based Assessment in the Limpopo Province. PHD Thesis.*** Thohoyandou: University of Venda.

Northhouse, P.G. (2010). ***Leadership Theory and Practice (5th Ed.)***. Singapore: Sage Publications.

Peterson (2002). The Six Stages in the Process of Learning Mathematics. ***Journal for Research in Mathematics Education***, 47(5): 36-45.

Queensland Government (2010). ***School-based Assessment: Queensland Studies Authority***. Available at: [www.qca.qid.edu.au/parents-carrers/senior/school-based assessment](http://www.qca.qid.edu.au/parents-carrers/senior/school-based%20assessment). (Accessed on 1 December 2015).

Reeves, J., Turner, E., Morris, B. and Forde, C. (2005). Changing their Minds: The Social Dynamics of School Leaders Learning. ***Cambridge Journal of Education***, 35 (2) 253-273.

Shenton, K.A. (2004). Strategies for Ensuring Trustworthiness in Qualitative Research Projects. ***Education Information***, 22: 63-67.

Silverman, D. (2006). ***Interpreting Qualitative Data (3rd Ed.)***. London: Sage Publications.

Storehill, P.A. (2008). The Foundations of Successful Strategy Implementation: Overcoming the Obstacle. ***Global Business Review***, (6)2: 293-302.

Van der Wethuizen, P. (2002). ***Effective Educational Management***. Pretoria: Haum.

Woolfolk, A.E. (2014). ***Education Psychology (12th Ed.)***. Boston: Allyn and Bacon.



Wydeman, J.L. (2004). ***An Introduction to Theory of Education: Current Challenges in Education***. Pretoria: Van Schaik Publishers.

Zhou A.M. (2015). The Foundations of Successful Strategy Implementation: Overcoming the Obstacle. ***Global Business Review***, (6)2: 293-302.

APPENDICES

APPENDIX A

INTERVIEW QUESTIONS FOR SMT MEMBERS AND CURRICULUM ADVISORS

1. What do you understand by school- based moderation of Mathematics in the FETband in your school?

2. Does school-based moderation of Mathematics in the FETband serve its purpose? Explain.

3. What do you understand by the quality of teaching and learning of Mathematics?

4. How does school-based moderation ensure the quality for teaching and learning of Mathematics?

5. What do you understand by pre-moderation of assessment for Mathematics?

6. How does pre-moderation affect the quality of teaching and learning of Mathematics in the FETBand?

7. What do you understand by post-moderation of assessment for Mathematics?

8. What impact does school-based moderation have on the quality of teaching and learning of Mathematics?

9. What can be done to ensure that there is positive impact of school-based moderation on the quality of teaching and learning of Mathematics?

10. What are the challenges of school -based moderation of Mathematics in the FETband in your school?

11. What are the strategies that can be applied to improve the situation?

THANK YOU FOR YOUR CO-ORPERATION!

APPENDIX B

QUESTIONNAIRE FOR TEACHERS AND SMT MEMBERS

This questionnaire will gather information on school-based moderation for quality of learning and teaching in schools. **The topic for this is: “Challenges Confronting SMT members in the Implementation of School-based Moderation of Mathematics Assessment Tasks in the Thohoyandou Cluster in the Limpopo Province, South Africa.”**

The study aims to investigate the impact of school-based moderation for quality learning and teaching of Mathematics in Further Education and Training (FET) band (Grade 10-12). Information gathered in this investigation will be used to enlighten teachers, and SMT s on issues related to school-based moderation.

Please answer all the questions in this questionnaire. Your name is not required, so be free, be honest and give your true responses to all the questions. By agreeing to fill in the questionnaire, it means you are also consenting to take part in this project. You are also free to withdraw from the project at any time, without stating reasons and you will in no way be harmed by so doing. However, you are kindly requested not to withdraw since your input is necessary for the success of this project.

Rate your understanding of moderation according to the following categories under section B and C, using the following keys:

Strongly Agree = 4; Agree = 3; Strongly Disagree = 2; Disagree = 1

Questions are divided into 6 sections: Section 1 is for general information, section 2 is about the meaning of school-based moderation and its purpose, section 3 is about the challenges of school-based moderation, section 4 is about issues and document to be moderated, 5 is the impact of school-based moderation and section 6 is strategies to improve school-based moderation.



In section **1, 2, 3, 4, 5 and 6** you will be requested to put a tick on the appropriate box.

Please sign to show that you are participating voluntarily in this study.

Respondent's Signature: -----

Date: -----

SECTION 1: GENERAL INFORMATION

Please Put a Tick in the Appropriate Box:

1.1 Gender

MALE	FEMALE
------	--------

1.2 Age Category

20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 + Years
---------------	---------------	---------------	---------------	------------

1.3 Academic Qualifications

STD 10	B.A.ED	BSC. ED	B.A.HONS	B.ED	M.ED	PHD
--------	--------	---------	----------	------	------	-----

1.4 Professional Qualifications

PTD	STD	HDE	UED	B.TECH	Other
-----	-----	-----	-----	--------	-------

1.5 Major Subjects you Studied for at College or University

Maths	Physical Sciences	Life Sciences	Technical Drawing	Civil Technology	Mechanical Technology	Electrical Technology	Electronics	Geography	Other

1.6 Number of Years Teaching Mathematics

0 – 5	6 – 10	11 – 15	16 – 20	21 – 25	26+

1.7 Total Number of Learners you are Teaching In Mathematics in the FETBand

0 -49	50 – 99	100 – 149	150 – 199	200 – 249	250 – 299	300 -349	350+

1.8 Position Held in the School

Teacher	Senior Teacher	Master Teacher	HOD	Deputy Principal	Principal	Other

SECTION 2: WHAT IS SCHOOL-BASED MODERATION AND ITS PURPOSE

Rate your understanding of moderation according to the following categories:

- 4 – Strongly Agree**
- 3 – Agree**
- 2 – Strongly Disagree**
- 1 - Disagree**

Please put a tick in the appropriate box:

	4	3	2	1
2.1 School-based moderation is important				
2.2 Teachers have an understanding of what school-based moderation is				
2.3 School-based moderation of Mathematics in the FETband serves its purposes				
2.4 Skill is considered important when assessing.				
2.5 Knowledge is considered important when assessing.				
2.6 Tasks given to learners measure the aspects of education which is important to measure.				
2.7 Diversity and harmonious cultural relations are understood by teachers.				
2.8 Harmonious cultural relations are done.				
2.9 Assessment accurately represents the social phenomena.				
2.10 Learners performance reflects allocated marks as an accurate portrayal of the learners' mastery of knowledge, skills and values.				
2.11 School-based moderation involves assessment, evaluation, monitoring, analyzing and controlling learners.				
2.12 The accurate assessment of data generated particularly through national tests and examinations is an indication of what we want to measure.				
2.13 Learners who perform in the same way have similar degree of mastery of knowledge, skills and values.				
2.14 All learners are given equal opportunities to give evidence of their achievement of outcomes.				
2.15 The assessment is fair when what is taught and learnt is more or less the same.				
2.16 All teachers are given equal opportunities to give evidence of their achievement of outcomes.				
2.17 School-based moderation is the process of making sure that in a school the learners' work is controlled, checked, and monitored by teachers.				

SECTION 3: CHALLENGES OF SCHOOL-BASED MODERATION:

Please put a tick in the appropriate box:

	4	3	2	1
3.1 Mathematics teachers are determined to get the job done.				
3.2 Moderation include monitoring tests, exam marks and all the tasks given to learners before and after it has been done by learners.				
3.3 School-based moderation ensures that tasks given to learners are up to standard.				
3.4 Teachers show characteristics of being initiative.				
3.5 Teachers have persistence to do their job.				
3.6 Teachers show dominance and drive				
3.7 Teachers are willing to assess themselves.				
3.8 Mathematics teachers have integrity in school-based moderation.				
3.9 Teachers have the quality of honesty and trustworthiness				
3.10 Teachers take responsibility for their actions.				
3.11 Teachers adhere to the policies and implementation of school-based moderation.				
3.12 Mathematics teachers have self-confidence in their teaching profession.				
3.13 Mathematics teachers have problem-solving skills in work related problems.				
3.14 Teachers are dedicated to their work and this result to moderation to be effective in schools.				
3.15 Teachers have misconceptions in school-based moderation.				
3.16 Teachers find it difficult to undergo the process of being moderated.				
3.17 Mathematics teachers have time management skills to				

cover all the topics stated in their work schedules.				
3.18 Teachers should have more understanding of school-based moderation.				
3.19 Teachers should see the role of school-based moderation in the quality of teaching and learning.				
3.20 Teachers should be more dedicated to their work to maintain the good quality of teaching and learning in their schools.				
3.21 For teachers to maintain quality teaching and learning, they should acquire problem-solving skills.				
3.22 Teachers should manage their time in order to cover all the topics stated in the work schedule				
3.23 Teachers should learn how to use new technologies to manage data and performance analysis for their learners.				

SECTION 4: ISSUES AND DOCUMENT TO BE MODERATED

Please put a tick in the appropriate box:

	4	3	2	1
4.1 Teachers' portfolio is a collection of all formal assessment tasks and their records.				
4.2 A portfolio is used to ensure the quality of the assessment tasks given to learners and to provide a record against which learners' portfolio can be moderated.				
4.3 A learner evidence of performance is a purposeful collection of a learner's formal assessment tasks, summary sheets and declaration form.				
4.4 Moderation is done by Heads of Department, Heads of Subjects, Heads of Phase, Principals of Schools and subject advisors.				
4.5 The subject teacher submits formal assessment tasks to the SMT for moderation.				

4.6 A moderation tool is used to check the quality of the submitted tasks.				
4.7 The teacher submits record sheets for sampling				
4.8 Samples of 10% of the total number of learners' evidence of performance with a minimum of 6 and a maximum of 10 are moderated.				
4.9 At district level learners' portfolios are submitted to a specific venue and subject advisors moderate them according to the requirements and criteria speculated for that subject.				
4.10 Teachers use assessment for a number of reasons including pace, testing knowledge, challenge and evaluating learners' progress.				
4.11 Teachers moderate as part of their on-going self-evaluation practice.				
4.12 Learners are assessed throughout the whole year through baseline, diagnostic, formative and summative assessments.				

SECTION 5: THE IMPACT OF SCHOOL-BASED MODERATION

Please put a tick in the appropriate box:

	4	3	2	1
5.1 School- based moderation improves results for a school.				
5.2 School -based moderation helps teachers improve in their work.				
5.3 School -based moderation plays an important role in promoting and maintaining the quality of learning and teaching in schools.				
5.4 SMT's are therefore obliged to monitor and give support for good quality teaching and learning.				

5.5 Moderation ensures the quality of assessment and procedures in educational institutions.				
5.6 School-based moderation is of importance to promote and sustain quality teaching and learning.				
5.7 Moderation ensures the skills and knowledge that are considered are assessed.				
5.8 Moderation ensures that the tasks given to learners measure the aspects of education which the society feels it is important to measure.				
5.9 Moderation ensures that learner's performance as reflected by the allocated marks is an accurate portrayal of the learners' knowledge, skills and values.				
5.10 School-based moderation ensures that learners who perform in the same way have similar degree of mastery of knowledge, skills and values.				

SECTION 6: STRATEGIES TO IMPROVE SCHOOL- BASED MODERATION OF MATHEMATICS ASSESSMENT.

Please put a tick in the appropriate box:

	4	3	2	1
6.1 The department of education should conduct workshops about the importance of moderation.				
6.2 SMT members should conduct workshops about moderation in schools				
6.3 SMT members conduct workshop about the role of school-based moderation.				
6.4 Mathematics teachers do self-monitoring of their work before they are monitored by their supervisors.				
6.5 Teachers should involve learners in assessment processes.				
6.6 Teachers should always give feedback to learners after assessing them.				

6.7 Teachers should always receive good support from their subject advisors and SMT s.				
6.8 Teachers' work should always be evaluated as a way of reviewing the efficiency of the departmental policies.				
6.9 Recording and reporting should be used as a way of assessing the learners' evidence of performance.				
6.10 Monitoring of teachers' progress is a critical component of precision teaching.				

APPENDIX C : VERBATIM INFORMATION

INTERVIEW WITH THE SMT MEMBERS

QUESTION 1

RESEARCHER: What do you understand by school-based moderation of Mathematics in the FET band in your school? 1

Respondent 1: Therefore, this simple refers to evaluation of the assessment task by school management team that could be an SMT of the Mathematics. Trying to look to the standard or the task as to whether they meet all the level of assessment and also checking for marking of the teachers as to whether accurately according to the memorandum. 2

Respondent 2: Yaa I think it is the checking of work to be written at the school, it is also the checking of the task before given to learners whether they including all the cognitive levels according to Bloom's taxonomy. That's how I think it can be . 3

Respondent 3: That is moderation of assessment tasks, lessons plans memorandums at school buy head of department or SMT members. 4

Respondent 4: By school-based assessment in the FET band, it means that we prepare assessment of our own test and then we give to our learners, then it will be a matter of having questions prepared by teachers themselves together with the memorandum. 5

Respondent 5: Mm, to my understanding concerning this question this is the situation wherein teacher's work must be looked by myself together with the SMT to see whether what they were asking learners are good or quality. This will enable us, myself and my 6

SMT to get good results at the end of the day. Meaning that they have to ask questions that are of good standard as far as the curriculum is concern. We are checking as from learners work, how they set, how they enter their marks. That is what is called school-based moderation .

Respondent 6: School-based moderation is the checking and verification of teachers and learners work. 7

Respondent 7: It is the monitoring of learners and teachers work. 8

Respondent 8: I think school-based moderation is the checking of learner's work and teachers' work by SMT or SMT members. 9

QUESTION 2

RESEARCHER: Does school moderation of Mathematics in the FET band serves its purpose? Explain! 10

Respondent 1: I would say it is partially met because they are some of the constraints like some of the SMT are no competent, like in other schools where there are no relevant SMT member, you could find somebody who is an educator in other learning area like biology, as a SMT members, because the school is small, they did not hire a relevant person who can head the Department of Mathematics for that reason this person cannot be competent enough. Secondly there is a fear of victimisation, it is difficult to may be to assess the work of your colleague, sometimes they will say ehh, they will victimise you in any way round that it is not always up to that level. 11

- Respondent 2:** In the FETband, yes I think in it serves the purpose because most of the task are given to learners specifically in Mathematics, most of them are having mistakes, e.g. typing mistakes, addition of marks and then if we do that, sometimes we can discover those mistakes before the task is given to learners and if they are possibilities of rectifying we are going to rectify. 12
- Respondent 3:** Yes, it ensures that quality tasks and curriculum matters are delivered to the learners . 13
- Respondent 4:** As for moderation is concern, it is also important that way have to moderate papers that are prepared to by our own teachers, normally if you have no vice teachers the master teachers will moderate the papers prepared by the inexperience teachers. 14
- Respondent 5:** Yes, it automatically serve its purpose, reason being that after cheeking and getting mistakes we end up telling the educator concern they have to go back and re-do it again and after re-do it again we have got and find that it is good. From there it means when talk about results, afterlearners have written, it will be of quality purpose. That is my explanation. 15
- Respondent 6:** Yes it does serve its purpose because once the verification is done, it means that there is fairness and justice to the learners marks and to the learners' assessment as far as assessment is concern 16
- Respondent 7:** Yes, because it makes and learners to improve in different aspects. 17
- Respondent 8:** Yes, it serves its purpose because it makes teachers to do their work proper. 18

QUESTION 3

- RESEARCHER :** What do you understand by the quality of teaching and learning of Mathematics? 19
- Respondent 1:** This refers to insight or the value of teaching and learning of Mathematics to verify whether the teacher attains their own objectives and even the learners attain their learning objectives. That is the outcomes. Is it not that when somebody is learning, they learning outcomes and teaching outcomes? So if there is quality it means that all those learning outcomes would have been realised. 20
- Respondent 2:** Yaa! I think that is teaching according to the syllabus and as explained by the work schedule of the subject maths I think it is also include teaching that will result in achieving the learning outcomes of the specific topic in maths and then as a result of that just because learners will be interested in the teaching, they will end up understanding the aspect in that topic. 21
- Respondent 3:** That is what is taught and what learners learn in class is of high quality and of the right standard in each grade. 22
- Respondent 4:** With maths it is like building a house, if you do well and you continuously you assess them in the form of homework, class exercises and you allow them to participate active during the lessons because maths is a practical subject, can be the teacher like preaching in the church, it should be, the learners must be given enough chance to interact with the teacher and also the individual attention should be I've to the learners. 23
- Respondent 5:** Yaa! When we talk about quality of teaching and learning in Mathematics, to me is a situation where in as myself as a SMT members, I must make sure that teachers are teaching learners something, that is of nowadays standard, meaning that they 24

have to go to workshops, to some seminars to get information as far as the subject is concern. That is then we are going to say that there is quality of teaching and learning in Mathematics and mostly it must be done in most classes that are attended especially in the morning when learners are still fresh and text books or any other material should also be available for resources.

Respondent 6: This means setting quality tasks which are up to standard and wherein all cognitive levels are recognised. It also involves setting tasks with questions of lower order, middle order and higher order and teaching the right stipulated time. 25

Respondent 7: By quality of teaching means to teach following the pace dates and setting also the tests that are standardised. 26

Respondent 8: Mmm! By quality of teaching and learning of maths is setting tasks which are up to standard and teaching according to the pace setters. 27

QUESTION 4

Researcher: **How does school-based moderation ensures the quality for teaching and learning of Mathematics?** 28

Respondent 1: Ehh! This activities suggest the way of assessing the learners, inclusion of various level of questions is it not that they are some of the question that will just need recall, some of the question will need various level of learning. Doing this assessment will make it a point that all the levels of testing are there. So that 29

learners can learn in all spheres.

- Respondent 2:** Yaa! This school base moderation ensure the quality of teaching and learning by forcing the teachers or markings the teachers to get into the class being fully prepared and then as a result of that it is going to motivate learners because teachers would be prepared and he will be fully prepared which will end up activating the attention of the learners and then ultimately the learning outcomes of that lesson and be achieved. 30
- Respondent 3:** It makes sure that what is prepared to be taught is in line with what is stipulated in policy documents. 31
- Respondent 4:** Without moderation, the quality cannot be guaranteed we need to guarantee and ensure that quality is there because when you are setting a paper you should have to consider all the levels, cognitive levels, you need to have all the question, the lower order and the higher order as well to cater for the less gifted and the most gifted learners. So moderation is extremely important . 32
- Respondent 5:** By school-based moderation in the Mathematics end up knowing what is the problem with our teachers who are teaching maths. Then from there we will tell that particular educator that you must do this in this kind of fashion then from there that is then we can end up saying that our learners will end up getting good results. 33
- Respondent 6:** It ensures it because I teachers will make sure that they do their work properly knowing that their work will be monitored and moderated. 34

Respondent 7: By teaching following pace setter and teachers must always honour their classes and control their and manage their classes.

Respondent 8: It ensures the quality for teaching and learning because when papers are moderated mistakes will be corrected.

QUESTION 5

Researcher: **What do you understand by pre-moderation of assessment for Mathematics?**

Respondent 1: I understand pre-as something that comes first. So this pre-moderation, refers to moderation before the assessment task can be given to learners. For example if the learners are to write a test, this test must firstly be moderation by the relevant person to check as to whether it is up to the standard.

Respondent 2: I think eh pre-moderation can be the process or way of establishing the standard of a paper. It is also the checking of the cognitive feels that has been assessed to avoid one type of question to be asked that in that task.

Respondent 3: Assessment tasks are moderated before they are administered to the learners.

Respondent 4: Pre-moderation it means the papers are prepared then they are given to the SMT to check the type of questions that have been set, when the moderator is satisfied or it is not satisfied there could be some changes to ensure that the standard is of quality.

- Respondent 5:** Mm, when we talk about pre-moderation, we are looking at the teachers work together with learners work before they are assessed or before learners are assessed. That will enable us know the mistakes that teachers commence or may be, say for instance when we talk about addition of marks, you will find that a teacher do mistakes but If we do pre-moderation before they write, they did end up knowing what is wrong, then they rectify. When it goes to learners everything will be up to stand. 42
- Respondent 6:** Pre-moderation of task is the verification and checking of tasks done before they are administered and it is a test it should be moderated first because learners have to write something which have been moderated. 43
- Respondent 7:** By pre-moderation or assessment is when all tasks are checked before being written to ensure the quality of the work. 44
- Respondent 8:** I think pre-moderation means the verification of tasks before they are given to learners. 45
- QUESTION 6**
- Researcher:** **How does pre-moderation affect the quality of teaching and learning Mathematics in the FETband?** 46
- Respondent 1:** So this ehh, pre-moderation can enhance if it is done well, it can enhance the quality of teaching and learning because it must firstly see to it that all the types of questions are set and we would say a child would have learnt if he learnt in all different levels, not only just memorisation, not only recalling and all those types of questions. Thelearners must try to understand 47

different types of questioning.

- Respondent 2:** Yaa! It can affect the quality of teaching in different ways just because it will make the educator to teach maths following the stipulated work schedule and checking the assessment standards which will result in achieving the learning outcomes. It also compels the educator to cover all the topics to be included in that task to be given to learners. 48
- Respondent 3:** It ensures that mistakes will be picked and not be corrected before they are written by learners. 49
- Respondent 4:** The pre-moderation it has a positive effect because without pre-moderation, we are sure that all levels will be tested. 50
- Respondent 5:** Yaa! When we talk about pre-moderation, Yaa really sometimes it can affect the quality of teaching if we are talking about a situation when a teacher is running short of something, if we end up interfering we will be telling the teacher that he has to consider 1,2,3. And it will mean that the time of teaching those learners or specified time which means that the time it won't be the same as the one that the teacher before we know that there is mistakes, it will need a lot of time. That is the affection of pre-moderation when we talk about teaching and learning in the FETband in Mathematics. 51
- Respondent 6:** Pre-moderation affect the quality of teaching and learning because if task is not moderated. They can be given to learners with a lot of mistakes. 52

Respondent 7: It improves the marks of each task after being written also checking the allocation of marks and checks whether the teacher marked correctly and entered the marks in a correct way. 53

Respondent 8: Eeeh! I think this pre-moderation affects the quality of teaching and learning because if the tasks are not moderated before, learners will write tasks or tests with mistakes. 54

QUESTION 7

Researcher: **What do you understand by post-moderation of assessment for Mathematics?** 55

Respondent 1: Post refers to after, so it means that this is the checking by the SMT after the learners have written the task and the teachers have marked. The educator will mark a test, after marking the test he will send it to the SMT the SMT will try to look into the marking of the educator, to see as to whether the marks were allocated correctly or the educator was marking according to the memorandum. 56

Respondent 2: Yaa! Eh post moderation I think it simply means or is a means of verification of the marked task after it has been written by learners, trying to detect or to establish the performance and the common mistakes that the teachers could have been made during the process of marking. Either is in additional or transferring of marks from the script even the conversion if their some conversions that are to be made. 57

- Respondent 3:** This is the moderation done at the task had been written and corrected by teachers. 58
- Respondent 4:** Post, ehm, after the learners have written the test the scripts have written the test the scripts have been marked, we to sample a particular percentage of papers then they are moderated, then we need to have some remarks and recommendations, so that we ensure remedial action is taken and also feedback is properly done to learners. 59
- Respondent 5:** Post moderation, we end up knowing where our learners are performing very well. It also enables myself as a Principal together with my SMT to know that in this grade as for maths in concert, chapter what is a problem, chapter what is good that will end up encouraging myself together with my SMT to tell the teacher concern that you have to go and redo this type of chapters that are giving you problem and again some mistakes of marks we can end up detecting them when we do post moderation that is something that which is good as far as assessment of Mathematics is concern. 60
- Respondent 6:** By post moderation, we checking and verification of scripts after the task had been given to learners this is where marks allocated, checking whether the marks allocated correctly or whether the teacher has marked according to the memo. 61
- Respondent 7:** It is the checking of all tasks after being written, also checking the allocation of marks and check whether the teacher marked correctly and entered marks in a correct way. 62

Respondent 8: I think post moderation of task is the verification of scripts after the task is done. That is checking the mark allocation and whether the marks follow the memo or not. 63

QUESTION 8

Researcher: **What impact does school-based moderation have on the quality of teaching and learning of Mathematics?** 64

Respondent 1: So this school-based moderation, it improves teaching and learning because it is done well it enhance the teaching and learning because learners are not just going to learn in the same way, the learners will know that our teachers are going to ask us various types of questions, others will need us to synthesize others will need us to think or reason, others will need us to just to reproduce and in that way the learners will know that learning should be done in various ways. 65

Respondent 2: Can you repeat the question; I didn't understand the question mam. 66

Researcher: With pleasure: what impact does school-based moderation have on the quality of teaching and learning of Mathematics? 67

Respondent 2: Yaa, I think ehh, this quality of teaching and learning on Mathematics it has got an impact in different ways just because it will make all maths teachers to teach according to the stipulated ways without omitting other aspect, whether they understand it or not. It also forces teachers to cover wide range scope of work before the task is given to learners. 68

- Respondent 3:** It maintains standard and SMT members will know what is taught in class. Learners are taught what is expected in each grade. 69
- Respondent 4:** Ehm, it is important that we test our learners continuously to ensure that we encourage them to be actively involved in their studies because if they are not continuously tested, as I have said earlier, that I have said earlier that maths it needs practice and practice makes perfect . 70
- Respondent 5:** Mm, it have a positive impact on the quality of teaching especially to me. But to a teacher who is lazy, a person can say it has negative impact because he won't understand when we are saying that he have to re-do something. But to me I'm saying it is positive reason being that it makes things to be done properly and on time and rectify the mistakes that are there that will enable us to get good results as far as Mathematics is concern. 71
- Respondent 6:** It has an important because if marking was not done properly or if marks were not allocated property, it becomes unfair and unjust to a learner and teaching and learning could not go on well. 72
- Respondent 7:** It has a strong impact because it corrects the mistakes done by teachers at school level. 73
- Respondent 8:** Mmm! The impact will be negative if moderation is not done properly because there will be no fairness and mistakes will not be picked. 74

QUESTION 9

75

76

Researcher: What can be done to ensure that there is positive impact of school-based moderation on the quality of teaching and learning of Mathematics?

Respondent 1: Therefore, like I have said in the beginning, the draw backs or the difficulties with moderation, number one, is that people who are moderating are not well equipped I suggest that must be trained people and it must be the person of the specific learning area. Someone who is teaching history cannot go and moderate Mathematics that it means that there must be a training and again there must be a hiring of relevant SMT member that it is like it was the same things and by the training I'm looking to the fact that the moderators must be taught how to develop the moderating tools that can, you know you cannot just go and take the moderation tool from somebody that you cannot use, so you need to develop your own moderation tool and know how to use it.

Respondent 2: Yaa, I think most moderators ehm. They need to undergo a very serious training so that they can perform their task easily knowing what they are to check when they are moderating may be a maths paper for avoid approving something which they are not up to standard. Teachers must be trained to be able to monitor their own work before someone monitor them.

Respondent 3: There should be constant moderation, workshop teachers about moderation, ensures importance of school-based moderation.

Respondent 4: Positive impact, it can be achieved if we make maths more relevant to real life because that is one area because it becomes more abstract, the teaching of Mathematics, but if we can be related to real life experiences, it will stimulate the learners everywhere and learners will start liking the subject. And the fear and dislike of maths will go away.

- Respondent 5:** To me I think teachers should know that when they are teaching they are also learning and if the SMT is telling them that what you are doing here is wrong you must do it in this fashion, the teacher must be positive in such a way that have to understand. And even when we talk about ourselves as a SMT members and SMT or SMT S even when we are telling teachers, we are not victimising them or it is not just like witch-hunt, we are telling them for us to have good results, we are supporting them. We have to do this through monitoring with support and if we become positive as from the SMT together with our teachers. I think everything will be well in such a way that results will be the best. 80
- Respondent 6:** The department or schools must conduct a workshop on the importance of shoot-based moderation and purposes of it. 81
- Respondent 7:** Ehh! Facilitators must visit schools regularly and there must be also the workshops that may be conducted on the monthly based. 82
- Respondent 8:** I think there should be enough time for SMT to moderate papers so that mistakes will be picked up and corrected. 83
- QUESTION 1**
- Researcher:** **What are the challenges of school-based moderation of Mathematics in the FETband in your school?**
- Respondent 1:** So in our school, like I have said already, the lack of knowledge. The people who are moderating they do not know to look for in the question papers or in the learner's script. As I have said, they need to be trained so the challenge is that one of lack of knowledge. The second challenge is that one of fear of being victimised by the peers, you can feel scared to tell one of your colleagues that you are not marking correctly, you are not doing this correctly and another challenge is that one where the 84
85

government is unable to employ a relevant person, in some of the schools, who is a historian will be forced to just go and put the ticks or moderate Mathematics which is not his field.

- Respondent 2:** Yaa! Hey, when it comes to my school, eh, guess, we do have a lot of maths teachers but amongst them we have got teachers who submit their task to be moderated on the last day or on the last minute which will result in less time of checking that paper before it is given to learners. And sometimes the paper is approved with mistakes, either be typing or framing of questions even the instructions which are not clear to learners. These teachers most of them also submit their marked scripts on the due date, this makes the moderator to have the more time to go through the required number of scripts. 86
- Respondent 3:** Teachers are negative about school-based moderation they submit task late, they see it as something to find fault about their work, they have got wrong perceptions, they feel that they cannot do quality work. Some of the teachers are not computer literate, so it becomes a problem because most of the things now are done by computers. For example, if one wants to teach using overhead projector. 87
- Respondent 4:** The challenge is with less experienced to formulate your own questions it is a challenge but though time and experience, but majority of our teachers they are young and inexperienced so for them to have their own questions is not easy but with the teachers a getting there and they lack problem-solving skills. 88
- Respondent 5:** Yaa! When we talk about challenges, you may find that, eh! Some of the teachers are, there are some who are lazy, who are not faithful, who don't even come to school even when we talk about the situation of moderation they feel that they are not doing their work, some lack self-confidence. You will find that 89

the teacher does not want to bring those things, it is a challenge. And another challenge it can happen to learners, sometimes maybe if we are doing something like CASS that we need marks we need to rectify them, you will realize that they will feel bored saying that may be like I have been chosen a different subject it can make them not to be inside the school they can run away, those are the challenges.

Respondent 6: There are many challenges regarding school-based moderation. One of them is the attitude teachers have towards school-based moderation. The other one is regarding time for submission teachers delay and submit on the last day for moderation.

Respondent 7: Teachers resist the change because they are so slow to adjust on working with their SMT's and SMT s when submitting their work. SMT s on the other hand are not getting enough time to monitor teachers' work.

Respondent 8: (response one)-Teachers do not understand the importance of school-based moderation. (response two) -Teachers have negative attitude towards school-based moderation, they see it has fault finding.

QUESTION 11

Researcher: What are strategies that can be applied to improve the situation? 93

Respondent 1: Already as I have just said, strategy number one, government must be encouraged to see to it that, all the SMT S for the relevant subjects are employed or now that there is poverty for the government as it cannot pay for everybody think the school must try to look for some of the senior t is like these are senior teachers, there are master teachers these people are even earning more salaries like the SMT , they must be trained to take some of the subjects on their line so that they can moderate that. And another thing, the SMT s must be taught to be fair with the fellow teachers, because to tell someone that you are not doing this correctly is to love that person because you are allowing that person to grow, but if you just keep quiet, saying that no I it is like will embarrass that person, that will be a problem because that person will not grow.

Respondent 2: Mm I have got two suggestions to make when it comes to that one. The first one can either be a constant reminder of the due date by the management and the remind one the management can give themselves allowance in giving out the due dates so as to cover those who are going to submit late. Knowing that if we are saying today is the due date, we must also have our may be two extra days which these teachers are not in know. The second one is that if motivate our teachers to be determined and dedicated to their work , it can be successful.

Respondent 3: Organise workshops at schools for teachers on how moderation is done, what is to be moderated, discuss moderation tool with teachers and make sure teachers have moderation tool before they submit their tasks.

Respondent 4: The strategies we need to adopt and mentor, because that is one area that can assist our situation. We need to assign our more experienced teachers to the no via teachers, so that they

will learn from the master teacher I young educator will learn from the master teacher, in that way I think we will achieve our objectives.

Respondent 5: The best strategy that I think is that when we talk about education of a learner, we have to involve all stakeholders as a strategy, ranging from SMT members, teachers, and a learner together with parent. So we work hand in hand, I think that kind of situation where we can improve our situation can happen very well and all of us must also become positive and becoming punctual we can end up doing things on time that will end up missing that even when exam are coming, the exam will find us being prepared.

Respondent 6: The strategies that can done is that teachers and SMT should be work shopped. Date for the submission to be realistic do that everybody will get enough time to work.

Respondent 7: There must be a team work at school also and SMT members must be work shopped on a monthly basis in order to improve the situation.

Respondent 8: Mm, Teachers should be work-shopped so that they see the importance of school-based moderation.

INTERVIEW WITH THE CURRICULUM ADVISORS

QUESTION 1

Researcher: **What do you understand by school-based moderation of Mathematics in the FETband in your school?** 102

Respondent 1: School-based moderation in the FETband we look at the moderation of maths test by SMT to quality assure them. This is done mostly for formal tasks. 103

Respondent 2: Yaa, it serves its purpose because teachers are assisted and where they have problems, they are assisted.

Respondent 3: That is moderation done at a school, by the head of the department for Mathematics.

Respondent 4: School-based moderation is about moderating formal assessment in preparation for the CASS marks for the learners. We have to see that the tasks are standardised. So we have to...when we collect the scripts.... learners scripts, we have to makes sure that teachers have marked them correctly without robbing the learners and that all scripts have been marked following the tools provided in memorandum, rubrics and so on.

QUESTION 2

Researcher: Does school-based moderation of Mathematics in the FETband serve its purpose? Explain 107

Respondent 1: Yes, it serves its purpose it ensures that the assessment tasks are fair, valid and reliable .It also ensures that appropriate standard are maintained. 108

Respondent 2: Mmmmh, learners must get quality maths education, they must be taught very well they must be quality and value of money must be taken into consideration.

Respondent 3: Yaa! It does if it is done by the head of the department.

Respondent 4: Yes ,it is serving its purpose because whenever we see some mistakes that teachers made we try to if possible, we try to call the teacher and address the problem and if we are not able to contact then we write in the moderation, as to what needs to be corrected.

QUESTION 3

Researcher: **What do you understand by the quality of teaching and learning of Mathematics?** 112

Respondent 1: For quality teaching teachers must have gone through participations, consult peers and people from other schools. 113
They must apply a variety of teaching method and acquire problem-solving skill in order to accommodate every learner in the classroom .

Respondent 2: Mmmmh, learners must get quality maths education, they must be taught very well they must be quality and value of money must be taken into consideration.

Respondent 3: Yaa! It should be able to meet the requirement of the standard prescribed by CAPS.

Respondent 4: Quality of teaching and learning of Mathematics is refers to eeh...what the teacher need to do in other to make sure that those things in Mathematics are taught correctly and in the way that learner gain knowledge.

QUESTION 4

Researcher: **How does school-based moderation ensures the quality for teaching and learning of Mathematics?** 117

Respondent 1 : School-based moderation ensures that there is curriculum coverage by checking if tasks are testing the required contents and skills taught during a specific period or term as indicated in the pace setter and caps document. It also checks for unwritten informal work if they cover appropriate concepts and skills that are required for certain period. 118

Respondent 2: Eeh, Again school-based moderation is very important because teachers are assisted to give good education, quality education. 119

Respondent 3: It is through moderation that required levels are obtained because the CAPS document states the level that it should be reaching. So if it is followed it can insure the quality. 120

Respondent 4: It ensure the quality of teaching and learning because when we moderate we use instruments which certain things that the educator need to follow when teaching and learning.

QUESTION 5

Researcher: **What do you understand by pre moderation of assessment Mathematics?** 122

Respondent 1: By pre-moderation we mean the moderation of tasks before it is written by learners, checking if the right concepts and skills are assessed, ensuring if all the cognitive level are covered in the assessment task. We also check at the mark allocated of different questions and correspondence between question paper and memorandum. In this case we check if the numbering in the question papers correspond with the numbering in the memorandums. We also check if the marks allocated for specific questions in the question paper correspond with the marks allocated in the memorandum. They should correspond. 123

Respondent 2: Yaa, papers are checked, the exams are checked thoroughly. 124

Respondent 3: That is a moderation of the question paper before the final paper is given to the learners to write so that some moderation done before the learners write. 125

Respondent 4: Pre-moderation involves the moderation or say a question paper before it can be written by learners to ensure that all the things like the taxonomy are covered and all that.

QUESTION 6

Researcher: **How does pre moderation affect the quality of teaching and learning of Mathematics in the FETband?**

Respondent 1: Pre-moderation affects the quality of teaching and learning in Mathematics in the FETband because the educator become focused and follow the prescribed content as stipulated in policy caps document. If marks the teacher teach relevant things to the learners. Sometimes you will find that e teacher is computer illiterate, this gives affect the quality of school-based moderation and it is a challenge because he will be writing and mistakes will be committed. 128

Respondent 2: Yaa! It is easy to see as to whether if the quality of paper set is up to good standard, it is not teachers that are assisted so that question paper must be of good quality. 129

Respondent 3: Yaa! It verifies whether the stipulated level is obtained and checks if it meets the requirement as given in CAPS document . 130

Respondent 4: It affects the quality because we have to check as to whether the taxonomy levels are being followed to ensure that if we see knowledge has got a certain mark. So any taxonomy has got a certain number of mark. So we have to ensure that before the learners or before the question paper can be written, it followed a particular or it is according to the taxonomy. 131

QUESTION 7

132

133

- Researcher:** **What do you understand by post moderation of assessment for Mathematics?**
- Respondent 1:** Here in post-moderation of assessment for Mathematics is where marking of learner's work is looked into, we check if the educator who is marking correctly and giving feedback to the learners so that they can know where they went wrong. Also recording of marks and conversion is also looked if it is appropriately done.
- Respondent 2:** Post moderation, you know, after they have written their examination, we will make sure that they have their corrections in order to improve the quality of education. 134
- Respondent 3:** Yaa! It is moderation after learners have written the paper, so that will be like, checking the marking, checking the additions, etc. 135
- Respondent 4:** Post-moderation, eeh! Is the moderation after the student would have written the task. 136
- QUESTION 8**
- Researcher:** **What impact does school-based moderation have on the quality of teaching and learning of Mathematics?** 137
- Respondent 1:** Teachers can recognise areas of improvement, it serves as capacity building and empowerment of teaching skills .It improves the understanding of the matter by the learners. 138
- Respondent 2:** School-based moderation is very important, as we have indicated. I saves time, we could not waste time we go there and moderate from there, from there we discuss everything with teachers. This also helps us to teach our teachers to manage time because they sometimes fail to do things on time. 139

Respondent 3: It will have to keep the standard as required by the CAPS document.

Respondent 4: The impact is that the teachers are able to follow and adhere to what we are advising them as to what must be done in order for the task to be said to be to have passed the moderation criteria.

QUESTION 9

Researcher: **What can be done to ensure that there is positive impact of school-based moderation on the quality of teaching and learning of Mathematics?** 142

Respondent 1: Teachers must be part of the strategic plan about the moderation process. They must have inputs and be workshopped on how the moderation process can be managed. There must be impact back from educator whether moderation brings an improvement on their teaching and assessment skills and whether it improves the performance of the learners. 143

Respondent 2: Positive impact, so if we moderate well, eeh! Teachers do benefit, that is the positive impact. But things were not done well, then we have a problem. But if things are done well like motivating the teachers, motivating the learners, well then we have a positive results. 144

Respondent 3: Make sure the pre and post moderation is done by the subject heard of document, who is a specialist in Mathematics SMT should monitor it and SMT members, SMT s and teachers must be able to use technology or they must computer literate so that most their moderation tools will be in soft wares. 145

Respondent 4: I think the best way is to meet with the teachers and tell them, showing the instrument that we are using as to which other things must be involved in the moderation so that they know exactly what is expected and so that they will be able to do self-monitoring using the same that we use as curriculum advisors. This can be in the form of a workshop.

QUESTION 10

Researcher: **What are the challenges of school-based moderation of Mathematics in the FETband in your school?** 147

Respondent 1: The biggest challenge is that most of the SMT that moderate Mathematics tasks were not trained for Caps because they are from different streams. They are not specialists in the subjects and they are not determined. They cannot do justice in moderation maths activities since they do not have the knowledge thereof and also we had also have some union members which are not cooperative. They take moderation as witch hunting and it also shows that they lack self-confidence. 148

Respondent 2: Yaa! The challenge is that sometimes teachers do not feel at ease when moderators go there. Some of cause they have problems they have problems with Mathematics. They think curriculum advisors are there to find faults on them. Therefore, that is why sometimes there is a challenge. They do not have good understanding of moderation in schools. 149

Respondent 3: Yaa! In most cases what we see is that SMT is not maths specialist in Mathematics. So that is the challenge we see. And 150

again the SMT do not monitor the moderation process and in many cases teachers themselves do some adjustments if necessary without proper consultation and these show lack of integrity on the side of a teacher.

Respondent 4: The biggest challenges are that you find that teachers do not adhere to the moderation tool that we are using so sometimes we expected them to the statistical analysis of the results they do not include it. This tells us that they lack understanding, sometimes they include only one work schedule, whereas we are expecting three, so we can also keep one. And the correction that are made on the mark schedule using challenges that we encounter.

QUESTION 11

- Researcher:** **What are the strategies that can be applied to improve the situation?** 152
- Respondent 1:** All stakeholders must be involved in strategic planning of the moderation process and if that is properly done they will have sense of ownership and be cooperative. Another thing is that teachers and SMT must report progress of learners quarterly and monthly. 153
- Respondent 2:** Well, out sourcing, we can also go for other Mathematics teachers we know they are good they must come and assist in some other schools that will be very good to assist, very much. There must also be workshops both from the Department of Education and from schools themselves. 154
- Respondent 3:** Yaa! Make sure the maths SMT is a specialist in maths and moderation is done in various levels and the school 155

management make sure that all the moderations are done at the correct time.

Respondent 4: One of the biggest strategy is that immediately after moderation, if possible we can meet to the teachers to explain as to what need to be corrected and so on .This will help them to acquire problem-solving skills that they do not have. The other thing is that it could be better if when we moderate we go to schools instead of collecting files because as soon as there is a problem we can easily address it at school situation.



APPENDIX D

P.O. Box 7210
Thohoyandou
0950
04 May 2014

District Senior Manager
Vhembe District
P/Bag 2250
Thohoyandou
0950

Sir/Madam

APPLICATION FOR PERMISSION TO CONDUCT RESEARCH

I would like to apply for a permission to conduct empirical research in at least four of the six sampled schools in your District. The schools are in Vhembe District and the circuits are **Mutshindudi, Tshinane, Mvudi and Sibasa**.

I am currently completing my degree of **MASTERS IN EDUCATIONAL MANAGEMENT** with the University of Venda and this research forms part of the requirements for my studies.

My supervisors are **Prof R.J. Monobe, Mrs T.E. Tshiovhe and Mrs N.O.Mulaudzi**. My topic is **“Challenges Confronting SMT members in the Implementation of School-based Moderation of Mathematics Assessment Tasks in the Thohoyandou Cluster in the Limpopo Province, South Africa”**.

I do hope my application will be considered.

Yours faithfully


.....

Nndwamato Tendani Elizabeth

Student No. 11607086


APPENDIX E

APPENDIX B



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION
VHEMBE DISTRICT




DEPARTMENT OF EDUCATION
VHEMBE DISTRICT
DSM'S OFFICE
2014 -11- 14
PRIVATE BAG X2250, SIBASA 0970
TEL. 015 962 1313/4
LIMPOPO PROVINCE

REF: 14/7/R
ENQ: RAVELE N.P
TEL: 015 962 1029

NNDWAMATO TENDANI ELIZABETH
P.O BOX 7210
THOHOYANDOU
0950

APPLICATION FOR PERMISSION TO CONDUCT RESEARCH.

1. The above matter refers.
2. We acknowledge receipt of your letter dated 04/10/2014 and the attached letter granting you permission to conduct research dated 19/06/2012.
3. We are not sure why the research permission granted in 2012 was not implemented, nevertheless, we are granting you a new permission to conduct your research as requested in your recent letter under the similar conditions as indicated in the letter attached hereto that earlier on granted you permission.
4. We wish you success in your research endeavours.


DISTRICT SENIOR MANAGER

14/11/2014
DATE

Thohoyandou Government Building, Old Parliament, Block D, Private Bag X2250, SIBASA, 0970
Tel: (015) 962 1313 or (015) 962 1331, Fax: (015) 962 6039 or (015) 962 2288



APPENDIX F

LETTER TO ALL PARTICIPANTS

ENQ: Nndwamato T.E

Cell No: 072 417 8183

P.O. Box 7210

Thohoyandou

0950

04 May 2014

.....
.....
.....
.....

Dear Respondent

SUBJECT: INFORMATION AND CONSENT TO PARTICIPATE IN A RESEARCH STUDY

You are kindly invited to participate in this research study. As part of the study, I would like to obtain feedback from you in the form of questionnaires.

I am a student at **the University of Venda**, studying towards a **Masters’ degree** in Educational Management. I am conducting a study on **“Challenges Confronting SMT members in the Implementation of School-based Moderation of Mathematics Assessment Tasks in the Thohoyandou Cluster in the Limpopo Province, South Africa”**.

My supervisors are **Prof R.J. Monobe, Mrs T.E Tshiovhe and Mrs N.O. Mulaudzi**. I would like to request you to provide the information to the best of your ability, knowledge, experience and beliefs as guided by the questionnaire.

Your information will be treated as highly confidential and it will be used for the purpose of this study only as such, you do not have to provide your name. You are also giving this information willingly with no one forcing you to participate. This means that you have the right to choose not to participate or even to withdraw.

Your cooperation will be highly appreciated.

Yours sincerely

.....

Nndwamato Tendani Elizabeth

Student No. 11607086

Indicate by ticking after one of the following boxes:

Participating	<input type="checkbox"/>	Not participating	<input type="checkbox"/>
---------------	--------------------------	-------------------	--------------------------