

#### APPENDICES

#### Appendix A

Ms H Sidiropoulos 32 Deutzia Rd. Primrose Hill 1401

Fax: (011) 453 3177 E-mail: hsidiropoulos@saheti.co.za

Mr. Brown Superintendent-General: Education Gauteng Province PO Box 7710 Johannesburg 2006

Dear Mr. Brown

#### Permission to conduct research in schools for PhD studies

I am studying towards a PhD in Policy Studies at the University of Pretoria. The focus of my study is implementing policy in a reforming, developing country context such as ours. The specific policy that is the focus of my study is the new Mathematical Literacy policy. As part of the research I need to collect data from schools. The data collection in two schools will involve questionnaires for Grade 10 mathematical literacy educators, interviews with these educators, observing their classrooms and document analysis. The results will inform both policy and practice. I have discussed this with some school principals who have given in-principle support. I therefore seek your permission to collect data from two schools as part of my doctoral studies. I promise to abide by the principles of anonymity and confidentiality.

Saheti School in Senderwood, Gauteng employs me as Head of Department Administration and Subject Head in Mathematics and Additional Mathematics.

Thank you, Yours sincerely



#### **Appendix B**

Ms H Sidiropoulos 32 Deutzia Rd. Primrose Hill 1401

Fax: (011) 453 3177 E-mail: hsidiropoulos@saheti.co.za

Dr. J. Kruger Principal: FET High School Gauteng Province

Dear Dr. J.Kruger

#### Permission to conduct research in schools for PhD studies

I am studying towards a PhD in Policy Studies at the University of Pretoria. The focus of my study is implementing policy in a reforming, developing country context such as ours. The specific policy that is the focus of my study is the new Mathematical Literacy policy. As part of the research I need to collect data from schools. The data collection in your school will involve a Grade 10 mathematical literacy educator answering structured questionnaires, my observing the said educator's classroom and interviewing the said educator. I will also need to look at records/documents of the educator and learners with regard to mathematical literacy. The results of the research will inform both policy and practice.

I therefore seek your permission to collect data from your school and educator from the 31 July to the 25 August 2006, and the week of the 9<sup>th</sup> of October 2006.I promise to abide by the principles of anonymity and confidentiality.

Thank you,

Yours sincerely

H.Sidiropoulos



Appendix C

# DATA COLLECTION INSTRUMENTS

#### **Research Questions:**

1. What do teachers understand to be the purposes, problems and possibilities contained in the mathematical literacy curriculum?

2. How do teachers proceed to implement the mathematical literacy curriculum in their classrooms?

3. Why do teachers implement this curriculum in the ways they do? In other words, what explains the implementation pathways followed by the mathematical literacy curriculum in real classroom contexts?



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#### SUMMARY OF RESEARCH QUESTIONS AND METHODS

The propositions are used as informative lenses for the data collection but may be refined and replaced depending on the data generated during the study. The relationship between the propositions and questions is theoretical and will be tested in this study.

RESEARCH QUESTIONS	PROPOSITIONS         METHODS		
1) What do teachers understand to be the purposes, problems and possibilities contained in the mathematical literacy curriculum?	Teachers may not have a deep understanding of the purposes, problems and possibilities contained in the mathematical literacy curriculum.	<ul> <li>Semi-structured interview with classroom teachers before classroom observation (Schedule C)</li> </ul>	
		<ul> <li>Questionnaire containing both open and closed ended questions (Schedule A)</li> </ul>	
		<ul> <li>In- depth document analysis of curriculum and related guidelines (Schedule G)</li> </ul>	
		• Researchers journal (Schedule J)	
		• Theoretical analysis	

2) How do teachers proceed to implement	Teachers implement the mathematical	0	Questionnaire containing both open
the mathematical literacy curriculum in	literacy curriculum in their classroom		and closed ended questions
their classrooms?	using beliefs and pedagogies that are		(Schedule B)
	already entrenched in their practice.		
		0	Analysis of teacher and pupil
			documents and records (Schedule
			F)
		0	Classroom observation protocol
			(Schedule E)
		0	Researchers journal (Schedule J)
		0	Theoretical analysis

3) Why do teachers implement this curriculum in the ways they do? In other	Teachers implement mathematical literacy, as an alternative to mathematics, only	0	Interview with teachers after the lesson (Schedule D)
words, what explains the implementation	because it is a mandatory subject, and in so		
pathways followed by the mathematical	doing avoid sanctions.	0	Document summary form
literacy curriculum in real classroom			(Schedule H)
contexts?	Teachers do not embrace the 'spirit' of the		
	reform.	0	Questionnaire containing both open and closed ended questions (Schedule B)
		0	Researchers journal (Schedule J)
		0	Theoretical analysis
		0	Theoretical analysis

SUMMARY OF THI	E VALUE OF THE	<b>CHOSEN METHODS</b>	TO THE RESEARCH
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CRITICAL QUESTION	METHOD	VALUE
1) What do teachers understand to be the purposes, problems and possibilities contained in the mathematical literacy curriculum?	Questionnaire schedule (survey)	This will provide me with information on how teachers understand the mathematical literacy curriculum, with respect to purposes, problems and possibilities.
	Interview schedule	The in-depth interview will enable me to elicit teachers' understanding of the curriculum. The open-ended questions will allow for the flexibility required in pursuing the 'gems' of information they may provide. The information elicited will also provide a basis for further refinement of the data instruments.
	Document analysis schedule (e.g. policy documents)	This information gathered will allow me to establish a comparison between the curriculum intentions and the teachers' understanding thereof.
	Researchers journal	The journal will be used to record my own views, perceptions and feelings, and in so doing provide me with a platform for reflection. It will also be used to capture non-verbal cues and emergent themes that can inform my design for subsequent interviews or observations.
	Theoretical analysis	Validating data by testing it against theoretical perspective.

2) How do teachers proceed to implement the mathematical literacy curriculum in their classrooms?	Questionnaire schedule	This will provide me with information on how teachers claim to implement mathematical literacy in their classrooms. It will capture the teacher's instructional practice, beliefs, and changes made
	Classroom observation protocol	This will provide me with direct evidence on the curriculum enactment in the classroom. This information will allow me to corroborate, refute and augment the evidence from the other sources.
	Document analysis schedule (e.g. lesson plans, learning programme guidelines)	This will allow me to gather evidence on the extent to which changes can be observed in the classroom practices.
	Researchers journal	The journal will be used to capture any critical incidents that occur in the classroom with respect to implementation that are not provided for in the interviews and questionnaires. Furthermore it will provide me with a record of my own bias on which I can reflect.
	Theoretical analysis	Validating data by testing it against theoretical perspective.
3) Why do teachers implement this curriculum in the ways they do? In other words, what explains the implementation pathways followed by the mathematical literacy curriculum in real classroom contexts?	Interview schedule	To gather information on why teachers pursue particular modes of curriculum implementation, and the 'spirit' of their instruction. This will be used to inform the explanation of the curriculum implementation pathway in the classroom.

Document summary	These documents will reveal the discussions that took place prior to implementation. The information will reflect the decisions made and the reasons for these
Questionnaire schedule	This will allow me to gather evidence in order to establish why implementation occurred, and if these reason impact on the pathway followed by mathematical literacy in the context of the classroom.
Researchers journal	To capture my perceptions of the 'spirit' of the lesson and the subject as enacted in the classroom.
Theoretical analysis	Validating data by testing it against theoretical perspective.



#### SCHEDULE A

#### **Questionnaire I**

The purpose of this questionnaire is to collect information about teachers' understanding of the Mathematical Literacy curriculum and some background information.

The information you supply will be treated with absolute confidentiality and will be used for research purposes only.

## PART A

# **EDUCATOR INFORMATION**

## PLEASE FILL IN OR CROSS (X) THE APPROPRIATE OPTION

## 1. Designation of educator

Teacher	Head of Department	Deputy principal	Principal	Other (specify)

#### 2. Teaching subject area

Mathematics	Mathematical Literacy	Additional Mathematics	Other (specify)

#### 3. List any other academic responsibilities

4. List duties other than academic



5. Age

Under 25	25-29	30-34	35-40	40-49	50-59

6. Teaching experience in years

0-5	6-10	11-15	16-20	20 or more

7. Gender



#### 8. Formal qualifications

2 year	3 year	Degree only	Degree and	More than	Other
diploma	diploma		diploma	one degree	(Specify)

9. Type of school

Primary Secondary Combined
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11. Description of the school

Urban	Rural	Other (specify)

11. Does streaming (differentiation according to ability) occur in Mathematics classes?

Yes No

12. Explain



#### PART B

# The Mathematical Literacy curriculum in the Further Education and Training Band, Grade 10 came into effect in 2006.

# The questions that follow inquire about the information available to you about the Mathematical Literacy curriculum, and two other related documents.

#### PLEASE FILL IN OR CROSS (X) THE APPROPRIATE OPTION

1. Are you aware of the Mathematical Literacy curriculum?

Yes No

2. Was the document made available to your school?

Yes No

3. If yes, please state how?

Workshop	Circular	Conference	Other (specify)

4. Do you have a personal copy of this curriculum statement?

Yes No

5. How did you first become aware of the Mathematical Literacy curriculum?

I read the curriculum document	
I was informed about it by my Head of Department	
I was told by the principal	
I was invited to a workshop	
It was discussed at a staff meeting	
Other (specify)	

6. To what extent do you understand the Mathematical Literacy curriculum?

Not familiar	To some extent	To a large extent	Totally familiar
		0	2

7. Does it provide guidelines for implementation?

Yes	No	Not sure



8. Does it allow for flexible implementation?

Yes No Not sure

9. Are you aware of the Learning Programme Guidelines for Mathematical Literacy?



11. To what extent do you understand the Learning Programme Guidelines for Mathematical Literacy?

Not familiar	To some extent	To a large extent	Totally familiar
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12. Does it provide guidelines for implementation?

Yes No Not sure

13. Does it allow for flexible implementation?

Yes No Not sure

14. Are you aware of the Assessment Guidelines for Mathematical Literacy?



15. Do you have a personal copy of this document?

Yes No

16. To what extent do you understand the Assessment Guidelines for Mathematical Literacy?

17. Does it provide guidelines for implementation?

|--|

18. Does it allow for flexible implementation?

Yes No Not sure



# PART C

What are your views about each of the following statements with regard to the Mathematical Literacy curriculum?

## PLACE A CROSS (X) IN THE APPROPRIATE BLOCK

	Strongly	Agree	Not	Disagree	Strongly
	agree	-	sure	_	disagree
1.The curriculum must be viewed in					
relation to the larger agenda of					
transformation					
2. The curriculum is mandatory					
because of political reasons					
3. The curriculum is mandatory					
because of the low levels of					
numeracy in the country					
4. It is a 'watered down' version of					
the more abstract Mathematics					
curriculum					
5. Is similar to the previous					
Standard Grade Mathematics					
curriculum in nature					
6.Is similar to the previous Standard					
Grade Mathematics curriculum in					
level of difficulty					
7. Is similar to the previous					
Standard Grade Mathematics					
curriculum in teaching					
8. Provides learners with an					
awareness and understanding of the					
role that mathematics plays in the					
modern world					
9.Allows for life-related					
applications of mathematics					
10.Enables learners to become					
numerically self-managing persons					
11. Enables learners to become					
contributing workers to society.					
12.Empowers learners with					
democratic participation					
13. Supports critical thinking					
14.Supports creative thinking					



# PLACE A CROSS (X) IN THE APPROPRIATE BLOCK

	Strongly	Agree	Not	Disagree	Strongly
	agree		sure		disagree
15. Delays formal methods					
(algorithms) in favor of extended					
opportunities to engage mathematics					
in diverse contexts					
16. Is suited to dealing with issues					
related to human rights,					
environmental and social justice					
17. Values indigenous knowledge					
systems					
18.Is credible in quality					
19.Supports only low order skills					
and knowledge					
20. Allows for no real abstract					
thinking only practical application					
21. Encourages team work in					
problem solving					
22. Respectfully considers and					
allows for diversity					
23.Favours process and context over					
content					
24.Conceptual knowledge is					
minimum					
25.The outcomes are of central					
importance to the attainment of the					
Critical and Developmental					
outcomes					
26.Is easy to implement					
27.Has resulted in anxiety and stress					
for you					
28.It is an opportunity for you to re-					
define your thinking about the					
nature and teaching of mathematics					
29.Informs and improves your					
teaching					
30.Allows for the development of					
knowledge, skills, values and					
attitudes					



# PART D

How often do you use the following methods, tools and techniques in the teaching of Mathematical Literacy?

#### PLACE A CROSS (X) IN THE APPROPRIATE BLOCK

	Always	Often	Sometimes	Seldom	Never
1.Charts					
2.Tables					
3.Data from media					
4.Textbooks					
5.Scientific calculators					
6.Spread sheets					
7. Newspaper articles					
8.Computer software:					
<ul> <li>Autograph</li> </ul>					
<ul> <li>Geometers</li> </ul>					
Sketchpad					
<ul> <li>Other (specify)</li> </ul>					
9.Debates					
10.Reflection					
11.Learner chosen					
contexts					

#### PART E

It is claimed that effective Mathematical Literacy teachers possess the following traits and behavior.

#### PLACE A CROSS (X) ON THE RESPONSE YOU CONSIDER MOST APPROPRIATE

	Strongly	Agree	Uncertain	Disagree	Strongly
	agree				disagree
1.Have high but realistic					
expectations of all					
learners					
2.Promote and value					
learner effort					
3.Focus on key					
mathematical ideas					



#### PLACE A CROSS (X) ON THE RESPONSE YOU CONSIDER MOST APPROPRIATE

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
4.Modify teaching as a result of lesson reflection					
5.Believe that mathematics teaching and learning should be enjoyable					
6.Are confident in their own knowledge of mathematics					
7.Vary their roles as teachers					
8.Connect mathematics ideas to various contexts					
9.Make the mathematical focus clear to the learners					
10.Use teachable moments as they occur					

#### PART F

#### WHAT DO YOU THINK ARE THE MAIN REASONS WHY THE MATHEMATICAL LITERACY CURRICULUM HAS BEEN INTRODUCED IN OUR SCHOOLS?



## PART G

# WHAT IS YOUR UNDERSTANDING OF THE TERM MATHEMATICAL LITERACY?

Please write clearly.

# PART H

# DO YOU BELIEVE THAT TEACHING MATHEMATICAL LITERACY IS DIFFERENT TO TEACHING MATHEMATICS?



## PART I

# WHO DO YOU BELIEVE SHOULD BE TEACHING MATHEMATICAL LITERACY?

Please write clearly.

## PART J

#### WHAT DO YOU BELIEVE TO BE THE 'SPIRIT' OF THIS NEW REFORM IN MATHEMATICS? THAT IS WHAT ITS BROADER PURPOSE IS?



#### **SCHEDULE B**

#### Questionnaire II

The purpose of this questionnaire is to collect information about how teachers practice Mathematical Literacy in their classrooms.

## PART A

PLEASE READ EACH OF THE FOLLOWING STATEMENTS BELOW WITH REGARD TO YOUR CURRENT TEACHING PRACTICE WITH RESPECT TO MATHEMATICAL LITERACY AND PLACE A CROSS ON THE NUMBER OF THE RESPONSE YOU CONSIDER MOST APPROPRIATE.

#### How does your current teaching practice match each of the following statements?

	Mirrors the	Room for	Does not
	statement	improvement	mirror the
		_	statement
1. Teaching is sensitive to indigenous			
knowledge systems			
2. Engages with real-world problems			
3. Various contexts are used			
4.Integrate lessons with other disciplines			
(subject areas)			
5.Entrepreneurial skills are targeted and			
developed			
6.Lessons engage learners critically			
7.Lessons engage learners creatively			
8.Basic mathematical skills are extended			
9. High levels of numerical skills are			
afforded			
10.Addresses issues of social justice			
11. Attitudes and values are developed			
12.Use technology			
13.Calculators used			
13.Reflection takes place (educator &			
learner)			
14. Pupils work in groups or pairs			



How does your current teaching practice	e match each of	f the following	statements?
	Minnonatha	Doom for	Dear not

	Mirrors the	Room for	Does not
	statement	improvement	mirror the
			statement
15.Outcomes are linked to the Critical			
Outcomes			
16.Outcomes are linked to the			
Developmental outcomes			
17.Outcomes are the main objective of the			
lesson			
18.Outcomes overlap			
19.Process and context are the main			
elements of the lesson			
20.Content is the focus of the lesson			
21.Educator is confident			
22.Educator is motivated			
23.Assessment is integrated with teaching			
24.Feedback is integrated with teaching			

#### PART B

## DO YOU THINK YOU HAVE THE NECESSARY KNOWLEDGE AND SKILLS TO IMPLEMENT THE MATHEMATICAL LITERACY CURRICULUM? PLEASE GIVE REASONS.



## PART C

#### ARE RESOURCES IN TERMS OF TIME, MATERIALS AND HUMAN CAPACITY SUFFICIENT AT YOUR SCHOOL TO IMPLEMENT THE CURRICULUM? PLEASE EXPLAIN.

Please write clearly.

# PART D

## WHAT CHANGES WITH RESPECT TO YOUR TEACHING METHODS DID YOU MAKE IN IMPLEMENTING THE NEW CURRICULUM?



## PART E

#### HAS YOUR UNDERSTANDING OF THE NATURE OF TEACHING MATHEMATICS CHANGED SINCE IMPLEMENTING THE NEW CURRICULUM?

Please write clearly.

## PART F

## HAVE YOUR BELIEFS WITH RESPECT TO WHO CAN DO MATHEMATICS CHANGED AS A RESULT OF MATHEMATICAL LITERACY?



## PART G

# WHAT DIFFICULTIES HAVE YOU EXPERIENCED IN THE IMPLEMENTING OF MATHEMATICAL LITERACY?

Please write clearly.

# PART H

# IN YOUR OPINION HOW CAN THESE BE OVERCOME?



## PART I

#### HAVE YOU RECEIVED ANY TRAINING OR SUPPORT IN IMPLEMENTING MATHEMATICAL LITERACY? EXPLAIN.

Please write clearly.

# PART J

## IS MATHEMATICAL LITERACY ABOUT GAINING ACCESS TO MATHEMATICS OR ABOUT ACCESSING MATHEMATICS? EXPLAIN.



#### **SCHEDULE C**

#### Interview I (Pre-classroom observations)

- 1. What is your understanding of the Mathematical Literacy curriculum?
- 2. Why do you believe this subject was introduced?
- 3. Why do you think it was made compulsory?
- 4. Which of your students do Mathematical Literacy?
  - How was this decided upon?
  - Describe these pupils with respect to mathematical proficiency.
- 5. In your opinion can all learners do Mathematical Literacy?
  - What do you think is the status of the subject with respect to mathematics?
    - Do the pupils of the school share this view?
    - Do the parents of the school share this view?
    - Do your colleagues share this view?
- 7. What is your definition of mathematical literacy?
  - How did you arrive at the definition?
  - What in your opinion are the essential elements of mathematical literacy?
    - Why?

6.

8.

- 9. What do you think are the goals of the Mathematical Literacy curriculum?
- 10. How is your definition of mathematical literacy consistent with these goals?
- 11. What do you believe that being numerate requires?
- 12. What do you understand by the following terms:
  - acquiring mathematical methods
  - establishing mathematical understanding
  - establishing mathematical connections?
- 13. Do you think you have a role to play in this mathematics reform?
  - What role?
- 14. What are the advantages of offering Mathematical Literacy?
- 15. What are the disadvantages of offering Mathematical Literacy?
- 16. Why did you introduce Mathematical Literacy at your school?
- 17. How does the Mathematical Literacy curriculum differ from the new Mathematics curriculum?
- 18. How does the Mathematical Literacy curriculum differ from the old Standard Grade Mathematics curriculum?
- 19. How does teaching the Mathematical Literacy curriculum differ from teaching the new Mathematics curriculum?
- 20. How does teaching the Mathematical Literacy curriculum differ from teaching the old Standard Grade Mathematics curriculum?
- 21. Do you believe that Mathematical Literacy will improve numeracy levels in your school?
  - Why?
- 22. Do you believe that Mathematical Literacy will improve numeracy levels in the country?
  - Why?



- 23. Do you feel confident with respect to teaching Mathematical Literacy?Why?
- 24. Are you motivated to teach this subject?
- 25. How did you go about implementing this new curriculum?
  - Did you have any support?
  - Did you receive training?
- 26. What difficulties have you experienced with the implementation process?
- 27. What difficulties do you think teachers nation wide have experienced in the implementation process?
- 28. Have you had to change any of the following:
  - teaching style
  - teaching methods
  - beliefs with respect to the nature of mathematics?
- 29. What are your short-term goals with respect to teaching Mathematical Literacy?
- 30. What are your long-term goals with respect to teaching Mathematical Literacy?



#### SCHEDULE D

#### Interview Schedule II (Post-lesson observation)

The purpose of this questionnaire is to briefly collect information about how teachers perceive the nature of the lesson they have just delivered.

- 1. What was the purpose of this lesson?
- 2. In your view was this a successful lesson? Why?
- 3. Do you believe that the pupils acquired the knowledge and skills you expected of them before the lesson? Explain.
- 4. In future would you do anything differently? Explain.



## **SCHEDULE E**

## **Classroom Observation Protocol**

(4 weeks continuously of 1-hour lessons followed by one more week after 6 weeks)

## Teacher:

School:

Date:

	Lesson		Lesson		Nature of use/Comments
	Yes	No	Yes	No	
1.Purpose of lesson explained					
to learners					
2.Pre-knowledge determined					
3. Teaching supports learners to					
take ownership of mathematics					
4.Context obscures					
mathematics					
5.Use of authentic contexts					
6.Context familiar to learners					
7.Contexts used are a priori					
8.Contexts used are inductive					
9.Guided discovery of					
algorithms					
10.Learners encouraged to seek					
mathematical understanding					
11.Solution process varied and					
rich					
12.Mathematical 'life skills'					
taught					
13.Mathematical reasoning					
(justification) encouraged					
14.Reflect on solutions -					
awareness only					
15.Reflect on solutions-					
consensus generation					
16.Adaptive/differentiated					
instruction					
17.Instructional expectations of					
learners high					
18.Development of attitudes					
and values					



	Lesso	Lesson		n	Nature of use/Comments
	Yes	No	Yes	No	
19.Teaching practice					
(pedagogy) promotes self-					
regulated learning					
20.Consolidate basic skills					
21.Extend basic skills					
22.Critical analysis of					
problems					
23.Critical engagement with					
regard to mathematical					
arguments					
24.Creativity in solving					
allowed for					
26.Lessons afford depth					
26.Lessons afford breadth					
27.Indigenous mathematics					
problems/examples used					
28.Communicates using					
various methods					
29.Variety of teaching					
resources used					
30.Multiple forms of					
representation					
(e.g. tables, diagrams)					
31.Computational tools used					
32.Space, shape &					
measurement using design/art/					
geography/					
other					
33.Functional relationships					
(rate of change)					
34.Numbers & operations in					
various contexts					
35.Data handling-awareness of					
data manipulation					
36.Data handling-critical					
analyses					
37.Learners pose/identify					
problems					
38.Recognition provided					
39.Reinforcement given					
40.Motivational strategies used					
41.Positive attitude towards all					
learners					



	Lesso	n	Lesson		Nature of use/Comments
	Yes	No	Yes	No	
42.Informed feedback given					
43.Outcomes focused					
44.Content focused					
45.Teacher -centered					
46.Learner-centered					
47.Collaborative problem					
solving					
48.Instructional match (needs					
to instruction matched)					
49.Order of lesson-review					
previous material, demonstrate					
how to solve problems for the					
day, practice similar problems					
50.Responsibility/sensitivity to					
broader societal concerns					
51.Career opportunities					
discussed					
52.Entrepreneurial success					
discussed					
53.Learners reflect on lesson					
54.Teacher reflects on lesson					
55.Assessment integrated in					
instructional practice					
56.Process and context					
interrelated with content					
57.Ownership of curriculum					
58.Relates mathematics to					
other learning areas					



## SCHEDULE F

# Document analysis I

# PART A

## Analysis of Learner Documents and Records

Criteria	Books/notes	Portfolios	Reports	Comments
			of	
			learners	
Purpose of lesson				
obvious				
Real-world problems				
Variety of contexts used				
Contexts chosen by				
teacher				
Evidence of learner				
context choices				
Focus is on content				
Focus is on process				
Evidence of issues				
related to human rights,				
environmental, social				
justice				
Reflects indigenous				
knowledge systems				
Conceptual knowledge				
developed				
Individuals needs catered				
for				
Lesson integrates with				
other disciplines				
Various methods of				
communication				
Use of calculators				
Estimation				
Use of technology				
High knowledge				
problems set				
High skills problems set				



# PART B

## Analysis of Educator Documents and Records

Criteria	Subject	Work	Lesson	Departmental	Staff	Comments
	framework	schedule	plans	minutes	development	
			I ····		documentation	
Philosophy						
and policy						
NCS						
principles						
Conceptual						
progression						
Integration of						
LOs & ASs						
Resources-						
learning &						
teaching						
Inclusivity &						
diversity						
Assessment						
Contexts &						
content						
Teaching						
methodology						
Learning						
methodology						



## SCHEDULE G

#### Document analysis II

Three documents i.e., National Curriculum Statement Mathematical Literacy, Learning Programme Guidelines Mathematical Literacy, an Subject assessment Guidelines Mathematical Literacy, will be analyzed with respect to purpose, principles, scope and opportunity.

#### The documents will be explored and summarized according to the following criteria:

- 1. What is the purpose of the document?
  - What is the rationale for the document?
  - What are the goals and objectives of the document?
  - What principles is the document based on?
  - What are the implied intentions of the document?
- 2. How is the document related to transformation?
- 3. What is the 'theory of action'?
- 4. Which themes emerge?



#### SCHEDULE H

#### Document analysis III

The purpose of this summary form is to collect any additional information pertinent to this study from auxiliary (subject files, vision statement for implementation, timetable etc.) educator documents.

Site:\_\_\_\_\_

Document number:\_\_\_\_\_

Date received or picked up:\_\_\_\_\_

Name or description of document:

# EVENT OR CONTACT, IF ANY, WITH WHICH DOCUMENT IS ASSOCIATED:

## SIGNIFICANCE OR IMPORTANCE OF DOCUMENT:

**BRIEF SUMMARY OF CONTENTS:** 



## **SCHEDULE I**

#### **Contextual Information on the School**

The purpose of this checklist is to collect contextual information on the school in order to compile a vivid and rich description of the case study school for the narrative of this research.

To be completed by the researcher/teachers in the school

#### PLEASE FILL IN OR PLACE A TICK IN THE APPROPRIATE COLUMN

#### 1. Type of building

a) Building designed as school	
b) Prefab	
c) Teacher training college	
d) Other (specify)	

#### 2. School building

a) Number of blocks	
b) Number of storeys	

#### 3. Condition of school and furniture

	Type of	No	Need	Need	Beyond
	structure:	maintenance	maintenance	maintenance	repair
	Specify (e.g.,	needed		& structural	
	brick wall, tile			repair	
	roof, etc)				
a) Roof					
b) Windows					
c) Doors					
d) Walls					
e) Furniture					
f) Floors					
g) Toilets					
h) Ceilings	Fitted	Not fitted			
i) Other					
(specify)					



4. Number of toilets for teaching/administrative staff

a) Male staff	
b) Female staff	
c) Out of order	

# 5. Number of toilets for learners

a) Males	
b) Females	
c) Out of order	

## 6. Power and energy supply

a) Wired & supplied with electricity	
b) Wired but not supplied with electricity	
c) Not wired and/or & no electricity available	
d) Generators	
e) Other (specify)	

## 7. Overall condition of building

Very weak (not	Weak (structure	Needs paint &	Good condition	Excellent, no
suitable for	needs attention)	minor repairs		foreseeable
occupation)				repairs

## 8. Safety

a) Building is completely fenced with security at the entrance	
b) Building is completely fenced without security at the entrance	
c) Building has been fenced but fence is damaged	
d) No fence	
e) Other (specify)	

## 9. Office space

	Adequate	Inadequate	None	Estimated
				shortfall
				number
a) Offices for				
management				
b) Offices for				
admin staff				



## 10. Access roads

	Good condition	Poor condition
a) Tar road		
b) Gravel road		

11. Please provide a general description of the overall surroundings





## SCHEDULE J

#### **Researchers Journal**

Date:

Day:

Time:

#### **RESEARCHER REFLECTIONS**





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