

**Exploring Grade 9 Mathematics teachers' usage of the
curriculum planner and tracker in secondary schools in the
ILembe and Pinetown districts.**

BY

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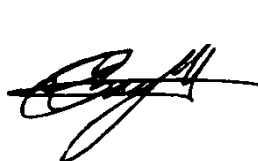
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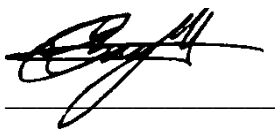
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DECLARATION

I, Yeshvira Brijlall (Student number: 211502418), herewith declare that this thesis titled *Exploring Grade 9 Mathematics teachers' usage of the curriculum planner and tracker in secondary schools in the ILembe and Pinetown districts* is my work and that all the sources that I have used or quoted have been indicated and acknowledged using complete references.

I further declare that I have not previously submitted this work, or part of it, for examination at UKZN for another qualification or at any other higher education institution.



Signature

31 January 2020

Date

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This study proved to be one of the greatest tests of my abilities as an academic and tested my willpower to balance these studies as well as commitments as a full-time teacher.

This thesis would not have reached fruition if it were not for those who were instrumental in its successful completion. My sincerest gratitude and appreciation go to the following who assisted throughout this research project:

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DEDICATION

This thesis is dedicated to the memory of my late grandfather Mr. Jugpershad Davcharan.

As an ex-principal, he played an important role in laying the foundation for the dreams of the many lives he touched. As my grandfather, he was instrumental in providing inspiration and motivation through his many stories and life experiences. The life he led is proof that through hard work and sheer determination, you can always achieve your goals.

His memory lives on in the legacy he has left behind.

ABSTRACT

This study attempted to determine the extent to which Grade 9 mathematics teachers, from a sample of six schools, have utilised the Jika iMfundo Curriculum Planner and Tracker (CPT), formulated by the Programme to Improve Learning Outcomes (PILO), to manage their curriculum coverage. The study was conducted within three schools in the Pinetown District and three schools in the ILembe District, in the province of Kwa-Zulu Natal in South Africa.

South Africa is still rated as one of the lowest-performing countries in relation to mathematics performance. Secondary school learners perform poorly despite efforts provided by the education authorities to support the teaching and learning of mathematics. One of the reasons accounting for this poor performance was the inadequate coverage of the curriculum. Put another way, it was noted that there was a need to help teachers develop strong curriculum management skills to strengthen support within teaching and learning. As a consequence, the Jika iMfundo Project, a campaign of the Kwa-Zulu Natal Department of Education whose implementation was supported by the Programme to Improve Learning Outcomes (PILO) and funded by the National Education Collaboration Trust (NECT), was introduced to assist teachers to unpack the curriculum. This project has been piloted in King Cetshwayo and Pinetown districts since 2015 to test it on a smaller scale and implement lessons learned prior to phased rollout across the province from 2018 with full implementation in all districts planned between 2018 and 2021. The purpose of this study was to investigate the extent to which mathematics teachers utilised the CPT by focusing on the factors that both hinder and promote the utility of the CPT. In addition, the study explored the influence of the CPT towards curriculum coverage and the extent to which mathematics teachers and HODs (Head of Departments) have taken ownership of the tools in the CPT. The benefit that will accrue from this study is that findings will inform and possibly influence subsequent re-design of the Jika iMfundo Project.

A qualitative research design was used within the interpretive paradigm. The participants were selected using purposive sampling and convenience sampling. Participants were Grade 9 mathematics teachers and their HODs. Data analysis was drawn from secondary data and primary data. Secondary data, collected over a period of three years (2015-2017), consisted of school reviews, self-evaluation documents, surveys and semi-structured interviews. Primary data, collected over two years (2018-2019), consisted of semi-structured interviews and

document analysis. The analysis of secondary and primary data determined the enabling factors and challenges associated with CPT usage, the impact of the CPT on curriculum coverage and the ownership of PILO tools by HODs and teachers.

Findings from this study indicated that the enabling factors were: a) the comprehensive nature of the CPT, b) the incorporation of reflections, c) workshops to train teachers and HODs on the CPT and lastly, d) the self-regulation and motivation of the teacher to use the CPT. The findings further revealed challenges that included contextual issues faced in schools, poor training of teachers and HODs in the usage of the CPT and late delivery of the CPT to schools. Generally, findings revealed that the greatest source of challenge stemmed from there being a lack of synergy between the Annual Teaching Plan (ATP) and the Curriculum Planner and Tracker (CPT). Some of the recommendations made were to engage in continuous teacher and HOD development on a termly basis, establish collaborative working environments where teachers form Professional Learning Communities (PLCs), greater support to deal with contextual issues and monitoring of teachers by HODs in lower Quintile schools and redesigning the CPT to better align with the ATP. This study could have implications for future studies that look into curriculum issues, gaps in teacher knowledge, confidence and beliefs about the teaching of mathematics. This study has the possibility of enabling future researchers and policy makers to look into designing the curriculum for the South African context in order to aid in curriculum reform.

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GLOSSARY OF TERMS

1+9 Programme	An intervention programme in which Mathematics teachers attend a workshop for one school day which prepares them for the next nine days of teaching. It works on a 10-day cycle taking teachers out of the classroom once every ten days. Lesson plans are given and content training takes place at these interventions
Glen P5	Glen is the pseudo name assigned to the third school in Pinetown district belonging to Quintile 5 – a fee-paying school
Grout I3	Grout is the pseudo name assigned to the first school in ILembe district belonging to Quintile 3 – a non-fee paying school
JIT	Just in Time is a programme designed to workshop teachers and HODs and provides resources such as workbooks and lesson plans to assist in the preparation and execution of lessons.
Mano I5	Mano is the pseudo name assigned to the third school in ILembe district belonging to Quintile 5 – a fee-paying school
School A1	refers to the first school in the first district which is Pinetown district
School A2	refers to the first school in the second district which is ILembe district
School B1	refers to the second school in the first district which is Pinetown district
School B2	refers to the second school in the second district which is ILembe district
School C1	refers to the third school in the first district which is Pinetown district
School C2	refers to the third school in the second district which is ILembe district

Stan I4	Stan is the pseudo name assigned to the second school in ILembe district belonging to Quintile 4 – a fee-paying school
Transition Maths	A professional development initiative aimed at focusing on teachers to improve their teaching which improves learner results
Umta P2	Umta is the pseudo name assigned to the second school in Pinetown district belonging to Quintile 2 – a non-fee paying school
Zuzu P1	Zuzu is the pseudo name assigned to the first school in Pinetown district belonging to Quintile 1 – a non-fee paying school

LIST OF ACRONYMS

ANA	Annual National Assessment
AS 2016	August Survey 2016
ATP	Annual Teaching Plan
C 2005	Curriculum 2005
CAPS	Curriculum Assessment Policy Statement
CM	Circuit Manager
CO	Curriculum Overload
CPD	Continuous Professional Development
CPT	Curriculum Planner and Tracker (can also be found to be commonly referred to as tracker)
CPTD	Continuing Professional Teacher Development
DA	Development Appraisal
DBE	Department of Basic Education
DH	Departmental Head
DoE	Department of Education
DP	Deputy Principal
DSG	Development Support Group
ESL	English Second Language
ESP	Enhancing Secondary Mathematics Teacher Preparation Project
HOD	Head of Department
IA 2017	Interview August 2017
IQMS	Integrated Quality Management System
IR 2017	Interview Report 2017
JIM	Jika iMfundo
JIT	Just in Time
KZN	Kwa-Zulu Natal
LB	Language Barriers
LK	Lack of Knowledge
LLI	Lack of Learner Initiative
LTSM	Learning and Teaching Support Materials
MKT	Mathematical Knowledge for Teaching

MTE	Mathematics Teacher-Teacher
MT	Mathematics Teacher
MVS	Maximum Variation Sampling
NAPTOSA	National Professional Teachers' Organisation of South Africa
NECT	National Education Collaboration Trust
NM	No Monitoring
NPO	Non-profit Organisation
NR	No Reflections
NSC	National Senior Certificate
OBE	Outcomes Based Education
OPN	1+9 Programme
OTL	Opportunity to Learn
PCC	Poor Curriculum Coverage
PD	Professional Development
PGP	Professional Growth Plan
PILO	Programme to Improve Learning Outcomes
PLC	Professional Learning Community
PMS	Performance Management System
PT	Poor Training
SACE	South African Council for Teachers
SADTU	South African Democratic Teachers Union
SE 2016	Self-Evaluation 2016
SI	Sasol Inzalo
SMT	School Management Team
SP	Social Problems
SR 2015	School Review 2015
SR 2016	School Review 2016
TIMSS	Trends in International Mathematics and Science Study
TQG	Teacher Quality Grant
WSE	Whole School Evaluation

CHAPTER 1

INTRODUCTION

This chapter gives an overview of this research study. The background of this study will be discussed here. The rationale or the problem statement for which this research is being conducted, the significance of this study, the purpose of the study and the relevance it will have to the various stakeholders is explained in this chapter. The research questions, objectives of the study as well as summaries of upcoming chapters will be discussed as part of a dissertation outline. The introduction gives a brief background of the context of this study with the aim of providing a clear picture of how the project came about.

1.1. Background of the Project

The status of mathematics results at secondary schools in South Africa is still a cause for concern. The Trends in International Mathematics and Science Study (TIMSS) in 2015 has indicated that results in mathematics in Grade 9 in South Africa, have improved when compared to those of 2011 (Mullis, Martin, Foy, & Arora, 2012; Mullis, Martin, Foy, & Hooper, 2016). However, South Africa is still rated as one of the lowest countries with regard to learner achievement in mathematics.

Even though much has been done to improve the mathematics results, South African students continue to perform poorly, regardless of all the interventions being put in place to improve learner achievement (Feza, 2014; Spaul, 2013). In its analysis of mathematics results, TIMSS revealed this performance, by province, in 2011. The three best-performing provinces were the Western Cape, Gauteng and the Northern Cape. The three lowest provinces were KwaZulu-Natal, Limpopo and the Eastern Cape. Although the performance was still poor, several provinces had improved their average scores since 2002 (Mullis et al., 2012).

When compared to other developing countries, South Africa is still ranked considerably low by comparison (Zuze, Reddy, Visser, Winnaar, & Govender, 2017). Therefore, curriculum coverage is imperative in ensuring the academic success of learners. In a study conducted by Plewis (1998), it was found that if the mathematics curriculum is covered in-depth and to a great extent, it correlates with improved learner performance in the classroom. To improve the dire state of South Africa's mathematics performance in Grade 9, learners must be given ample

Opportunity to Learn (OTL) through sufficient curriculum coverage. Research by Stols (2013) correlates with that of Plewis (1998), indicating that OTL has an impact on matriculants and their ability to meet the cognitive demands of completing tasks that require them to have had adequate exposure to the skill set required. If learners were not taught sections due to a lack of curriculum coverage, there would have been no opportunity to learn those skills, thus leading to poor performance from those learners.

The 2014 Annual National Assessment (ANA) results also revealed that the status of mathematics teaching and results need serious attention (Pournara, Mpofu, & Sanders, 2015; Roberts, Tshuma, Mpalami, & Saka, 2019). As a result, ANA was viewed as a disaster due to poor achievement outcomes (Bansilal, 2017). All this evidence points to one of the reasons leading to poor performance in Mathematics in South Africa that being the lack of curriculum coverage (Pournara et al., 2015). To curb this crisis and to understand the purpose of this study, it is vital to understand what PILO is and how it relates to Jika iMfundo. The Programme to Improve Learning Outcomes (PILO) in partnership with the Department of Basic Education Kwa-Zulu Natal (DoE KZN) launched a programme called Jika iMfundo (Pillay, 2018). The Programme to Improve Learning Outcomes (PILO) is a non-profit organisation (NPO) that aims to make positive and sustainable improvements to the public education system. Together with the Department of Education (DoE) as well as the various teacher unions in the province of Kwa-Zulu Natal (KZN), PILO designed the Jika iMfundo intervention programme (Christie & Monyokolo, 2018). According to Christie and Monyokolo (2018), PILO refers to the change partner of the KZN DoE whose design considerations have informed the development of Jika iMfundo, where Jika iMfundo is the term meant to describe the various sets of interventions taking place in KZN schools.

One of the Jika iMfundo initiatives involves the tracking and monitoring of curriculum coverage through the use of curriculum planner and tracker tools for use by teachers, curriculum monitoring tools for HODs (Head of Departments), Principals, Circuit Managers and District Managers. Each of these stakeholders use different tools suitable for their levels and teachers use the curriculum tracker to track the curriculum coverage as they teach. The funding for the Jika iMfundo campaign is implemented through the National Education Collaboration Trust (NECT) with the KZN DoE having a budget to accommodate this initiative as well.

Figure 1.1 below shows the sample of the curriculum planner and tracker used by mathematics teachers.



.Fig. 1.1. Grade 9 Jika iMfundo Curriculum Planner and Tracker for Mathematics

The Curriculum Planner and Tracker (CPT) is aligned to the Curriculum Assessment Policy Statement (CAPS) and the Annual Teaching Plan (ATP) (Department of Basic Education, 2011; Metcalfe, 2018). Its aim is to break down content into days of the week in order to help understand the depth of the content they need to cover and for HODs to understand the extent needed to cover each topic, thus helping with curriculum coverage. Figure 1.2. below shows how the content in the CPT is divided into weeks.

Premier Mathematics Week 2								
*Select								
Day	CAPS concepts and skills	CAPS pp.	LB ex.	LB pp.	TG pp.	DBE workbook	Sasol Inzalo	Class
								Date completed
6	Solve problems with 2-D shapes using the Theorem of Pythagoras; Solve problems with 3-D shapes	138	4-5*	116-119	66-68	No. 59a-b (pp. 160-163)		
7	Revision (use Sasol/ Inzalo book)	138					No. 1-4 (pp. 246-247) Worksheet (p. 248)	
8	Area and perimeter of 2-D shapes: Revision of SI units	139-140	1	120-121	76-77	No. 60 (pp. 164-165)	No. 1-3 (p. 257)	
9	Perimeter of 2-D shapes	139-140	2	122-123	77-78	No. 61 (pp. 166-167)	No. 1-5 (pp. 249-252)	
10	Area of 2-D shapes	139-140	3 (no. 1-3)	124-125	78	No. 62 (pp. 168-169)	No. 1-4 (pp. 253-254) No. a-d (p. 263)	
Reflection								
Think about and make a note of: What went well? What did not go well? What did the learners find difficult or easy to understand or do? What will you do to support or extend learners? Did you complete all the work set for the week? If not, how will you get back on track?				What will you change next time? Why?				

Fig. 1.2. Sample of the Grade 9 Tracker to be filled in for Week 2 for Term 2

Through Jika iMfundo initiatives in 2015, teachers in the Pinetown district and King Cetshwayo district were provided with CPT in order to understand the depth of curriculum coverage. However, ensuring curriculum coverage is not only the duty of the teacher, they need to be supported by the HOD. Therefore, Jika iMfundo provided HODs with tools to monitor and track curriculum coverage with the aim to support teachers. Figures 1.3 and 1.4 show a sample of one of the tools used by HODs. For the purpose of this study, the researcher decided not to include the Principal, Circuit and District managers tools as the discussion of these tools is beyond the scope of this study.



HOD Tool 1: HOD Curriculum Planning and Tracking and Supervision Tool
A Guideline Distributed as Part of the SMT Training and Coaching Programme

STEPS:

1. Decide how much time you have available to supervise teachers and how often you can see them.
2. Decide if there are people within your teaching team who can be resources to you, who you can ask to work with other teachers to have *professional and supportive conversations about curriculum coverage based on evidence*. This could be, for example, a teacher in your team who may be a subject expert, or an experienced teacher, or a teacher who is regarded as supportive.
3. Decide what activities you want to include in your planning calendar. The activities listed below are SUGGESTIONS.
4. Make up your own codes. These activities and codes are suggestions.
5. Think about all the things that you do to support teachers, and record each one of these activities.

REMEMBER:

- If you bring other people into your supervision team, record this in your activities and codes so that these activities are also recorded.
- Where you have unplanned professional conversations, add these into your list of activities so that you keep a record.
- You do not have to use this tool, but you do need to PLAN your supervision, you do need to let teachers know when you plan to see them, and you do need to have the evidence of this planning and a record for your professional, supportive and evidence-based conversations with your Deputy or Principal and your Circuit Manager. If you use another tool, you can use this as evidence.
- Even if you collect all of the work done by teachers and make comments, this does not do away with the need for a supervision meeting. This should be a professional and supportive conversation in which you are saying, "How can I help you?"

KEY

CODE	CATEGORY	FREQUENCY*
DM	Department meeting	Weekly/fortnightly
PA	Planned assessment	As per CAPS
R	Review and discussion of teacher's records: <ul style="list-style-type: none"> ○ tracker ○ assessment ○ lesson plans 	Twice per term (?)
PS	Planned submission of learners' work (top 5, bottom 5, or a random sample)	Twice per term (?)
DR	Discussion of review of learners' work (individually, HOD and teacher)	Twice per term (?)
CV	Planned class visit (HOD or peer)	Once per term (?)
D	Discussion of class visit (HOD with teacher and peer)	Once per term (?)

* You must decide the frequency based on the time you have and how many teachers you supervise.

Fig. 1.3. Sample of HOD Monitoring Tool

HOD PLANNING CALENDAR
TERM

	TEACHER	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Month:		Date:	Date:	Date:	Date:	Date:
	A					
	B					
	C					
	D					
	E					
Month:		Date:	Date:	Date:	Date:	Date:
	A					
	B					
	C					
	D					
	E					
Month:		Date:	Date:	Date:	Date:	Date:
	A					
	B					
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Month:		Date:	Date:	Date:	Date:	Date:
	A					
	B					
	C					
	D					
	E					
Month:		Date:	Date:	Date:	Date:	Date:
	A					
	B					
	C					
	D					
	E					
Month:		Date:	Date:	Date:	Date:	Date:
	A					
	B					
	C					
	D					
	E					

End of term

Published in 2016 by Jik'iMfundo. Jik'iMfundo is a programme to improve learning outcomes, funded by the National Education Collaboration Trust and the KwaZulu-Natal Department of Education. © The Programme to Improve Learning Outcomes (PILO) No part of this publication may be reproduced without prior permission from PILO. These materials are currently being evaluated and will be improved on the basis of the evaluation.

Fig. 1.4. Sample of HOD Tool used for monitoring

1.2. Background to this Study

The argument underpinning the introduction of Jika iMfundo by PILO and DoE KZN is that curriculum coverage would lead to the attainment of learning outcomes which in turn would lead to improvement in learner performance in mathematics. This study is not evaluating whether the Jika iMfundo has been successful or not with meeting the ultimate goal. Instead, the focus is on how teachers and HODs utilise these new interventions since teachers and HODs are the implementers and managers of the curriculum at school level. The intended purpose of the curriculum planner and tracker as a tool for planning and tracking the learning outcomes, is to help teachers align what they teach to the CAPS document (Department of Basic Education, 2011). It is geared towards assisting teachers and management to improve teaching and learning in schools by working in districts to provide support to schools that need it. Furthermore, tracking tools called HOD Monitoring Tools (see Figure 1.3 and Figure 1.4. on page 4 and 5) were provided for HODs to assist them in monitoring curriculum coverage.

The introduction of the CPT is presumed to assist teachers in being able to unpack CAPS and to cover the specified learning outcomes for mathematics; with this initiative, PILO together with the KZN DoE hope that the implementation of the curriculum tracker will ensure full curriculum coverage, thus leading to the improvement of mathematics results in schools. Furthermore, this will ensure that learners obtain greater opportunities to learn thus leading to improved results (Stols, 2013).

As mentioned earlier, this is one of the initiatives to improve learner performance in mathematics. It differs from other initiatives in that it places more emphasis on curriculum coverage while other initiatives place emphasise on teacher knowledge. While PILO and DoE KZN are the designers of the initiative, the implementers of the initiative are teachers and HODs. From the anecdotal evidence and related experience from mathematics teachers, the success of any initiative seems to lie with the implementation. Many initiatives e.g. Annual National Assessment have ceased and appear to have failed because the implementers (teachers supported by unions) seem to have not found value in it (Department of Basic Education, 2014). The struggle with implementing CAPS, since its inception in 2012 until recently, was attributed to teachers not being equipped with knowledge and skills to implement it. The above examples and many other promising initiatives that have at some time failed, suggest the failure or success of the initiative depends on the implementers. Therefore, this study instead of focusing

on evaluating the initiative focuses rather on the teachers' and HODs utilisation of the initiatives as the expected implementers.

As of the time period between 2015 to 2017, Jika iMfundo, as an education intervention programme, had been piloted in 1200 public primary and secondary schools in two districts, namely Pinetown and King Cetshwayo (previously uThungulu) district. Over this period, data has been collected by PILO to view the progress made in meeting the ultimate goal of the initiative.

Preliminary findings from piloted districts have indicated that both teachers and HODs in the primary schools (Grade R – 7) have adopted the use of the curriculum planner and tracker to track curriculum coverage. There is evidence of teacher-HOD one-on-one and group meetings to discuss curriculum coverage. The preliminary findings further show similar trends for Natural Sciences at the Secondary school. However, a different picture emerged when it comes to mathematics teachers' and HODs' utilisation of the curriculum planner and tracker. The preliminary findings showed a low rate of utilisation of the curriculum planner and tracker by mathematics teachers in secondary schools. Firstly, it does not reveal the reasons for such low utilization by mathematics teachers in the Secondary school while the utilisation is promising in Natural Science, Physical Sciences and in the primary schools. Secondly, it does not show the enabling factors that allows the utilisation in these few schools where there is an evidence of utilisation.

Limited data was collected from teachers: the data presented is mainly from HODs and Principals. Even though HODs are interviewed, nothing much is explored in their usage of the tools to manage the curriculum. The focus is on teachers' usage of the CPT, which should have been asked of teachers themselves. Therefore, what was more apparent in the preliminary findings was that it revealed the discrepancies in the usage of the curriculum tracker and curriculum coverage; however, it does not explain the reasons for such discrepancies. The aim of this study is therefore to understand and uncover the cause of this low utilisation of the tracker, enabling factors for usage and discrepancies that exist within curriculum coverage despite the introduction of the curriculum planner and tracker.

As mentioned earlier PILO was introduced in 2015 in Pinetown and King Cetshwayo districts and in 2018 it was extended to four other districts. This is as per the circular from DoE KZN, stating that the Jika iMfundo project is currently being rolled out to the following districts.



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquires: Mr. M.J.Mazibuko

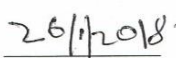
Contact: 033 846 5614

**TO: DEPUTY DIRECTORS-GENERAL
CHIEF DIRECTORS
DISTRICT DIRECTORS
HEAD OFFICE DIRECTORS
CHIEF EDUCATION SPECIALISTS
DEPUTY CHIEF EDUCATION SPECIALISTS
SUBJECT ADVISORS
PRINCIPALS OF SCHOOLS
ALL COLLEAGUES**

SUBJECT: ROLL-OUT OF JIKA IMFUNDO PROJECT: 2018/2019

1. The above matter refers.
2. Jika iMfundo Project has been piloted in King Cetshwayo and Pinetown Districts since 2015.
3. The Department and PILO has worked hard to prepare all Districts for the eventual Roll-out of the project to all Districts.
4. Due to the current economic climate the Province finds itself in, the Project will be implemented as follows:
 - 4.1 Pinetown and King Cetshwayo Districts will continue to implement with support of the Province and PILO.
 - 4.2 UMkhanyakude, UMzinyathi, UMgungundlovu and ILembe Districts will be added to the 2 piloting Districts for a full Roll-out in 2018.
 - 4.3 The rest of the Districts will be introduced to the Project starting with Foundation Phase in 2018, for the rest of the year PILO will be training officials and educators in preparation for the Roll-out in 2019.
 - 4.4 All Districts will receive Foundation Phase materials for implementation in 2018.
 - 4.5 The Province is gearing itself up for a full implementation in 2019.
5. The Province would like to appreciate the support given by PILO and NECT in its quest to improve learner performance.
6. Trusting that you will share this information with all affected.


Dr E.V Nzama
Head of Department: KZN Education


Date

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

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Fig. 1.5. Circular regarding the roll out of Jika iMfundo Project dated 26/01/2018

The current roll out of the Jika iMfundo project for 2018/2019 aims to involve more districts in the province. Pinetown and King Cetshwayo districts will continue to implement the project with the support of the provincial department, as well as PILO (Christie & Monyokolo, 2018). The new districts to be added to the Jika iMfundo project were UMkhanyakude, UMzinyathi, UMgungundlovu and ILembe districts. Full implementation by all districts in the province is expected to take effect in 2019. In 2018, Jika iMfundo is expected to be rolled out to 3150 schools in the province with a projected figure of reaching 6200 schools in all districts in KZN, in a phased process between 2018 and 2021 (Christie & Monyokolo, 2018). Therefore, the purpose of this study is to establish the utilisation of the Jika iMfundo project by identifying the extent to which mathematics teachers at selected schools in the ILembe and Pinetown Districts are using the tracker. Furthermore, it aims to identify the enabling factors and challenges that are encountered with tracker usage.

1.3. Rationale of the Study

On paper Jika iMfundo is seen to be a promising initiative to address the challenges of curriculum coverage. However, as evident in the preliminary findings, there are already gaps associated with implementation. It is within these parameters that instead of the evaluation of Jika iMfundo, the study would rather explore teachers and HOD utilisation of CPT as the expected implementers of this initiative.

1.3.1. The South African mathematics results: A cause for concern

The rationale for this study is threefold: firstly it is due to the dire state of mathematics performance in our country (Reddy et al., 2015). One of the reasons for these poor results is due to the lack of curriculum coverage (Pournara et al., 2015). Secondly, the importance of the initiative by PILO in introducing the Jika iMfundo campaign is aimed at assisting in alleviating the causes of poor performance in mathematics, through improved curriculum coverage. Lastly, the rationale of this study focuses on the significance of the findings to uncover the extent to which the teachers and HOD are using the CPT for the purpose it is intended, i.e. curriculum coverage.

1.3.2. Importance of the Jika iMfundo initiative

This study explores the utilisation of CPT in the Pinetown and ILembe districts due to the Pinetown district's existing exposure and involvement in being one of the first piloting districts

of the CPT. CPT was introduced to the Pinetown district in 2015 whilst in 2018 it was introduced to the ILembe district. This study then aims to identify the extent to which Grade 9 Mathematics teachers at selected schools in the ILembe and Pinetown Districts are using the tracker and to identify the enabling factors and challenges they encounter with tracker usage. In addition, this study will explore the influence of the CPT on curriculum coverage. Understanding the enabling factors and challenges teachers encounter with the use of the curriculum tracker would play a significant role in modifying the tracker as the programme is being rolled out to other districts in KZN. Secondly, the findings from this study would be of significance to all the stakeholders concerned in explaining the low utilization of the curriculum tracker by mathematics teachers.

There are many stakeholders involved in the Jika iMfundo intervention initiative such as HODs, teachers, principals of schools, teacher unions and the Department of Basic Education. There are also different levels of involvement by stakeholders in the tools that are being used within this Jika iMfundo initiative. The Curriculum Planner and Trackers are used by teachers in Mathematics, Sciences and Languages. Curriculum Monitoring Tools are used by the school management team (SMT) and all these tools serve to monitor curriculum coverage to improve learning outcomes.

The focus of this study is specifically geared towards the curriculum tracker and planner in the Jika iMfundo campaign and how it has assisted in curriculum coverage. Perold (2012) indicated that education stakeholders in KZN were ready to adapt to change via a Focus Group research undertaken for PILO. South Africa tends to embody a build-up of excitement each year when it approaches the release of the matriculation results with high expectations. However, it is poor learner performance that continues to plague South Africa. Teachers are left demoralised and frustrated with being unable to be drivers of change with a very limited support structure in place (Perold, 2012). It is because of this that teacher unions such as NAPTOSA (National Professional Teachers' Organisation of South Africa) and SADTU (South African Democratic Teachers Union), together with the DoE, got involved in the Jika iMfundo initiative with PILO. Jika iMfundo needs to be run as a campaign involving all stakeholders to ensure successful implementation. The utilisation of the CPT between 2015 and 2017 in the Pinetown district is indicated in Table 1.2 that have been extracted from Metcalfe (2018). The table indicates how many schools were involved in the utilisation of the CPT.

Table 1.1. Pinetown 2016–2017 SMT coaching: Number of sessions and schools and participants coached

	# Cluster Coaching Sessions	# Schools Coached	# SMT Members Coached
Jan-March 2016	99	381	957
April-June 2016	76	271	733
July-Sept 2016	67	115	142
Oct-Dec 2016	60	95	617
Jan-March 2017	77	102	762
April-June 2017	155	212	848
July-Sept 2017	25	25	69
TOTAL	460	820	3171

The dates in the table above are only for Pinetown district. No research has been done to explore the progress in the new districts that have been introduced to the CPT. As such there is no data regarding teachers and HOD utilisation. This study therefore aims to look at these two districts, namely Pinetown and ILembe. The study is not aiming at comparing the two districts. However, understanding the experiences of teachers and HODs who had been involved in the project since 2015 and those who had just been introduced to the project, would provide in-depth data on the enabling factors and challenges teachers encounter with CPT utilisation.

1.3.3. Significance of the findings

The findings from this study are of significance to all stakeholders as the project has been extended to other districts in KZN in 2018 and other districts will follow in 2019 and 2020. The findings will be of much help to address areas of concern and may extend areas of interest to ensure the successful implementation in other subjects.

Jika iMfundo is a campaign with the by-line “what I do matters” – its purpose is to represent the accountability on the part of professionals undertaking the implementation of this initiative to ensure that their actions have a positive impact (Christie & Monyokolo, 2018). Jika iMfundo encompasses the need to include as many stakeholders as possible to ensure success; teacher who are assisted in planning their teaching and assessments and to track their curriculum coverage; HODs, principals and deputies undergoing SMT training; HODs, subject and phase leaders at school level attending content training and members at district level (Christie &

Monyokolo, 2018). By involving these stakeholders in focusing on improving curriculum coverage, the acquisition of learning outcomes can be facilitated.

Hence, the rationale for this study is to engage with the curriculum tracker and other tools and to understand what is working and what is not working, in order to bring about change in terms of curriculum coverage. Curriculum coverage is a factor in improving results. Findings from this study would be beneficial to PILO and DoE, as the aim is to roll out the project to all KZN districts and to other provinces. Understanding the challenges and enabling factors would assist in modifying the tools if need be. Findings would further benefit teachers as their voice would be heard, which was not the case in the preliminary findings. Those teachers experiencing challenges would be able to find alternative ways to circumvent those challenges compared to those who are not able to use the CPT for its intended purpose. The findings would further shed some light in PILO's ultimate goal i.e. curriculum coverage, through understanding teachers' experiences with CPT usage and curriculum coverage.

1.4. Context of the Study

This study will be conducted in three schools that have already been involved in the PILO Jika iMfundo project in the Pinetown District since 2015 and three schools within the ILembe District. Schools in the Pinetown district would have had much exposure to the usage of curriculum planner and tracker as it was implemented since 2015. In contrast it would be important to see how the newly involved schools in the ILembe district are implementing the usage of curriculum planner and tracker. In total, six schools will be chosen, three belonging to each district. For the purpose of this study, teachers teaching mathematics in Grade 9 will be the participants and their HODs. Other teachers at the secondary school might also be participants, because in South African schools mathematics teachers do rotate classes.

These schools will consist of various quintile ratings. Quintiles 1-3 are non-fee paying, quintiles 4-5 are fee paying schools. The purpose behind selecting schools ranging from various quintiles in each district is in order to understand the utilisation of the curriculum planner and tracker in schools of different context and different environments and not to compare their performance, since this is not within the scope of this study.

The table below shows the Schools selected, the quintiles they belong to and the number of learners and teachers. The schools selected will be discussed in greater detail in Chapter 4 on Methodology for the study.

Table 1.2. Schools selected for the study

School	Quintile	Number of Learners	Number of Teachers
PINETOWN DISTRICT			
School A1	1	828	21
School B1	2	926	26
School C1	5	1278	34
ILEMBE DISTRICT			
School A2	3	2300	70
School B2	4	802	37
School C2	5	1127	41

1.5. Research Questions and Objectives of the Study

Research questions allow for an in-depth enquiry into a particular issue (Cohen, Manion, & Morrison, 2007). This allows for a focussed view of the areas being studied or under investigation. All research conducted must aim to answer the research questions and meet the objectives of the study (Cohen et al., 2007). The main aim of this study is to have an in depth understanding of the phenomena being studied. This study aims to answer three main research questions. The research questions are as follows:

1. To establish the extent to which mathematics teachers used the curriculum planner and tracker?
 - What are the challenges that hinder mathematics teachers from using the curriculum tracker?
 - What are the enabling factors that enhance the use of the curriculum trackers by the mathematics teachers?
2. How has the curriculum planner and tracker influenced the rate of curriculum coverage?

3. To what extent have mathematics teachers and HODs taken ownership of the PILO activities?

In order not to lose focus of the phenomena being studied, this study is guided by these main objectives. The objectives of the study align to the research questions. There are three objective of this study and these are:

1. To what extent mathematics teachers have been using the curriculum planner and tracker.
 - To find out the challenges that hinder mathematics teachers from using the curriculum tracker.
 - To find out the enabling factors that enhance the use of the curriculum trackers by the mathematics teachers.
2. To explore the influence of the Curriculum Planner and Tracker in curriculum coverage.
3. To find out the extent to which mathematics teachers and HODs have taken ownership of the PILO activities.

1.6. Overview of this study

This outline will provide an indication for how the research report will be divided or arranged. It will also provide a brief summary of what is to be expected in each chapter of this research study.

Chapter 1: Introduction

This chapter consists of the overview or outline of the study and what it entails. It indicates the background of the Jika iMfundo initiative, the purpose and the significance of the study. In other words, it is a clear explanation of what the study was about, why it had to be undertaken as well as the relevant stakeholders who would benefit from it. The researcher introduces the problem, states the rationale of the study and provides the context of the study, as well as the research questions and objectives of the study.

Chapter 2: Literature Review

In this chapter the researcher critically reviews literature linked to this study. The literature presented here aims to link previous research to the current problem under investigation. In

other words, the connection between existing knowledge and the research problem being investigated is covered within this chapter. Moreover, other intervention programmes and what allowed for those interventions to be successful or to fail, is being explored. Furthermore, relationships between previously implemented initiatives and Jika iMfundo will be discussed. Lastly, this chapter will look into existing research with regards to Professional Development, Teacher Knowledge, Teacher Confidence and Beliefs about the teaching of mathematics, Curriculum Coverage as well as challenges faced by teachers of mathematics with implementing learning programmes.

Chapter 3: Theoretical Framework

Chapter 3 discusses the theoretical framework and is the foundation that allows us to link this framework to that of the problem under investigation. The theoretical framework which underpins this study is that of the theory of change. This theory encapsulates how and why an initiative or programme works and can be used to explain the links between actions taken to achieve a goal and the outcomes of the programme or intervention (Sullivan & Stewart, 2016). The framework helps to understand the extent to which teachers and HODs make use of the CPT, through providing the lens through which the data can be unpacked.

Chapter 4: Research Methodology

Chapter 4 describes the procedures for conducting the study. The crux of this chapter is to explain the approach in conducting the study. It outlines the research paradigm as being that of the interpretive paradigm. The researcher provides an indication of the chosen research design and the reasons for that choice as well as the method of data collection. Furthermore, the sample methods and procedures for obtaining participants is also explained fully. In summary, the research methodology chapter discusses in full the procedures of conducting the study, including when, from whom and under what conditions the data was collected. The chapter focuses on the methods used in the study including the research paradigm, research design, research style, sampling method, data collection and procedures, data analysis methods and ethical issues that need to be considered for this study.

Chapter 5: Enabling Factors and Challenges Drawn from Secondary Data

This chapter offers an evaluation and interpretation of findings that have been obtained from secondary data and the analysis, using coding and thematic analysis. The secondary data

presented here is for the Pinetown District only and consists of data collected from School Reviews in 2015 and 2016 in the form of Semi-Structured Interview Questionnaires, School Surveys from 2016 and a School Self-Evaluation conducted in 2016. Raw data will be presented and discussed. The discussion will allow for the development of codes and thereafter data can be organised according to various themes. The themes that arise will assist in finding the enabling factors and challenges that can answer the research questions.

Chapter 6: Enabling Factors and Challenges Drawn from Primary Data in 2017 and 2018

Chapter 6 offers an evaluation and interpretation of findings that have been obtained from primary data collected in 2018 and was analysed using coding and thematic analysis. Primary data presented here is for both Pinetown and ILembe district. There are three sources of primary data in this study. Firstly, an interview report from an interview conducted at a school in Pinetown district (School A1) in 2017. This source contains findings from the interview, field notes and key observations. Secondly, the semi-structured interview transcript from 2017 conducted at a school in Pinetown district (School C1). Lastly, data from semi-structured interviews in 2018 that took place in both districts for all six schools. Similarly, to Chapter 5, the raw data will be presented and discussed. The discussion will allow for the development of codes and thereafter data can be organised according to various themes. The themes that arise will assist in finding the enabling factors and challenges that can answer the research questions.

Chapter 7: Enabling Factors and Challenges Drawn from Primary Data in 2019

Chapter 7 offers an evaluation and interpretation of findings that have been obtained from primary data that was collected in 2019 and was analysed using coding and thematic analysis. Primary data presented here is for ILembe district. Document analysis will be conducted in this chapter, the documents presented here stemmed from three sources. Firstly, in the form of reports on meetings that took place where Jika iMfundo was a pivotal area of focus. Secondly, the critical analysis of charts that were developed by an HOD in ILembe district to workshop staff on Jika iMfundo. Lastly, the analysis of monitoring documents developed by an HOD that were adapted based on an influence from Jika iMfundo. The analysis of these documents could provide vital insight into the progress made in ILembe district and the extent to which teachers and HODs have embodied the use of the Curriculum Planner and Tracker as well as other Jika iMfundo tools. Furthermore, the discussion will allow for the exploration of areas that could require improvement. The discussion will allow for the development of codes and thereafter

data can be organised according to various themes. The themes that arise will assist in finding the enabling factors and challenges that can answer the research questions.

Chapter 8: Conclusions, Recommendations and Limitations of the Study

In this chapter, concluding statements regarding the findings will be made. Possible recommendations will also be discussed. Recommendations would include that of possible ways to improve this study or to make improvements to the Jika iMfundo project, based on the findings in Chapter 5, Chapter 6 and Chapter 7. Recommendations made will have to be realistic, achievable and as specific as possible and will have to assist future researchers on the topic to effect improvement.

Possible factors that may be a hindrance in achieving the desired outcomes of the study are included in this chapter. The challenges or limitations may be as a result of factors such as time, costs incurred for travelling to participants and ensuring that they are available to be interviewed, appropriate responses from participants and their willingness to participate in the study.

1.7. Conclusion

In this Chapter 1 – Introduction; the direction of the study is established and the study is placed into context. The problem being addressed and seeing Jika iMfundo as a solution is discussed. The reasons for conducting this study is discussed in detail whilst being mindful of the research questions and the objective of the study. The significance of the study and its relevance to all stakeholders are discussed here. It is hoped that once the study is completed it will give results that will bring about an improvement in the curriculum coverage and can bring about positive improvements in the implementation of the Jika iMfundo initiative. The next chapter is intended to connect the present study with previous literature on professional development, teacher knowledge and curriculum coverage.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

The previous chapter dealt with outlaying the background of the study and to introduce the phenomenon under investigation. It also provided a brief outline of all the chapters that are to follow. This chapter will conduct a review of literature within the scope of the phenomenon being studied. The research being presented here is within a professional development context and targets a programme by PILO which is aimed at teacher development for improved curriculum coverage. The data that has been generated has been with regards to mathematics teachers in secondary schools. This literature review will then aim to explore current research in the field of professional development, teacher knowledge, teacher confidence and beliefs regarding the teaching of mathematics, curriculum coverage, enabling factors which facilitate curriculum coverage and lastly challenges faced by mathematics teachers. In some of the research reviewed here, many of the topics overlap and are inter-related.

2.2. What is Development?

To develop means to become better with respect to obtaining new skills, attitudes and knowledge; when any development takes place, the expectation is that it should lead to improvement in effectiveness. According to Stevenson (2010), development refers to a state of growth or advancement. It could also be described in the context of an event which constitutes a new change in a changing situation. In the context of the education sector, development is aimed at empowering stakeholders of schools for the progress of knowledge skillsets and attitudes to improve the quality of education provided.

2.3. Professional Development

The post-apartheid regime saw the education sector going through many changes, especially in policy and legislation. Smit (2001) discusses that even though teachers are the key role players in the implementation of policy, they are continuously overlooked and ignored by the policy makers. The interpretation of policy and its enactment is based on the person implementing it, which in this instance are the teachers. The study conducted by Smit (2001) involved five participants and evaluated how they felt about policy changes and how it affected them. Some

of the findings indicated a sense of distrust that the teachers have with the educational policy makers and the feelings of education being too politicised posing challenges to successful implementation. Though the study by Smit (2001) dealt with teachers at primary schools, policy change affects teachers even at secondary school level. The Outcomes Based Education (OBE) and Curriculum 2005 (C 2005) saw an attempt to prevent rote learning and leaned towards transformative education that wanted to create learners who could think critically (Jansen, 1998; Spreen, 2004). However, transformation in our South African schools can only take place if teachers are able to handle the challenges and needs of the country (Steyn, 2008). Coming out of post-apartheid South Africa, teachers were found to be ill-equipped to meet those challenges. Preparing teachers to meet the challenges they face then requires focusing on their professional development, which in turn should see an improvement in the quality of education in the country. Professional development takes place in various forms, through collaboration, workshops, and quality assurance programmes such as the Integrated Quality Management System (IQMS) (Weber, 2005). These various facets that encompass professional development and which pertain to the context of this study will be explored in this section.

Steyn (2008) explored the effect of continuing professional development for teachers (CPDT) against the role it could play in contributing towards development of teachers as anticipated by social learning systems. Steyn (2008) further explores the conflicts between Wenger's (2000) social learning system and the effectiveness of professional development (PD) programmes together with CPDT. It is argued by Wenger (2000) that organisations can only be successful if they work on becoming a social learning system which consists of communities of practice, boundary processes amongst these communities and identities as shaped by our participation in these systems. However, Professional Development programmes tend to be more focused on the individual involved in the development process rather than a community of many people in an organisation as proposed by Wenger (2000). In order to understand the role of CPDT as a form of Professional Development, it is important to evaluate the contrasting views introduced by Wenger's Social Learning System.

2.3.1. Wenger's Social Learning System and Communities of Practice

In any workplace environment, people are often viewed as an organisation's most important resource. Within organisations, people tend to use each other to develop and share and collaborate ideas in order to obtain new knowledge. These interactions tend to be informal

within an organisation and can be referred to as a community of practice (Wenger, 1998). These communities of practice act as a Social Learning System which promotes the growth and development of an individual through the actions of the group. Wenger (1998) speaks of communities of practice as one which is different from communities of interest within geographical communities. A community of practice is one where people are informally bound by common interests and mutual engagement in activities which serves to promote learning. Social learning systems which form communities of practice go through many stages of development as indicated in the figure below.

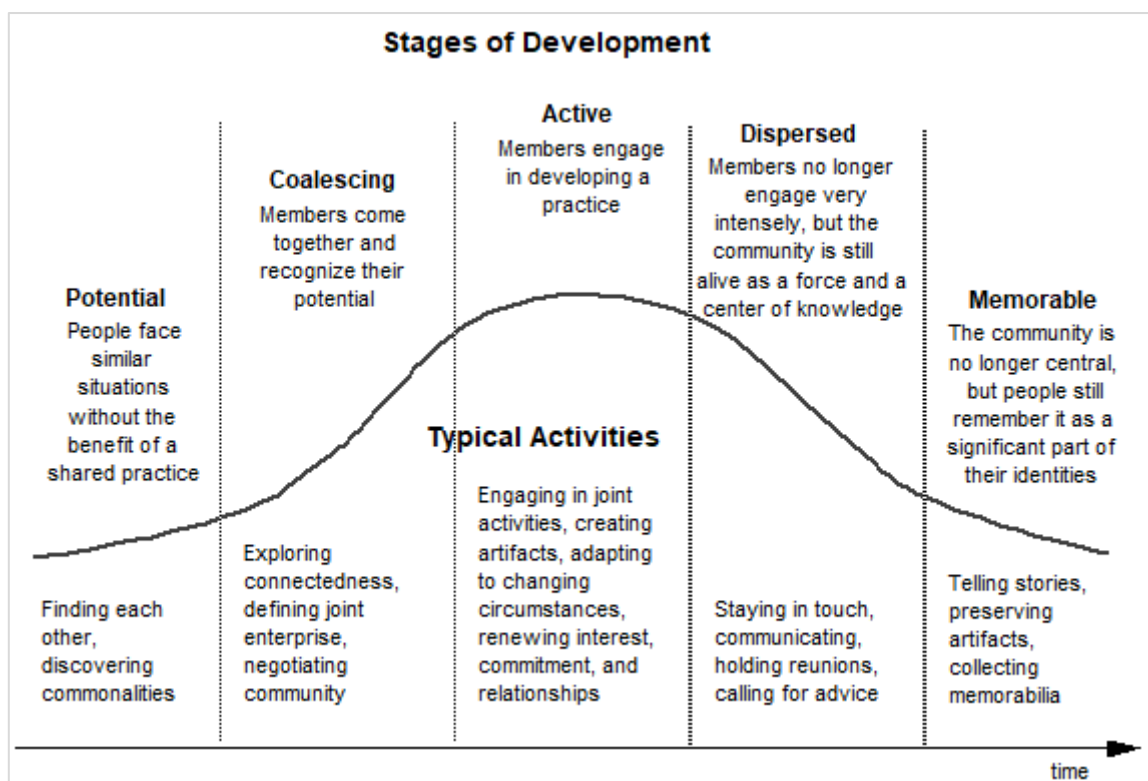


Fig. 2.1. Stages of development in communities of practice

Figure 2.1 goes through the various stages of development which are common practice within the establishment of communities of practice. Boundary processes are those typical activities that enable each of these stages to exist (Wenger, 2000). In many organisations, the most fruitful stage to be in would be the Active stage as it would ensure the greatest productivity within the boundaries of the organisation. These stages of development also align to additional research which pertains to the effects of communities of practice by Wenger, McDermott, and Snyder (2002). They state that when given enough time to network with others, people will establish and share common interests and passions and as a result will learn from each other.

The social learning system, in which communities of practice exists is based on some of the work by Vygotsky (1978). Vygotsky (1978) is of the view that communities and social interactions aid in making meaning and advancing cognition. Vygotsky (1978) focuses on the effect of social interactions and cognition and his work made large contributions towards the field of social constructivism. Jaramillo (1996) mentions that the work of Vygotsky (1978) was pivotal in contributing towards the constructivist paradigm which favoured networking, using social interactions for meaning-making, viewing adults and more competent peers as learning facilitators, engaging in problem-solving, networking and active learning participation. Wenger (2010) agrees with the views of Vygotsky (1978) in which the engagement in social contexts leads to meaning-making. According to Wenger (2010), engagement in activities, conversations, reflections and other aspects of social participation contribute towards shared experiences and can aid in building communities of practice. The work of Wenger (2010) focuses on the activities of a group, in order for that group to be effective, each individual should be developed so as to engage positively with others and aid in the professional growth of the group. It is in view of this that the CPDT could assist in the development of individuals which could assist in uplifting the group.

2.3.2. CPDT/CPTD as a form of Professional Development

Teachers are accredited by the South African Council for Teachers (SACE) which requires that professional development must enhance and encourage the mastery of skills in teaching and learning. Teachers understanding and their involvement with children involves the merging of these skills to attain curriculum mastery. This Professional Development (PD) would enable better commitment and accountability in terms of the best interests of the schools that the teachers serve. According to Steyn and Van Niekerk (2005) professional development is an ongoing process and such activity would develop enhanced skillsets which could be undertaken individually or as a collective experience by teachers. Billing (1977, p. 22) wrote that professional development is “any deliberate and continuous process involving the identification and discussion of present and anticipated needs of individual staff for furthering their job satisfaction and career prospects and of the institution for supporting its academic work and plans, and the implementation of programmes of staff activities designed for the harmonious satisfaction of needs.” This statement encapsulates why professional development is important. Keeping in mind the ever-changing contextual factors that influence the education sector, it is imperative to continuously develop staff in order to meet the needs of the school.

To encourage professional development in teachers, SACE developed a system called Continuing Professional Teacher Development (CPTD) in which teachers are required to earn points after completing tasks or activities related to professional development. Though this CPTD point system should be seen as a positive initiative aimed at developing teachers and encouraging them to engage in professional development activities, a study conducted by Roux (2018) using a cohort of three teachers, found that these teachers were rather frustrated with the CPTD system and could not focus on their own professional development.

The reasons for such frustrations were due to those teachers having to face social and economic issues inside and outside their classrooms. In addition teachers felt that they did not have a voice in the selection of activities which were allocated points. The participants in the study indicated their need for variety in the types of tasks that can earn points on the system. This is further supported by Motala, Morrow, and Sayed (2015) who suggest that professional development activities, such as CPTD, should not be a one-size-fits-all approach and should be varied to meet the needs of teachers based on their contexts and circumstances. Steyn (2008) prior to Motala et al. (2015) alluded to the need for teachers to be encouraged to look into their needs and beliefs to develop a CPTD system that would be useful to their unique settings. Teachers in schools are better placed to offer solutions to meet the contextual problems they face and as such they should be given the opportunity to have a say in designing professional development programmes and activities (Boaduo, 2010).

2.3.3. IQMS – Integrated Quality Management System

The Integrated Quality Management System (IQMS) (Education Labour Relations Council, 2003) is used to appraise strengths, weaknesses and work performance of teachers and management members within schools. IQMS is a part of a threefold integration which includes Whole School Evaluation (WSE), Development Appraisal (DA) and the Performance Management System (PMS). The WSE is meant to evaluate the effectiveness of schools as well as the quality of teaching and learning. The Development Appraisal is designed to appraise individual teachers in an effort to assist in drawing up programmes that cater for individual development (Noge, 2018). Lastly, the Performance Management System, which can also be viewed as Performance Measurement, is in place to appraise individual teachers in order to offer incentives such as salary progression or grade progression. Together, these three aspects formulate IQMS which aims to ensure optimal effectiveness within schools by ensuring that

individual teachers are taking accountability and ownership of their role in teaching and learning. However, in view of this, Biputh and McKenna (2010), conducted interviews with teachers and in their analysis found that systems such as IQMS should ensure accountability but instead it presents tensions between accountability and development processes. It was found that teachers engaged with IQMS practices out of surface compliance rather than genuinely engaging in tasks that would enable development.

Focusing on the teacher, IQMS is a means by which teachers are expected to conduct self-evaluations and are expected to engage with a personal support group otherwise known as a Development Support Group (DSG). Senior members of the DSG, most commonly the HOD, makes class visits to teachers to monitor lessons and the teaching practices of teachers to assist in the development of the teacher's teaching practice. The onus is upon the teacher to cooperate with their DSG in order to develop a Personal Growth Plan (PGP) that will be catered to the teacher's individual strengths and weaknesses (Education Labour Relations Council, 2003; De Clerq, 2008). Mestry, Hendricks, and Bisschoff (2009) agree that teachers who engage in professional development are better equipped to be effective in schools. However, in their study it was found that IQMS was not as effective in several provinces such as Mpumalanga and Limpopo, whilst in other provinces, such as Gauteng and Kwa-Zulu Natal, implementation of IQMS occurred at a very slow pace. Some of the reasons for this as indicated by De Clerq (2008) and Mestry et al. (2009) were: that the Department of Education (DoE) does not intensively advocate for and train teachers in IQMS. The inadequate training and cascading of information by facilitators who lack insight into IQMS; the top-down approach of the DoE in which teachers are not given a voice with policy matters; poor leadership of principals and school management teams; insufficient resources; low morale of teachers and the resistance by various unions with regards to the unilateral decisions taken by the DoE affects teachers negatively.

In view of the challenges above, Mtapuri (2014) looked at teacher perceptions on the implementation of IQMS in Mpumalanga, which was one of the struggling provinces in implementing IQMS, according to Mestry et al. (2009). As a result of looking at teacher perceptions, Mtapuri (2014) suggests alternatives to ensure improved implementation by proposing the following: using a bottoms-up approach in order to give teachers a voice in the way they engage with professional development activities; sustained training conducted by

those with strong leadership, using principles of empowerment, ownership, adaptability and understanding that the IQMS is not a system that should be implemented too rapidly.

2.3.4. Workshops

Boston (2013) investigated the participation in professional development workshops by secondary school mathematics teachers and how that impacted on their learning and instructional practice. The professional development workshop was called Enhancing Secondary Mathematics Teacher Preparation Project (ESP) which focused on cognitively demanding mathematical tasks or activities. According to Boston (2013), results from pre and post-assessments on teachers' knowledge showed that through ESP, teachers were able to develop new ideas regarding the role mathematical tasks play on student learning. Furthermore, participation in this professional development enabled ESP teachers to have changes in their knowledge which led to changes in their instructional practices, by being able to enhance the way in which their students embody mathematical tasks providing them with opportunities for higher cognitive levels and thus adapting learner thinking (Boston, 2013).

Zaslavsky and Leikin (1999) conducted a project involving mathematics teachers, in which some teachers became members of the project team and were called Mathematics Teacher-Teachers (MTE) whose function was to train the other members who were in-service Mathematics Teachers (MT). The purpose of the MTEs was to facilitate teachers' knowledge in both content and pedagogical skills. The aim was to support a constructivist perspectives towards teaching. MTs were provided with opportunities to gain experiences in alternative ways of learning mathematics which were challenging. The dynamics between the MTEs and MTs form a community of practice very similar to what was discussed by Wenger (2010). The diagram presented in Figure 2.2 illustrates the relationships of the community of practice formed between and within MTEs and MTs.

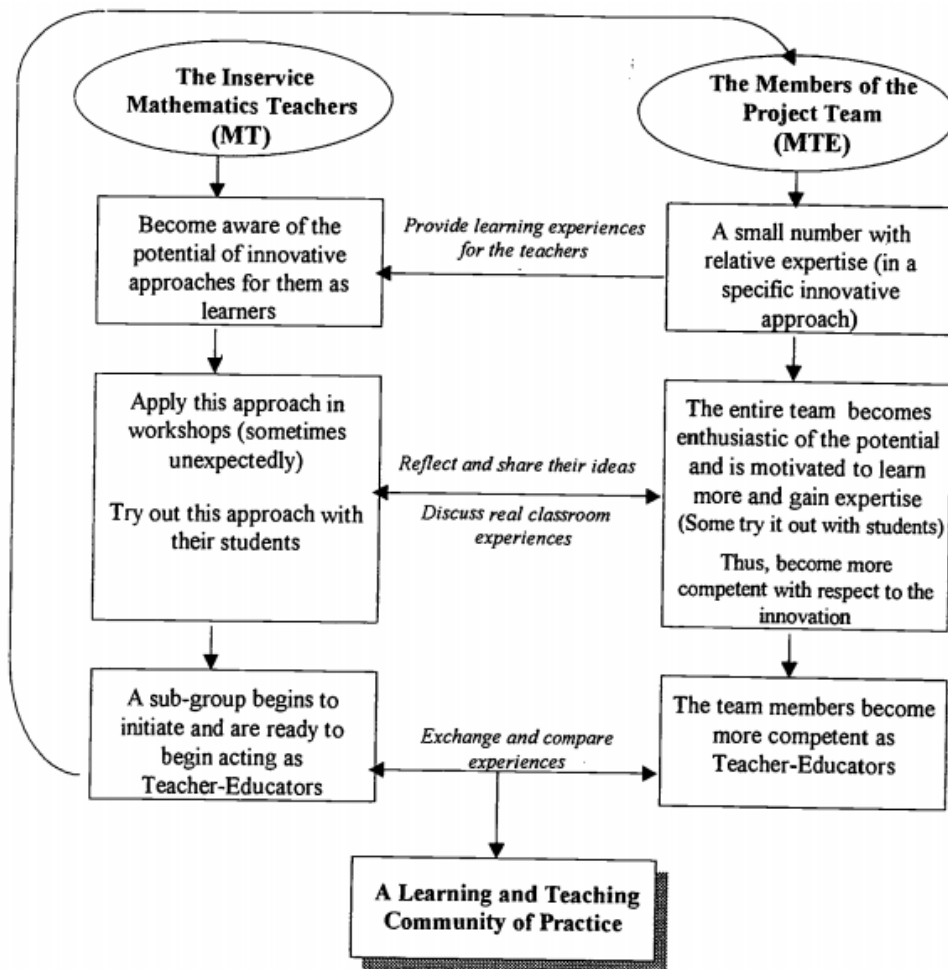


Fig. 2.2. The learning dynamics within and between the MTs and MTEs

The diagram above, Figure 2.2, indicates the complex learning dynamics in which teachers are prepared for innovative and reform-oriented approaches to management of learning mathematics, especially when MTs have limited knowledge. MTEs are those with greater relative expertise and assist in fostering teachers' awareness of their potential. When MTs apply learned approaches to their own teaching, they can later reflect and share ideas, leading to collaborative practice. This reiterates support for reflective practice and collaboration between teachers (Cordingley, 2015). Furthermore, promoting teachers' abilities to reflect on their learning and teaching experiences, as well as on their personal and social development is advantageous. In enhancing teachers' and teacher-teachers' socialization skills and developing a supportive professional community, much like those formed within Professional Learning Communities (PLCs) to which they belong (Botha, 2012), can only be productive.

2.3.5. Teacher Collaboration

Jao and McDougall (2016) evaluated a professional development programme called the Collaborative Teacher Inquiry Project which looked at developing Grade 9 secondary school mathematics teachers to work collaboratively. The findings of this study, conducted in 11 schools, concluded that teachers were excited to work with their peers in finding solutions to the problems they faced in their classroom practice. The teachers indicated that they saw benefits to working collaboratively. This included their professional growth as well as a noticeable improvement in learner engagement and achievement.

In South Africa, teacher clusters from various schools also form part of professional development and provide collaboration between different teachers from different contexts. It enables the sharing of experiences and knowledge (Jita & Mokhele, 2014). Teacher perspectives on their cluster experiences were very positive and the findings indicated two important aspects of their experiences. The first being that clusters seemingly enhanced teachers' content knowledge and pedagogical content knowledge and secondly, "process benefits" were indicated by the teachers, such as collaboration, instructional guidance and teacher leadership (Jita & Mokhele, 2014). The second finding is significant in that usually teachers opt to work in solo environments and keep outside influences away from their classrooms so being in the professional development programme would help them to be more open to accept new ideas and to share new knowledge gained with their fellow colleagues.

2.3.6. Development of Professional Learning Communities (PLCs)

A Professional Learning Community (PLC) is a collaborative effort in which a group of teachers meet regularly in order to facilitate better teaching and learning environments by sharing ideas and expertise in order to improve the schooling environment. It is very similar to the section on teacher collaboration as it also involves working with colleagues in order to achieve skill development. Grant (2006) discusses the need for teachers to take on leadership roles in order to build PLCs within their school environments. Botha (2012) builds onto this idea taking note that teachers with no vision to improve lack the commitment and accountability necessary to promote a culture of learning in schools. Botha (2012) together with Grant (2006) agrees that teachers do not embrace the concept of working collaboratively, even though it can be a pivotal step to the transformation of South African schools.

2.3.7. Additional programmes catering for teacher development

In order for professional development programmes to be geared towards achieving their goals, they need to target what teachers want and essentially need from these programmes (Matteson, Zientek, & ÖZel, 2013). The study conducted by Matteson et al. (2013) looked into the development of teachers who participated in a 2-year Teacher Quality Grant (TQG) which focused on content knowledge and teaching with technology. The focus was on determining what teachers want for the improvement of professional development training of mathematics teachers. Teachers gave suggestions as to what could be improved in the TQG training. Some suggestions included: professional development that focused on diverse student populations, especially on how to deal with poor performing learners or learners with disabilities or learning barriers; additional resources to help poor performing learners, pedagogical uses of technology to improve their instructional practice; additional time for exploring the use of technology so that they are able to effectively make use of it in the classroom and peer sharing amongst fellow mathematics teachers (Matteson et al., 2013). The peer sharing suggestion for improving professional development training colludes with the concept of teacher clusters as a professional development programme (Jita & Mokhele, 2014). Matteson et al. (2013) states that engagement with professional development enables teachers to reflect on their own skill sets and effective professional development training should establish growth in teacher knowledge, pedagogical and technological skills and development of leadership.

2.4. Teacher knowledge, teacher confidence and beliefs about the teaching of mathematics

Teacher knowledge is often linked to learner achievement in mathematics, in that the more knowledgeable the teacher has, the better prepared their learners are (Beswick, Callingham, & Watson, 2012). These sentiments are further echoed by Pournara, Hodgen, Adler, and Pillay (2015), in which they state that by improving teachers' mathematical knowledge, it can improve learner attainment in mathematics. Beswick et al. (2012) found that to specify knowledge needed for the teaching of mathematics is difficult and multifaceted and further discusses that Shulman's (2013) seven categories suggestive of teacher knowledge. These seven categories are as follows: content knowledge, curriculum knowledge, pedagogical knowledge, pedagogical content knowledge, knowledge of how students learn, knowledge about the educational context and knowledge of the values and purposes of education (Shulman, 2013). Many times, Beswick et al. (2012) and Pournara et al. (2015) found that these

seven categories do not occur in isolation but can often be interrelated in determining the nature of teacher knowledge. Beswick et al. (2012) further discusses that teacher confidence and their belief structures help to shape their teaching practice and are imperative aspects in their contextual environments, which may vary over time.

In a South African context, teachers' mathematical knowledge is often not in keeping with what is required in order for learners to thrive as many mathematics teachers lack the training required to be teaching the subject, hence qualifications and level of attainment in the subject matter can be used as a measure of teacher knowledge to some degree (Pournara et al., 2015). An intervention called Transition Maths was a professional development initiative aimed at focusing on teachers improvement of their teaching leading to the improvement of learner results (Pournara et al., 2015). This intervention built on strengthening teacher knowledge in the subject matter while revisiting what was known by the teacher previously and forming links between content and the curriculum to be taught.

Confidence is claimed to be of vital relevance to teacher classroom practice and is further reflective of their own enjoyment of mathematics. It is further suggested that confidence enables a boost in knowledge when partaking in professional development activities (Beswick et al., 2012). Pournara et al. (2015) also found that learners often have better success rates when taught by teachers who had undergone some form of professional development programmes. Such learners outperformed learners taught by teachers who did not attend such programmes. This claim was strengthened when their research indicated that the impact of professional development to improve teacher knowledge assisted in improving learner results. Furthermore, it is suggested by Pournara et al. (2015) that it is a strong possibility that participants for the Transition Maths intervention were more motivated than those who did not participate. This could have also have played a role in the success of their learners. Chatzistamatiou, Dermitzaki, and Bagiatis (2014) reinforce this statement on teacher motivation by investigating self-regulated attitudes of teachers in mathematics and their motivational tendencies.

Teacher beliefs of mathematics often relate to the nature of mathematics. Teacher beliefs such as that mathematics is computational occurs irrespective of the development of student-centred approaches and it is unlikely to occur in teachers who opt to teach in a problem solving orientation (Beswick et al., 2012). Teachers with vast knowledge are more likely to view mathematics as computational and to advocate textbook usage. Their beliefs also determine the

extent to which teaching is consistent with student-centred approaches based on their views on the role of the teacher, pedagogical practices, student capabilities and how mathematics is learned (Beswick et al., 2012). Beliefs influence teacher practice and their pedagogical decision making. Based on what a teacher believes is true to them and what they know in mathematics can determine how they teach (Bobis, Way, Anderson, & Martin, 2016). Chatzistamatiou et al. (2014) found that teachers who were self-regulated in their teaching practices used strategies to plan, monitor and evaluate their mathematics instruction and their self-efficacy beliefs in teaching mathematics and the value they place upon this subject, all impacted on their success.

It is claimed that teachers with positive self-efficacy beliefs regarding their own abilities in teaching are more inclined to find ways and means of achieving their objectives and uplifting those they teach. Those beliefs allow for better planning and organisation by teachers allowing them to cater for supporting learner needs and reflecting on areas for improvement. However, in contrast, a change in context or environment can impact a teacher's self-efficacy to be negative and to perceive any changes as a threat (Bobis et al., 2016). Resistance to change, such as curriculum changes or professional development initiatives, could also be due to lack of confidence in teacher ability and as such, support is required to allow teachers to accept change as a challenge in a positive light (Bobis et al., 2016).

2.5. Curriculum Coverage

Shield and Dole (2013) state that curriculum documents for mathematics aim to cover a greater depth of knowledge and content rather than just a superficial coverage of the curriculum. In view of this, their research led them to assess the potential for textbooks to promote deeper learning and understanding, in keeping with the aims of the curriculum documents. Teaching is supported by the use of textbooks and often these tools evolve as the curriculum does. However, textbooks do not necessarily encompass all that is expected in the curriculum documents as a textbook is just one author's or publisher's view of how they perceive the curriculum documents and connectedness of the mathematical content (Shield & Dole, 2013).

The way in which teachers perceive the documents and the textbooks they use will also differ from teacher to teacher, as they each draw their own interpretations; thus the way in which different teachers go about ensuring curriculum coverage would differ with some going in-depth whilst others may just touch on the surface of the content to be covered (Shield & Dole,

2013). It would seem that this notion of documents being implemented subjectively is very similar to what was said by Smit (2001) in which she discusses that policies are implemented by teachers based on how they have interpreted them. With the various ways in which documents can be interpreted, whether it be a policy or a textbook, the subjectivity of the implementer can determine how successful the implementation is.

Bansilal (2017) conducted a study that investigated the difficulty level of the Annual National Assessment (ANA) in Grade 9 mathematics. ANA was intended to be a form of standardised assessment for the Grade 9 curriculum and one of the intentions was for it to provide information that could yield the design of other interventions that could result in improvements to learner performance and teacher competencies. Another reason for implementing ANA was to develop teachers in the marking process and allowing them to interrogate the results and for the teachers to have learning opportunities based on these interrogations. However, it was found that in general, ANA was not well received in schools and by teacher unions as it was found that the assessments were too long, had too many higher-order questions, or came to schools at inappropriate times. Furthermore, teachers indicated that the Grade 9 mathematics curriculum was very content-heavy within a limited time frame. Bansilal (2017) discussed that teachers found this to be a limiting factor to cover the curriculum sufficiently and they were of the view that the Grade 9 mathematics Curriculum and Assessment Policy Statement was not formulated with the average learner in mind which resulted in many learners being left behind.

In another study, Stols (2013) investigated the Opportunity to Learn (OTL) that was made available to Grade 12 mathematics learners, within a South African context. Learner books were analysed to find out more with regards to: time spent on tasks given and how demanding the activities are for learners; the extent to which curriculum coverage takes place; coherence of knowledge and how learners make connections between concepts, and cognitive demands required by learners (Stols, 2013). In terms of curriculum coverage, which is the key focus here, Stols (2013) discusses that if time is used insufficiently in the classroom, curriculum coverage will not occur to the extent it is envisaged purely because time wasted is time that one cannot replace easily. This problem is further compounded in a South African context when poor teacher content knowledge is not adequately addressed (Stols, 2013). The depth to which the curriculum was covered was based on the number of exercises completed as per evidence from the workbooks. The results proved that very few topics were done on higher cognitive levels. Many sections deemed difficult, were often neglected. This then indicated that

many schools did not provide adequate OTL for their learners thus limiting the scope of their future career fields (Stols, 2013). Stols (2013) found that many teachers and learners did not engage with higher ordered tasks and that most topics in the curriculum were covered in half the prescribed time by the Department of Education, which would mean that the curriculum coverage was very thin and of a basic level.

On a more positive note, Charalambous and Hill (2012) looked into how teacher knowledge and the curriculum materials could be integrated and be used to improve the quality of instruction. They refer to Mathematical Knowledge for Teaching (MKT) in which teachers are able to bring across mathematical content to learners in the process of teaching. Teachers influence the effectiveness of the curriculum in the way they enact their instruction. The joint amalgamation of both MKT and the curriculum could improve the quality of instruction and thereby improve learners grasp of the content. However, teachers do face challenges as the demands of a curriculum grow (Charalambous & Hill, 2012). Thus, the extent to which the curriculum can be engaged in by teachers varies on school context, curriculum materials and beliefs on teaching and learning of mathematics.

In view of the above, Jika iMfundo, which means ‘to turn education around’ aims to change teachers’ classroom practices by focusing on increasing curriculum coverage in order to improve learning outcomes (Pillay, 2018). The study conducted by Pillay (2018) looked into data collected on the Jika iMfundo development programme and it was concluded that learner activity is of vital importance to measure learning in the absence of formalised assessments. In addition, the study indicated that teachers enjoyed the Jika iMfundo development programme due to the comprehensive and detailed structure. Pillay (2018) concluded that the Jika iMfundo programme could be of significance in schools where contextual factors impede curriculum coverage.

2.5.1. Enabling factors that influence curriculum coverage

Steyn and Van Niekerk (2005) sought to explain reasons why some Professional Development (PD) programmes are unsuccessful by looking into the key factors influencing the execution of PD programmes. They make a concerted effort to unfold the importance of contextual factors such as environment, internal conditions as well as individual considerations, as driving forces for PD in schooling institutions. This is within the realm of evaluating enabling factors which

includes learning styles of teachers, teacher commitment, transformational leadership, out-of-school conditions, in-school conditions and requirements of PD programmes. Design processes that are involved in developing PD programmes must ensure that they cater towards a new way of thinking and interacting and are of the greatest importance should they be aimed towards improving learner performance.

Improving learner attainment can be achieved by improving teacher knowledge, skills and dispositions seeing as it is teachers who spend the most direct and sustained contact with their learners. Kriek and Grayson (2009) further suggest that using a Holistic Professional Development (HPD) model aids in developing teachers across three dimensions which are content knowledge, teaching approaches and professional attitudes. One of the challenges faced in South African schools is the limited conceptual knowledge that teachers have of mathematics which has been linked to the range of factual errors made by learners in their content and concepts that were taught during lessons (Pournara et al., 2015).

Another aspect that could influence improved curriculum coverage is that of reflective practice. Dewey (1933a) defined reflective thought as 'active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends'. One of the significant elements of improving teaching and learning in education is for teachers to be reflective practitioners (Dewey, 1933b; Farrell & Ives, 2015; Schön, 1983). Çimer, Çimer, and Vekli (2013) add to these views and state that reflection upon teaching will more likely enhance teacher professional growth and discipline knowledge. In addition, reflective practice will probably lead teachers to understand the pragmatics of classroom instruction. Reflective practice pertains to teachers' aims to make teaching practices more enriching, critical, meaningful and engaged (Yadav, 2018). Yadav (2018) conducted a study with twenty teachers in which the teachers' perceptions on reflective practices were explored. The findings of this study found that teachers acknowledged that reflective practice enables growth of pre-service teachers into reflective practitioners. This finding is in keeping with the views of Dewey (1933a, 1937). Whilst the majority of the teachers in the study viewed reflection as thinking processes whereby one rethinks their actions, only two teachers viewed reflections as evaluating their own assumptions, beliefs and knowledge. Benade (2015) agrees with Yadav (2018). They state that in the twenty-first century, teachers need to be engaged in reflective practice to be prepared for a world that is influenced by globalisation and revolution in digital technology.

2.5.2. Challenges faced by mathematics teachers in ensuring curriculum coverage, causes and recommendations to these challenges

Warren, Harris, and Mill (2014) discuss the challenges mathematics teachers face with English Second Language (ESL) learners who stem from disadvantaged backgrounds. Though this is occurring in Australia, it echoes the South African context in which language barriers hamper the teaching and learning process (Jantjies & Joy, 2016). Teachers face challenges with regards to supporting these learners especially with language and communication barriers. They then had to try to change their pedagogical approaches in order to assist these learners who were not at the same level linguistically as their peers (Warren et al., 2014). In South Africa, mobile learning was an approach used to mitigate cultural and linguistic barriers by merging technology to support learners in spite of access to technology being an ongoing challenge in itself (Jantjies & Joy, 2016). In Australia, in instances where linguistics was problematic, other methods of bringing across mathematics to ESL learners were employed, such as visually using pictures or diagrams, through demonstrations or by linking the content to the experiences of learners (Warren et al., 2014). Other challenges that mathematics teachers face are highlighted by Warren et al. (2014): preparing and managing resources for teaching; needing Teacher Assistant's support for group rotations and lastly differentiating learning experiences to cater for a diverse range of learners. The suggestion to assist these teachers and offer some support is to use a combination of oral language communication and various mathematical representations, instead of approaches which only involve repetition, acquisition and transmission of vocabulary (Warren et al., 2014).

Kelly, Gningue, and Qian (2013) explored challenges faced by first year urban mathematics and science middle school teachers as well as reflective solutions to those challenges. Challenges faced by these teachers were those concerning learner performance and motivation and which hamper their personal and pedagogical growth if left unchecked. Issues faced in the classroom by these teachers were that of learners stemming from poverty-stricken backgrounds and being unable to relate to the culture and lifestyles of these learners, high absenteeism; poor classroom punctuality; poor classroom management and conflicting administrative initiatives (Kelly et al., 2013). Kelly et al. (2013) state that these challenges can be reduced by a strong school leadership, adequate resources and motivating factors that give teachers their altruistic character of wanting to help others succeed.

Creating a positive classroom environment of mutual respect can create changes in learner attitudes which in turn would motivate teachers. Engaging in instructional strategies and using pedagogical tools which involve learners can change how learners view the subject. Many teachers found solutions such as engaging in professional development activities, forming resilience in spite of these circumstances as well as taking a reflective approach such as considering what did not work and what should be changed the next time the teacher enters the classroom (Kelly et al., 2013). These solutions worked well in enabling these teachers to move beyond their challenges and to succeed in expanding in all facets of the personal and professional lives. Kelly et al. (2013) suggest that challenges were overcome by these teachers due to their determination, love of the job, high level of commitment and belief in the children they teach, whilst always searching for new strategies that better the teaching and learning environment.

Overcrowded classrooms or large class sizes are often viewed as a challenge, Mitchell (1989) suggests that reducing class sizes could enable learner gains in achievement and attainment of skills due to teachers being able to manage smaller classes better. Some of the reasons offered for a better learning environment, with smaller class sizes, is due to the way teachers handle classroom responsibilities effectively using classroom space for learner activities. Having smaller classes, Mitchell (1989) concludes, assists with discipline, reducing noise levels and leads to improvements in the quality of time and attention given to each learner. However, in more recent research, Blatchford and Russell (2019) conducted a large scale project based on class size measured against pupil academic outcomes, using ten schools with data collected from teachers using 486 questionnaires. The results of the study conducted indicated opposing views to that of Mitchell (1989) and indicated that class size did not directly impact on learner attainment. Rather, learner attainment works through the decisions made by teachers on how best to manage their classrooms. A suggestion made by Blatchford and Russell (2019) is to make use of group work practices and to encourage collaborative learning to promote better learning practices that can lead to learner attainment.

2.6. Conclusion

This chapter explored the literature in areas that are relevant to the scope of this study. The literature review presented here looked into aspects pertaining to various facets of professional development as well as other intervention programmes and what allowed for those

interventions to be successful, or to fail, were explored. Furthermore, relationships between previously implemented initiatives and Jika iMfundo was discussed. It also looked into literature on teacher knowledge, confidence and beliefs in the teaching of mathematics. Lastly, this review of literature looked into aspects of curriculum coverage, the enabling factors and challenges that could assist or impede curriculum coverage.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1. Introduction

The previous chapter considered the current literature that is relevant to this study. In addition to exploring the literature review, it is important to find theory to support the goals of a study. This chapter will deal with the theoretical framework that will inform the study. The theoretical framework is the foundation that allows us to link this framework to that of the problem under investigation. The theoretical framework which underpins this study is that of the theory of change. This theory encapsulates how and why an initiative or programme works and can be used to explain the links between actions taken to achieve a goal and the outcomes of the programme or intervention (Sullivan & Stewart, 2016).

3.2. What is a theoretical framework?

‘Theoretical’ is a term which means to be based on theory as opposed to experience or practice. The term ‘framework’ refers to an essential supporting structure (Allen, Fowler, & Fowler, 1990). These two terminologies result in a theoretical framework as being a research structure that will aid the researcher in conducting their study. Another explanation of a theoretical framework is provided by Eisenhart (1991) as a structure which guides research conducted by placing reliance on other formal theories constructed by using established and coherent explanations of certain phenomena and relations. Maxwell (2012) colludes with this explanation by reiterating that theoretical frameworks look at existing theories to provide insight into phenomena under investigation. According to Creswell (2013) in qualitative research, theoretical frameworks are used as a broad explanation for behaviours and attitudes. These theories are then able to guide the researcher and thus these notions regarding the purpose of a theoretical framework collude with those of Maxwell (2012). The theory underpinning this study is the theory of change. In the next section, this theory will be discussed in greater detail.

3.3. An Evaluation and Comparison of Various Theories of Change

This study attempts to explore Grade 9 mathematics teachers’ usage of the curriculum planner and tracker in secondary schools within the ILembe and Pinetown districts. The curriculum planner and tracker were introduced as a tool to enact change in the coverage of the curriculum.

This study aims to explore the utilisation of the CPT by teachers. The CPT can then be described as a change initiative. It is for this reason that a suitable theoretical framework would be required to guide and structure this study. The theoretical framework which underpins this study is that of the theory of change. This theory encapsulates how and why an initiative or programme works and can be used to explain the links between actions taken to achieve a goal and the outcomes of the programme or intervention (Sullivan & Stewart, 2016).

The theory of change would support this study in evaluating the extent to which PILO tools are being used by teachers. The PILO initiative aims to change the way teachers view the curriculum planner and tracker by changing teacher perceptions, feelings, behaviours and motivations about the change. In an ever competitive and expanding technological era, the only constant is change; Weick and Quinn (1999) collude with the idea that change never starts because it never ends. Many sectors require the need to adapt to change with the constant evolution of their work environments and the education sector is no different. To better decide understand and decide on a suitable theoretical framework, the researcher explored other related theories.

3.3.1. Kotter's Model of Change

Kotter (1996) developed a Model of Change which involved eight key steps to implement change, many of which overlap with each other and can be relevant to a variety of contexts including that of this study. According to Kotter (1996), in order to achieve change, a sense of urgency needs to be established as the relevant stakeholders such as teachers and HODs will not be willing to adapt to change if they are unable to see a need for it. Those in power, such as managers and departmental heads, can influence change in an organisation such as a school and success with change initiatives can only be successful if clear visions are communicated with the relevant parties concerned. Kotter (1996) further emphasises that individuals involved in change initiatives must be developed as agents of change and not revert to old habits and comfort levels. This is precisely what the initiative of introducing the CPT in schools aims to achieve, i.e. the involvement of teachers as agents of change, pulling them out of their comfort zones and becoming involved in reflective practice. The reflective practice in the context of this study is catered for by the inclusion of weekly reflections in the CPT that teachers need to complete.

3.3.2. Stein and Valters' ideas on Theory of Change

The theory of change (ToC) was conceptualised by Weiss (1995) as a theory of how and why an initiative works. It describes the set of assumptions and strategies or steps that are required to inevitably lead towards long term goals. According to Stein and Valters (2012) a ToC explains these steps and the links between such steps taken and the results or outcomes of an intervention which had been undertaken. The theory of Change has also been identified as a roadmap, blueprint, an engine of change and a theory of action (Weiss, 1995). In order for change to be enacted, it involves having to explore various sets of beliefs (Stein & Valters, 2012). In the context of this study, the sets of beliefs would be the beliefs that teachers of mathematics would have regarding the profession and their own teaching. Stein and Valters (2012) discuss the target groups intended for undergoing a change process. In order to shift feelings, perceptions, attitudes, behaviours and motivations towards any intervention, strategies need to be taken by participants in order to achieve changes in individuals.

3.3.3. Rogers' Theory of Change

Rogers (2014) provides an explanation of a ToC as one in which the ToC will serve to inform how various activities are interpreted to produce a set of results that are geared towards achieving the final intended impact. A ToC can then be developed to suit any level of an intervention, whether the intervention comes in the form of an event, project, programme, policy, strategy or an organization. Rogers (2014) affirms that interventions require a ToC to be developed for two reasons: firstly, when clear objectives and activities can be identified. Secondly, when changes and adaptations are required when issues emerge and when such interventions require stakeholders to relook at decisions.

This two-step model aligns with the Jika iMfundo curriculum planner and tracker in the following way:

- Firstly, the CPT has the clear objective of improving curriculum coverage and in order to ensure this, certain activities would take place on the part of teachers to fill in the tracker in order to ensure this end goal.
- Secondly, this study is looking at enabling factors and challenges associated to CPT usage by teachers. If issues emerge as a result of this study, then the various stakeholders involved will then need to look at the intervention structure again and find ways to alleviate problems experienced by teachers.

In short, Rogers (2014) finds that a Theory of Change needs to adequately represent the intent of an intervention and to explain how steps are taken to achieve an end goal which produces desirable results. The main points of a ToC as discussed by Rogers (2014) is threefold. Firstly, intended change is produced when a ToC is used to explain the events leading up to the change. Secondly, a ToC can be developed in a variety of ways. Lastly, to collect data, analyse and report on changes being achieved, the existing theory of change should be able to be revised and reviewed in order to ensure effectiveness.

Rogers (2014) developed a way to present a theory of change through a results chain or pipeline model as per the figure below.



Fig. 3.1. Pipeline Model

According to the Pipeline Model above, inputs could refer to what an organisation or individual puts into an initiative, the resources that are required such as funding or materials; activities refer to contributing factors and what the various stakeholders involved do with the inputs they receive in order to arrive at an output that leads to an eventual outcome, which may or maybe not be expected. This then leads to the last stage in the pipeline which is the impact of all the previous stages in the chain. The impact could be positive which is in keeping with the aims of an intended intervention, or if the intervention was unsuccessful, than the impact made would not be positive or desirable.

Rogers (2014) discusses that the theory of change in this context is used in impact evaluation but it can result in some challenges that could cause the theory of change to no longer hold for all activities being undertaken. There are four challenges which were discussed by Rogers (2014). The first challenge encountered is the failure to actually have a theory about how change occurs. This can be due to the model being unable to adequately explain what makes a programme or intervention work and a failure to bring about coherence between the activities taken and the outcomes achieved. Secondly, a possibility of gaps in the theory of change; if an intervention contains multiple levels of change it could in turn involve multiple theories of change. Such a scenario could result in having many theories which fail to gel well and be

coherent in addresses varying levels of change (Rogers, 2014). The third challenge that could take place is having diagrams which fail to be coherent or adequate in creating a full picture of the theory of change. The problem here with diagrammatic representations of the theory of change could be that they may be too simplistic to provide an in-depth communication of how the intervention will work, whilst others may be too complex in not allowing for one to interpret clearly the relationships between the different processes taking place. It is then important to ensure a diagrammatic representation which is logical, coherent and able to drive its purpose across. Lastly, the final challenge posed by Rogers (2014) is a failure to use the theory of change to guide data collection, analysis and reporting. This is a challenge because the theory chosen must enable the researcher to identify data which is relevant as well as guide the way in which that data is analysed and report on results. A poor set of results for an intervention being studied could be due to a poor use of theory.

3.3.4. A Theory of Change in Teaching

Richardson and Anders (1994) found that teacher change also needs to consider relationships between teacher beliefs, practices, reading of research and the impacts of staff development practices. To improve practice with regards to teacher change, the view is that teachers often resist change and prefer to maintain old ways of doing things. Anecdotal evidence also suggests that teachers tend to want to remain in their comfort zones, especially if they feel that what they are doing is working. Richardson and Anders (1994), however, discusses that the statement about teachers' resistance to change can be unfounded as resistance to change may often be due to change initiatives that are enforced externally. This could somewhat explain why there are discrepancies with regards to the usage of the curriculum planner and tracker.

3.3.5. Kurt Lewin's Theory of Change

According to Quinn (1980), change is viewed as an incremental process which goes through various stages in order to manage change. One of the best ways to manage change was to use Kurt Lewin's Planned Approach to Change (Lewin, 1947) which despite undergoing much criticism still proved to be successful. Criticisms were voiced by many such as Peters, Waterman, and Jones (1982) in which Kurt Lewin's Model was seen to be too linear and simple and lacking the complexities that encompasses change itself. However, despite harsh criticisms this model has prospered. Kurt Lewin's Planned Changed Model involves a three step process of unfreezing, changing and refreezing, it is a very simple and linear model that is inculcated

in many organizational change initiatives (Burnes, 2004). Furthermore, others such as Marrow (1977), Tobach (1994) and Cooke (1999) reaffirm that Lewin's work was that of a humanitarian who sought to bring about change to the human condition by resolving various forms of social conflict. Lewin's Planned Approach to Change, as Burnes (2004) describes, encompasses four key aspects which are the Three Step Model of Change, Field Theory, Group Dynamics and Action Research.

Much research has been conducted which points to the idea that though these four aspects are viewed as separate, Lewin envisioned the four aspects as a unified whole that is imperative to bring about Planned Change when in use collectively (Allport, 1947; Bargal & Bar, 1992; Kippenberger, 1998; Smith, 2001).

3.3.6. Lippitt's Phases of Change Theory

Lewin's three-step model was further extended through the works of Lippitt, Watson, and Westley (1958). Lippitt et al. (1958) built onto the model by Lewin (1947) in which the phases of change are represented in a seven step theory, focussing more thought onto the change agent's role and responsibilities rather than the actual change intervention itself. According to Lippitt et al. (1958), the seven steps or phases are as follows:

- 1. Discuss the problem.*
- 2. Assess the motivation and capacity for change.*
- 3. Assess the resources and motivation of the change agent. This includes the change agent's commitment to change, power and stamina.*
- 4. Choose progressive change. In this step, action plans are developed and strategies are established.*
- 5. The role of the change agents should be selected and clearly understood by all parties so that expectations are clear. Examples of roles are: cheerleader, facilitator and expert.*
- 6. Maintain the change. Communication, feedback, and group coordination are essential elements in this step of the change process.*
- 7. Gradually terminate from the helping relationship. The change agent should gradually withdraw from their role over time. this will occur when the change becomes part of the organisational culture (Lippitt et al., 1958)."*

These seven steps can be linked to this study. In step one, the problem that has been diagnosed is the fact that curriculum coverage is poor and thus leads to poor results. Step two moves onto the motivation, that by improving curriculum coverage, teachers can produce better results. In the third step, the curriculum planner and tracker is introduced as resources through which teachers can track their progress with completing the curriculum at the appropriate depth. Teachers need to be encouraged and motivated enough to not resist this change initiative. In step four, action plans and strategies are inculcated from HODs who take ownership of monitoring tools provided to guide and support their teachers to ensure that the change is maintained and progressing. Step five should have varying levels of change agents. In this instance HODs and teachers have clearly defined roles in ensuring the success of the change intervention. If either party is unwilling to submit to change then maintenance of the change will be unlikely, hence step six maintains positive communication and feedback from HODs and teachers to ensure cooperation and sustained progress with the success of the PILO initiative. Lastly, step seven cannot truly separate the change agent from their role in the case of the PILO Curriculum planner and tracker. This is because the change agent is the teacher. This role will need to be continuous in order to ensure curriculum coverage improves through meticulous tracking and consistent reflections. HODs, however, could loosen their reigns over their constant monitoring of teachers using the CPT as it becomes more evident that the PILO CPT is part and parcel of the school's organisational norm.

The model by Lippitt et al. (1958) colludes with the purposes and aims of PILO in that PILO aims to pilot Jika iMfundo CPT to all districts in KZN. Likewise Lippitt et al. (1958) is of the mind that change programmes are better engrained once they are introduced into a more widespread audience. The more widespread the change, the more it would be viewed as a norm that will be there to stay.

3.3.7. Prochaska and DiClemente's Change Theory

The view by Prochaska and DiClemente (1986) is by contrast to Lewin (1947) and Lippitt et al. (1958), very unspecific and very general towards change processes. In contrast to the previous two models which were both very linear in nature, this model is cyclical and involves five steps or stages which can occur in any order. The stages of change in this model are: precontemplation, contemplation, preparation, action and maintenance.

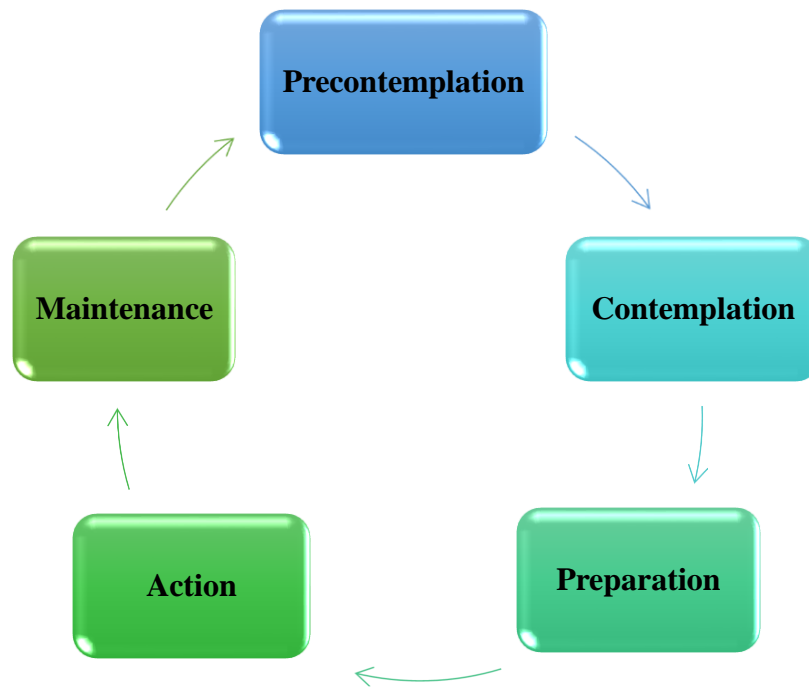


Fig. 3.2. Cycle Model of Change (Prochaska & DiClemente, 1986)

From the figure above, it can be noted that the cyclical nature of this model means that progression through stages can occur from any point and does not occur in a linear fashion. This non-linear structure accounts for the fact that when change initiatives take place, it is always possible for individuals to revert to old habits and for change initiatives to be deemed unsuccessful. This would then mean that individuals would need to look at which stage of this cycle did not work and would require them to start again from that step which failed, as opposed to having to start afresh (Kritsonis, 2005).

The first aspect to be discussed in this model is that of precontemplation. This exists when an individual is still ignorant or unaware of problems that require to be resolved through change. From the precontemplation stage, individuals would move onto contemplation in which they are forming an idea that something is amiss and there is a problem which needs to be rectified. It is at this contemplation stage that individuals, which need to be involved in a change initiative, or programme are conscious of the need for a change. They are aware that behaviours need to change in order to accommodate a change but at this stage they are yet to commit themselves to engaging with a change process. The third stage is that of preparation. This is when individuals have recognised in the previous stage that they need to change their mindset and behaviours and so have arrived at the level where they are now prepared to change their behaviours and intend on seeking assistance in order to achieve this. During preparation,

individuals involved will seek counselling, social support, and aid with problem solving skills required for the success of the change. Other adaptations of this model have arisen to yield, in summary, the following illustration.

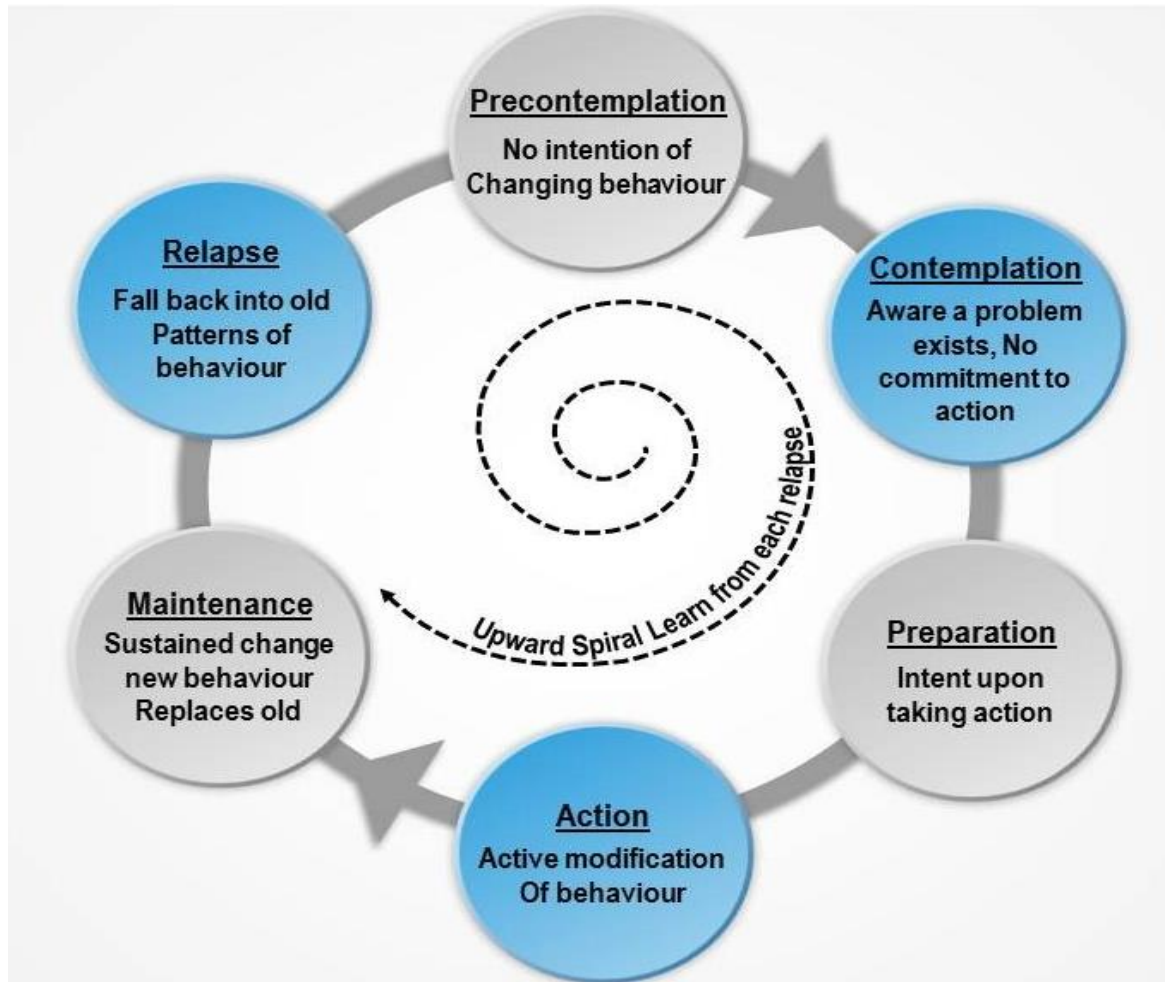


Fig. 3.3. Adaptation of spiral model of change

In the adaptation of the spiral model the bulk of the model remains the same, with the only change being that Relapse is added as a stage in the change process which caters for an individual to restart the cycle until change can be enforced. Due to the cyclical nature of these models, it becomes difficult to determine when change will be accomplished as relapses always have room to take place. There is no firm change. However, it is human nature that change is never truly permanent and has to be an ongoing effort to achieve.

3.3.8. Social Cognitive Theory

The social cognitive theory is described by Burney (2008) as a theory which encompasses human interactions and behaviours, in which individuals can learn by direct experiences, observations and interactions with other groups of people. Bandura (1999) discusses the social cognitive theory as one which encompasses what is called a triadic reciprocal causation. Triadic meaning three major factors and reciprocal causation meaning that the three major factors are relatable to each other and hold influence upon each other. This triadic model consists of the following: firstly, personal factors which are in the form of cognitive, affective and biological factors; secondly, behavioural patterns and lastly environmental factors (Bandura, 1999). Human behaviour is characterised by what the individual or group experiences from their personal experiences as well as the external environment.

In research conducted by Bandura (1999), he states that human change and adaptation are deeply rooted within social systems. In the construction of knowledge and competencies, this theory has, over a period, focused solely on learning through the effects of one's actions. People perform activities and take note of what the outcomes of those activities are. By looking into whether an outcome is positive or negative, the person can establish what activities could be undertaken to cater for the positive outcomes over a negative one. Knowledge and change cannot be acquired solely by direct individual behaviours. This is constructed by social means through the interactions of societies and is multi-faceted. Most learning is socially constructed and is modelled after the behaviours of others. Self-efficacy needs to be possessed by individuals in order to accomplish end goals. According to Bandura (1982), self-efficacy in an individual is the notion of having a strong belief in one's ability to be able to do well in accomplishing goals and tasks. In believing that you can do something and do it well, you have a greater ability to achieve that goal. Self-efficacy is useful when mirroring the observations of others, as it provides a platform for an individual to reflect on their own capabilities.

In the social cognitive theory, cognitive actions are as a result of the behaviours of others and the perceived or observable consequences of such behaviours. For constructive social learning to exist, positive consequences must outweigh negative consequences. Positive consequences of observed behaviours will harbour change being successful by individuals observing the activities of others that provide positive results. Conversely, negative consequences as a result of observing negative behaviours, will ultimately not lead to change taking place in a positive way. Self-efficacy becomes the centrepiece of successful initiatives; it determines behavioural change by ensuring that expected results are obtainable by looking through a person's

perceptions of conducting behaviours that feed into the expected result favourably in the first instance (Kritsonis, 2005).

Self-efficacy is derived from the external environment and is very important in the social cognitive theory. Individuals with high self-efficacy will be more likely to achieve well at difficult tasks as opposed to avoiding them. By improving self-efficacy the likelihood of success when encountering difficult objectives can be improved. Kritsonis (2005) outlines three methods to help improve self-efficacy in order to obtain desired change. Firstly, in any change initiative it is imperative to provide clear instructions to the stakeholders concerned. Secondly, individuals and groups must be provided an opportunity to develop the skills needed and thus skill development and training would create a platform where individuals and groups can observe behaviours that are desirable. Lastly, to be able to model desired behaviour; this can be through practice and application of the observations made in the previous step.

3.3.9. The Theory of Reasoned Action and Planned Behaviour

The theory of reasoned action (TRA) and planned behaviour (TRB) is very similar to the concepts behind the social cognitive theory, with much of the key arguments surrounding the concept of self-efficacy. The theory of reasoned action regards the individual performance of a behaviour to be in direct correlation to an individual's intention to perform that behaviour. Kritsonis (2005) discusses two factors which shape individual attention towards reasoned action. The first factor deals with the attitude of the individual towards a desired behavioural outcome. This attitude needs to be positive for change to be enacted. Second, the influence that the social environment has on the individual's also influences the individual's attention. Orr, Thrush, and Plaut (2013) collude to the ideas posed by these factors and further go on to state that beliefs are shaped by attitudes and perceived norms, whilst intentions are driven by the attitudes and perceived norms to reach the desired behaviour. The social environment then includes the beliefs held by others and this peer belief is latched onto by the individual. This plays a role in what the individual should do and what drives their motivations to comply with that of their peers.

The theory of planned behaviour speaks to the notions of control over opportunities, resources, and skills to lean towards the desired behaviour or change as perceived by the individual. This perceived behavioural control is very closely tied into the perception of self-efficacy. Yuha,

Jin Nam, and Kyungmook (2018) further allude to the factors mentioned under TRA and its link to notions for TPB. Change efficacy is attainable only when all factors are favourable. Opportunities for change must be provided through the bodies responsible for wanting a behaviour to be changed. In so doing, resources need to be made available through management support and skills development. Lastly, the perceived behavioural control drives change efficacy by an individual’s belief in their ability to enact change and to be able to change and control their behaviour to suit the end goals (Yuha et al., 2018).

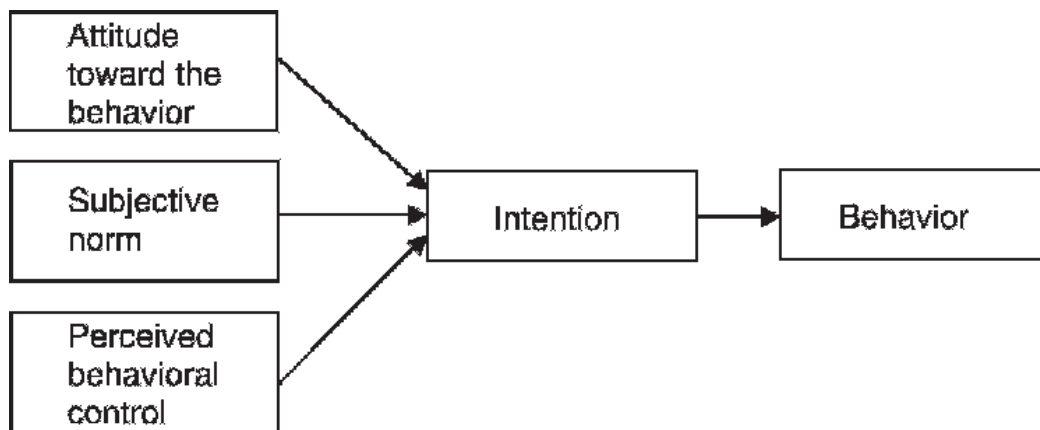


Fig. 3.4. Theory of Reasoned Action and Planned Behaviour

In closing, the theory of reasoned action and planned behaviour are in keeping with the ideas of Ajzen (1991) in that for organizational change to be taken on without resistance, sufficient self-efficacy must be maintained with strong perceived behavioural control and firm attitudes towards the desired behaviour. Hodges (2019) supports the notions proposed by Ajzen (1991) as per the TPB; social influence takes place amongst individuals when they perceive that they are required to behave and conform to a change in their environment by others.

3.3.10. Choosing a suitable theoretical framework – A Comparison

In the previous sub-sections, many change theories were explored briefly, some of them overlapping their ideas and notions through common threads. It is useful to explore many change theories as some aspects of this study may later use these theories to explain phenomena and may aid in the analysis of data. However, it would not be possible to use every change theory as a theoretical framework for this study as this study needs to focus its attention on

aspects that revolve around the influence of the Curriculum Planner and Tracker (CPT) as a change tool for curriculum coverage.

As such, keeping the purposes of this study in mind and having evaluated various change theories, the chosen theoretical framework for this study is threefold. Firstly, Lewin's Theory of Change, otherwise also referred to as the Planned Change Model, is deemed suitable for reasons to be explored at a later stage; secondly Lewin's Force Field Analysis Theory (or Force Field Theory) will also be used as it builds onto Lewin's Planned Change Model. Lastly, Roger's Theory of Change will be used to tie in the ideas of the previous two. These three theories used in conjunction would be well suited to answering the questions posed by this study. A deeper insight into these three theories and their appropriateness is provided in the section that follows.

3.4. Lewin's Theory of Change (Planned Change Model)

Kurt Lewin (1951) originated the three-step change model. As a social scientist, he viewed behaviour as being able to strike a balance between forces in opposition. Driving forces enable change and restraining forces discourage change. A shift in this balance of forces would result in moving towards a direction for change, either positively or negatively, dependent on which force outweighs the other. Before being able to discuss these forces in detail, it is imperative to first reach an understanding of the Planned Change Model. The figure below illustrates the three-step model of unfreezing, movement and refreezing.



Fig. 3.5. Planned Change Model (3 Step Model) (Lewin, 1947)

The first step of unfreezing involves influencing the process of changing behaviours. Unfreezing involves overcoming individual resistance to change and group conformity. Unfreezing can take place in three ways, which is discussed by Kritsonis (2005): firstly, by increasing the driving forces which would move participant behaviour towards changing the status quo in a positive light; secondly, by decreasing the restraining forces that prevents change (these driving and restraining forces are discussed in greater detail under the section on

Lewin's Force Field Analysis Theory); lastly, together with the previous two methods, it is important to motivate participants to embody change, to build the trust and morale needed to recognise a need for the change and to find methods of coping with and adjusting to change interventions. Actively combined, these three methods would ensure a successful stage of unfreezing which would lead to better preparedness to enter the second stage or step in this three-step model.

The second step involves movement towards changing the status quo and elevating participants towards a new equilibrium which is met not with hostility but rather with acceptance (Wirth, 2004). Within the second step, there are also three ways to ensure success. These actions include: making participants aware that the current status quo is not of value to them and they need to be convinced to view problems experienced in a new light; encouraging participants to be willing to change and to work together in establishing a new equilibrium through the use of new and relevant information; and ensuring that leaders and members in managerial positions support and advocate for the change by recognizing and acknowledging the varying views and opinions of the participants, with regard to the change initiative.

Lastly, comes the third stage of refreezing. This stage in Lewin's (1947) three-step model is imperative to ensure that change is solidified and that the newly established equilibrium is sustained. If the refreezing step does not take place, participants involved in the change initiative could revert to old habits. Establishing formal policies and strategies within an institution can reaffirm the implementation of the change and this in turn would ensure the refreezing stage.

3.5. Lewin's Force Field Analysis Theory

As mentioned previously, Lewin (1951) is a social scientist who introduced a three-step change model viewing human behaviour as being able to balance opposing forces that strive for change. Field Theory is referred to as such because Lewin put forth the idea that group behaviour influences individual behaviour, therefore, his postulation is that "*individual behaviour is a function of the group environment or 'field' as he termed it*" (Burnes, 2004, p. 311). This field consists of forces aimed at maintaining behaviour or changing it. These forces are described to be driving forces which enable change and restraining forces which serve to challenge or prevent change from occurring. If these forces are in balance, the status quo

remains the same. According to Lewin (1951), for there to be a change, one of these forces need to not be in balance (forces need to be unbalanced in order to sway change in either direction). This concept of forces is as a result of his Force Field Theory which goes hand in hand with his three-step model. The effect of forces influence change in one of two ways. It would either promote change or serve to hinder and prevent change from occurring. Driving forces promote change, whereas restraining forces oppose and inhibit change.

The diagram below provides an illustration of the interaction of forces to enact change or remain balanced.

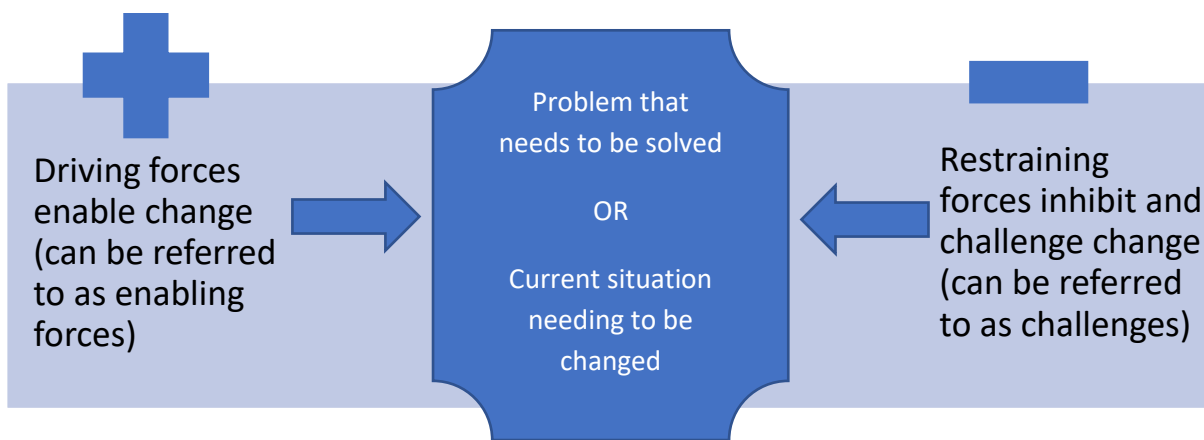


Fig. 3.6. Force Field Theory by Lewin

The diagram above represents a view of the Force Field Theory model. In the diagram, the positive side indicates all enabling factors or the driving forces that can enable movement to the desired change result. On the negative side, there are restraining forces which can result in change not being successful. If there are excess positives, the change will be successful. If there are excess negatives, the change will not take place. However, if the positives and negatives were to balance, or in Lewin’s terms, if the driving forces and restraining forces were to be equivalent, then we would see the “*status quo*” remain the same. The status quo would be the same in that no change would take place and what was taking place prior in the organisation would continue to thrive.

These ideas surrounding driving and restraining forces serve the purposes of this study well due to the fact that one of the key areas being explored is that of identifying the enabling factors

and challenges being experienced when trying to enact change in schools, through the use of the Curriculum Planner and Tracker as a change tool.

3.6. Combining Lewin’s Three Step Model, Force Field Theory and Rogers’ Theory of Change

The combining of these three theories can be used to arrive at the final product of the theoretical framework for this study. At the heart of this theoretical framework are Lewin’s models (the three step and the force field theory). The backbone upon which Lewin’s model can sit firmly is that of Rogers’ (2014) change theory, a linear one which is called the pipeline model. To refresh, the pipeline model as proposed by Rogers (2014) consists of inputs, activities, outputs, outcomes and impact. In the case of this study, the input is the curriculum planner and tracker, whilst the activities stem from what is being done by the various stakeholders in order to enact the purposes of the CPT in its entirety. These activities or motivations would either enable or hinder the usage of the CPT. The activities link to Lewin’s Force Field Theory in which there are driving or restraining forces. In this study, those activities are linked to enabling forces and challenges. What are some of the activities taking place that allow teachers to make use of the CPT and what are the challenges experienced that prevent the use of the CPT? These questions posed outline for us what the activities are, in accordance with the pipeline model and Lewin’s models.

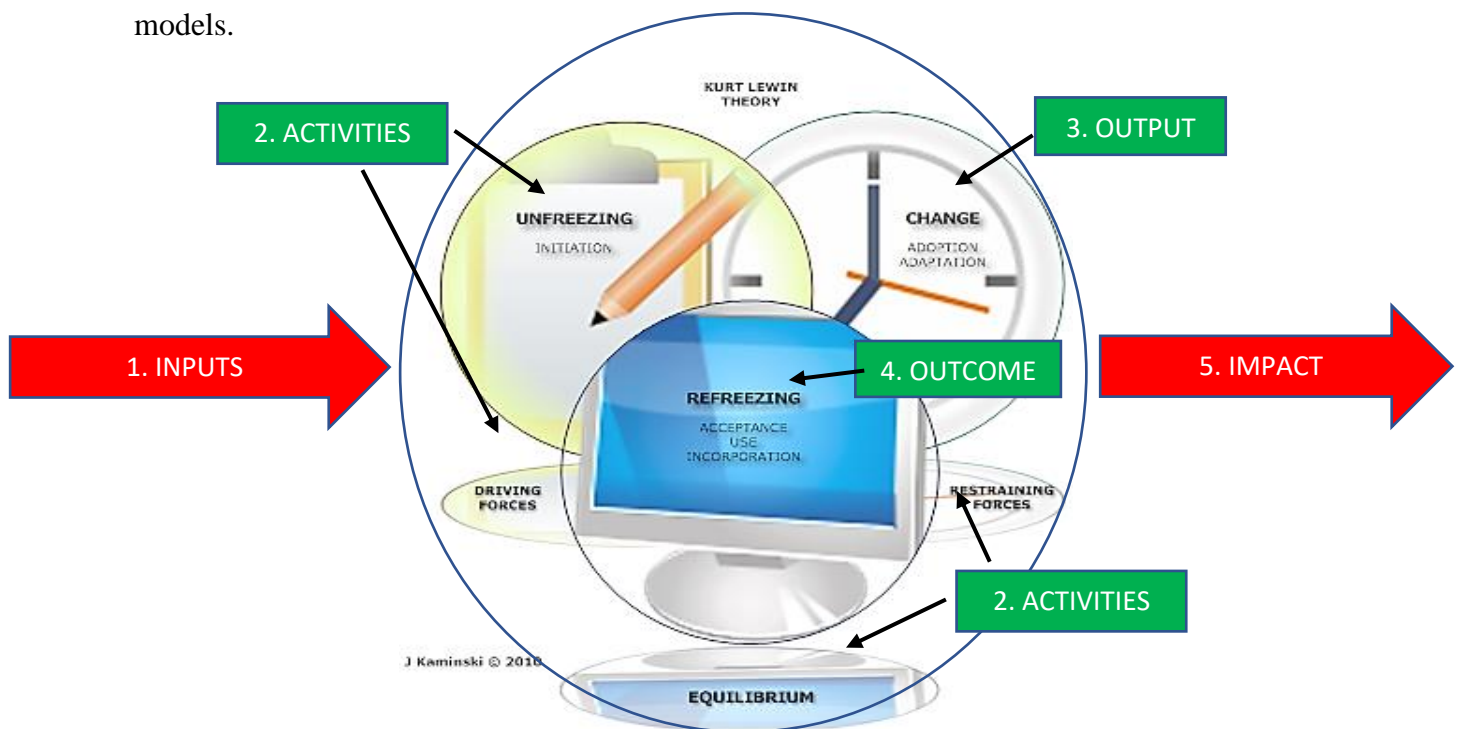


Fig. 3.7. Combined Theoretical Framework using Lewin’s and Rogers’ Change Theories

The diagram, Figure 3.7, is a combined diagram comprising the work of Kaminski (2010) in which the works of the 3 Step Model and Field Theory were neatly incorporated. In addition, it has been overlaid with the pipeline model of Rogers (2014) using green blocks and red arrows. In evaluating the final theoretical framework for this study, we need to analyse the diagram above. Inputs stem from Rogers Model of Change which is the start of the pipeline model. The inputs (number 1 in red) are all the resources and material provided by PILO in order to effect change. The inputs needed are the curriculum planner and tracker, HOD monitoring tools and the PILO coaches who are driving forward the process of bringing the CPT to the schools and to the attention of the relevant stakeholders. At the heart of this model, lies a combination of Kurt Lewin's change model and field theory courtesy of the work done by Kaminski (2010).

The set of activities (number 2 in green) point to the unfreezing of old ideas and ways of doing things in a counterproductive manner. In order to unfreeze and move onto the desired output (number 3 in green) of achieving change: there are activities that need to take place which would be supportive forces or enabling factors to drive the change. The diagram (in Fig 3.4.) depicts these driving forces; however, to inhibit change there would be an excess of complicating forces that hinder change and are the restraining forces. Examples of driving forces could be activities that promote skills development through workshops and training, whilst restraining forces could be present in the form of poor self-efficacy and lack of training, or other contextual issues that withhold positive change. For activities to lead to equilibrium, it would mean that the sum of driving and restraining forces is equal and the status quo and current method of doing things will remain the same. In that instance the way things were prior to unfreezing would be the same as the status quo after refreezing.

After having gone through the input and activity stages, this would lead to output (number 3 in green) which would be the result of whatever activities took place and would be an adoption or adaptation to the change initiative. Once the output has been set, it moves onto outcome of the initiative (number 4 in green). The outcome would be the refreezing step of Lewin's 3 Step Model in which the change initiative is accepted, in use and fully incorporated. This refreezing step is, however, dependent on what activities took place prior in order to achieve this level. Lastly, Rogers' last stage of the pipeline model which is impact (number 5 in red): the impact on the change initiative that was our initial goal would either be positive or negative. The impact would be positive if there were enough driving forces behind the change allowing the

change to refreeze towards a positive adoption of the change. Conversely, if the restraining forces were in excess, then the impact of the change initiative would be negative and the change initiative can be unsuccessful. For the change impact to yield no impact, it would be we have ended where we began with the status quo remaining intact and no change having been accomplished.

This final framework provides an in-depth portrayal of how a change initiative goes through its various stages in order to be successful and is not a process that happens by itself. Many factors are to be considered in order to establish change.

3.7. Conclusion - Jika iMfundo as a Change Initiative

The theory underpinning this study is that of the theory of change and a hybrid theory, borrowing and incorporating the best parts of Lewin's Change Model and Rogers' Change Model in the exploration of this study. Jika iMfundo is a programme by PILO in partnership with the Department of Education that aims to bring across change initiatives to the various districts in Kwa-Zulu Natal, with the Jika iMfundo Curriculum Planner and Tracker (CPT). It is a change initiative because its purpose is to ensure maximum curriculum coverage and change the way that teachers track the curriculum, by unpacking the curriculum content into meaningful content that can be taught. The CPT is a tool for change as it will allow teachers to track how they are keeping up with the curriculum and if they are not, they need to change the way they are doing things to ensure they are keeping abreast of the curriculum to be covered.

The theoretical framework used in this study has been criticised for being linear and for not considering the feelings and behaviours of the individual. However, Jika iMfundo caters for the lack of consideration of human feelings and behaviours by including reflections weekly. The weekly reflections are part of the change initiative and can form part of the activities that enable or drive the change to be better at ensuring curriculum coverage.

The next chapter will discuss the methodology used for this study.

CHAPTER 4

METHODOLOGY

4.1. Introduction

The previous chapter discussed the theoretical framework used in this study and explored the various theories of change leading up to the theory which was eventually adopted for use in this study. This chapter discusses the methodology used in conducting this study. It explores the research paradigm under which this study was focused as well as the research design and research style used. The methods of sampling and the sampling procedure will be discussed which will include the choice of participants to be used in this study. The methods of data collection will be evaluated and the methods of analysis, after data collection had taken place. The chapter ends with a discussion on how the trustworthiness and credibility of the findings of the study was established.

4.2. Critical Research Questions

This study aims to explore Grade 9 Mathematics teachers' usage of the curriculum planner and tracker (CPT) in secondary schools in the iLembe and Pinetown districts.

In order to understand the phenomena being studied, the following research questions guided this study:

1. To what extent have mathematics teachers used the curriculum planner and tracker?
 - What are the challenges that hinder mathematics teachers from using the curriculum tracker?
 - What are the enabling factors that enhance the use of the curriculum tracker by the mathematics teachers?
2. How has the curriculum planner and tracker influenced the rate of curriculum coverage?
3. To what extent have mathematics teachers and HODs taken ownership of the PILO activities?

4.3. Research Paradigm

A paradigm in research is a model for which the research will be understood. Creswell (2013) describes paradigms as philosophical worldviews, which are used to guide action and shape research by encompassing a set of beliefs. These beliefs could involve views on the discipline

under investigation, research experiences and what the researcher brings into the study. These beliefs for adopting a particular paradigm are contributing factors towards embracing a research design most suitable for a study, which may be qualitative, quantitative or mixed method (Creswell, 2013). According to Mackenzie and Knipe (2006), a paradigm influences to how research will be engaged and defines the expectations and motivations for such research. MacNaughton and Rolfe (2001) explain paradigms as encompassing three fundamentals: firstly, it deals with the beliefs surrounding the nature of knowledge; secondly a methodology and lastly criterion for validity. There are many different paradigms which a researcher may choose to guide their research. These paradigm approaches are that of the positivist and postpositivist, constructivist, deconstructivist, interpretive, transformative, critical, emancipatory and critical paradigms amongst others.

Understanding each type of paradigm will facilitate the selection of the most suitable one to meet the needs of this study. The positivist approach also known as the ‘scientific approach’ or ‘scientific method’, is based on testing theories and describes experiences through observations and measurements (O’leary, 2004). O’leary (2004) also describes the postpositivist view in a similar fashion to that of the positivist view, with the design and data collection techniques matching that of a quantitative nature.

Transformative research paradigms are used in research involving areas of social injustice and marginalisation, which seeks to change the lives of the participants, the institutions they get involved with and the researcher (Creswell, Plano Clark, Gutmann, & Hanson, 2003). Transformative paradigms and emancipatory paradigms share common ground whereby the aim is to help disadvantaged groups or individuals. Critical theory paradigms have the intention of not just understanding situations but also serve to change them (Cohen, Manion, & Morrison, 2011). These must liberate people who have been disempowered, address social inequalities and interrogate various situations in which the aim is to strive to unveil the interests that comprise those situations. According to Asghar (2013), to aid in alleviating an unbalanced social system, applying the flexible nature of critical theory would enable choosing methodologies that would satisfy this end. The interpretive and constructivist approaches look into participants’ views to evaluate and explain behaviours to “understand the human experience” (Creswell & Plano Clark, 2011). Constructivists usually do not start with a theory but rather use an inductive approach to arrive at a theory, or meaning, from the research conducted.

Due to the nature of this study, which deals with looking into people and their behaviours within their school environment, a paradigm which aims to understand the participants' views is needed. This study will, therefore, be underpinned by the interpretive paradigm. An interpretive paradigm is one which aims to understand the subjective world of the human experience. Thus efforts are taken to understand and interpret every facet of the phenomena under investigation (Cohen et al., 2007). According to Cohen et al. (2007), the interpretive paradigm sets out to explore individuals and how they perceive and interpret actions in the world around them. It is a useful paradigm when working with social systems. Schools fall under the category of "a social system" which involves many social interactions between various stakeholders.

The PILO intervention of introducing the *Jika iMfundo* curriculum planner and trackers in schools, in various districts in Kwa-Zulu Natal, involves looking at teachers' behaviours and feelings. The behaviours under evaluation are the extent to which teachers use the CPT and their feelings in this regard, in the form of the reflections and responses received by them. This paradigm is appropriate to this study as it aims to explore what actions are undertaken by participants with regards to utilising the trackers by PILO. The success or failure of the PILO initiative is based on how the participants react to it and what actions they undertake. This paradigm is then suitable in the venture of exploring the behaviours of participants within their social environments. These social environments are the schools being visited that have been making use of the PILO tools (CPT and monitoring tools).

4.4. Research Design

Research design is essential in being able to choose suitable methods of data collection. There are three types or approaches of research design. The first is that of a quantitative research design. In quantitative design, the research study is based on numerical data and is often used to determine cause and effect type relationships (Christensen, Johnson, & Turner, 2015). It is most useful in scientific research that usually uses experiments and has variables which can vary when evaluating people, environments or situations. The second type of research design is a qualitative design. A qualitative design involves a research study which has non-numerical data. Non-numerical data involves statements made by people, written records and observed behaviour (Christensen et al., 2015). Lastly, there are some studies in which you can make use

of both these research design methods. This would be a mixed methods approach. Mixed method approaches are useful in adding meaning as a fully quantitative research design can result in an incomplete analysis of the phenomena under investigation (Christensen et al., 2015).

The research design chosen to be used in this study is that of a qualitative design which is an interpretive research approach. It investigates people within particular situations and contexts. It relies on multiple types of subjective data (Christensen et al., 2015). Qualitative research is descriptive and focuses on emphasis on descriptions based on specific situations or people rather than on numbers with the intentions grounded in human experience (Maxwell, 2012; Nowell, Norris, White, & Moules, 2017). Qualitative studies explore phenomena and is most useful in exploring situations that people find themselves in which they have to understand and describe. It allows for theory generation and is useful in this study to propose reasons for the tracker being used efficiently or inefficiently and explaining why that is so. According to Christensen et al. (2015), qualitative research uses multiple methods of data collection and this enables the researcher to provide the best description of an event or the phenomenon under investigation. In this study, questionnaires, school surveys and interviews with participants and document analysis, provided the multi-method for this qualitative study.

4.5. Research Style

Depending on the research design chosen for a study, there are various research styles that can be used. Creswell (2013) discusses five styles of research which are: narrative research, phenomenology, grounded theory, ethnographies and case study. The research style chosen for this study is that of a case study. A case study is a research style in which it provides a detailed in-depth description and analysis of one or more cases such as a person, group of people or an organisation is provided (Christensen et al., 2015). This research deals with people and is within a school context. A case study is appropriate for this research study primarily because we wish to answer questions that examine a person, place or event within its context (Baxter & Jack, 2008). The focus of this study is to answer questions on how trackers aid in curriculum coverage and why teachers are making use of the CPT (or not using the CPT). According to Cohen et al. (2007), case studies are used to provide a unique example of real people within real situations, enabling a reader to understand how ideas and abstract principles from theory can fit together.

The purpose of this case study is to describe, explore and explain to what extent Grade 9 mathematics teachers are making use of the trackers, whether it has made an impact on curriculum coverage and whether teachers and HODs take ownership of the provided tools from PILO. The case study needs to provide an in-depth descriptive report based on the information gathered from the data to determine reasons for the factors that play a role in allowing teachers to do the above. A strength in using a case study for this project is that it can establish cause and effect relationships by observing real life contexts. In this case, what causes teachers to use trackers and what effect would this have on curriculum coverage (Cohen et al., 2007).

In the case of this study, the researcher is looking at teachers and their usage of the curriculum trackers as well as the extent to which this enables curriculum coverage which is the phenomenon under investigation. The researcher wants to know more about what challenges are faced by teachers within their school context as well as what enables them to make adequate and appropriate use of tools provided by PILO to track curriculum coverage. In order to conduct a case study, more than one source of data is required which is why questionnaires and interviews would be used as methods of data collection. These various data sources enable the researcher to paint a clearer picture to examine all aspects of what is to be achieved with the case study and ensures triangulation.

4.6. Sampling and Sampling Procedure

In order to commence with any research of a qualitative nature, participants are needed from whom to gather data and information in order to understand the phenomena under investigation. Sampling and sampling procedures involve the selection of participants and how that selection took place.

Six schools are involved in this study. The sample size for this study consists of eight participants for primary data collected in 2018. Four of the six schools had one participant each, which was either an HOD or an teacher teaching in Grade 9, whilst the remaining two schools had both an teacher and the HOD participating. There are two sampling procedures used in this study. This study uses purposive sampling and convenience sampling in order to select participants for the research study. Purposive sampling is selecting participants in a way that is

non-representative of a larger population and satisfies a specific need or purpose based on the objectives of the study (Christensen et al., 2015). For a purposive sample, the researcher uses their own judgement in selecting participants that are most likely to suit the objectives of the study. Purposive and convenience sampling are non-probability techniques of obtaining a sample which is most useful when a researcher cannot use randomisation to pick a sample. Convenience sampling, which according to Etikan, Musa and Alkassim (2016) can also be called haphazard sampling or accidental sampling, involves non-probability sampling where participants for the sample are selected on the basis of convenience for the researcher. Convenience could be due to those of a practical nature such as geographical proximity, access to resources, time constraints and availability and the likelihood of involvement by participants in the study to be conducted.

4.6.1. Purposive Sampling

This study had requirements in which random sample could not take place. In order to fit the purpose of this study, non-probability methods of sampling had to take place in order to ensure that suitable participants would be involved in the study. The first sampling procedure was that of purposive sampling. Purposive sampling in this study involved a specific grade chosen, Grade 9 only. It involved selecting participants for the sample based on their being Grade 9 Mathematics Teachers and being an HOD of Mathematics. It involved selecting districts in which one district had exposure to the tracker and the other did not. It also involved selecting schools based on various quintiles to learn more about curriculum coverage occurring over a wide spectrum of school contexts.

The chosen schools came from the Pinetown and iLembe districts. The choice of the districts was twofold: one district was part of the piloted project and teachers had been exposed to curriculum tracker for a period of three years. In addition, it forms part of the district from which preliminary findings were drawn. The second district is new in the programme and no data had been collected regarding tracker usage. Therefore, Pinetown district and iLembe districts were selected.

The selections of schools per district was informed by categorisation in terms of quintiles. According to Etikan et al. (2016), this form of purposive sampling falls under Maximum Variation Sampling (MVS). The idea behind MVS is that it provides a greater level of understanding by looking at more than one angle for the study being undertaken. In this case

looking at schools from varying quintiles. Three schools in each district were selected with each school belonging to a different quintile ranging from Quintile 1 to Quintile 5. Schools selected from each district must consist of a mix of non-fee paying and fee-paying schools. Schools are categorised into quintiles based on the wealth or economic status of the surrounding areas. In view of this Quintile 1 would be viewed as the poorest school receiving the greatest funding from the Department of Basic Education (DBE) and Quintile 5 would be considered the most affluent, receiving the least funding from DBE. Quintiles are in place to ensure some equity in funding of schools based on economic and social factors within surrounding communities. Selecting schools of different quintile ratings ensures a wide spectrum of experiences from different settings that could potentially play a role in tracker usage in schools. Quintile 1, Quintile 2 and Quintile 3 schools are considered to be rural and depend solely on funding from the Department of Basic Education. These schools are non-fee paying in view of the socio-economic backgrounds of the learners attending these schools and the economic status of the surrounding area. Quintile 4 and Quintile 5 schools are considered urban school environments. These schools are fee-paying schools and receive the least funding from the DBE. As a result of the limited funding, these schools need to obtain school fees in order to manage the day to day running of the school and the purchase of teaching and learning resources.

In Pinetown district, the selected schools were those that participated in at least two out of five data collection process stages since 2015. The selected schools would have participated in any two out of the following: a School Review conducted in 2015, a Self-Evaluation in 2016, an August Survey in 2016, School Review 2016 and interviews in 2017. At ILembe district the selection was only based on quintiles since it is the first-time teachers in that district are making use of the curriculum planner and tracker.

Purposive sampling allows the researcher to purposely select the participants who have in-depth knowledge about the phenomena (Cohen et al, 2011). Therefore, schools in the Pinetown district have extensive knowledge of the usage of the curriculum planner and tracker, while ILembe is new in the project. However, by the time data collection resumes they would have had at least half a year to use the tracker. The findings from this district provided a source of rich data in understanding the extent to which the challenges and enabling factors are evolving. It also enabled the researcher to uncover whether there in progress in the utilisation of the

curriculum planner and tracker in those two districts and what has allowed for improved utilisation or a lack thereof.

4.6.2. Convenience Sampling

Convenience sampling was used as an additional method of sampling for this study. In this sampling procedure the sample population was easily accessible to the researcher (Etikan et al., 2016). In this study, convenience sampling was used in terms of the way in which the schools were chosen. For schools in the Pinetown district, convenience sampling was used to ensure the least amount of travelling time between schools. The ability to travel to these three schools and manage time most effectively, to be able to go and collect data at all three schools on the same day, led to choosing those schools. Schools were also chosen based on being able to make appointments with them via mobile communication at the convenience of participant and researcher.

Schools in the ILembe district were also chosen based on proximity but it was also due to knowing the participants. By knowing some of the participants personally, it guaranteed their willingness to meet outside of school hours to conduct interviews and collect data. This prevented some of the limitations in data collection where participants might not have time to accommodate the researcher or are unwilling to participate. Some of the data collection for these schools could take place outside working hours at a more flexible time. Convenience sampling then becomes useful to ensure the researcher can collect data at their convenience and the most likelihood of obtaining data.

4.7. Context of the Study

This study was conducted on schools that had already been involved in the PILO Jika iMfundo project in the Pinetown District as well as new pilot schools within the iLembe District. Six schools were chosen, three belonging to each district. These schools consisted of fee-paying, semi-fee-paying and non-fee-paying schools in order to learn more about how well received the PILO intervention has been in respect to enabling curriculum coverage in these different school settings. Selection of these schools was discussed in detail under the section on sampling and sampling procedure.

Table 4.1 offers a description of the schools used in this study, consisting of the codes used for each school, the quintile it belongs to as well as the learner and teacher population of each school.

Table 4.1. Schools selected for the study

School	School Name	Quintile	Number of Learners	Number of Teachers
PINETOWN DISTRICT				
School A1	Zuzu P1	1	828	21
School B1	Umta P2	2	926	26
School C1	Glen P5	5	1278	34
ILEMBE DISTRICT				
School A2	Grout I3	3	2300	70
School B2	Stan I4	4	802	37
School C2	Mano I5	5	1127	41

Codes A1, B1 and C1 represent each school belonging to the first district in the study which is Pinetown District. Code **P**, which follows the pseudo-name of each school, represents Pinetown district and the following number representing the quintile to which this school belongs, e.g. Zuzu P1 – Zuzu is the pseudo-name and is a school in Pinetown district and is Quintile 1. Codes A2, B2 and C2 represent each school belonging to the second district in this study which is the I Lembe district. Code **I** will follow the pseudo-name for each school belonging to the I Lembe district and the number that follows represents the quintile of the school, e.g. Stan I4 – Stan is the pseudo-name and is a school in I Lembe district and belongs to Quintile 4.

4.8. Overview of Data Collection

Data for this project was generated two-fold. Firstly, secondary data from teacher questionnaires, school surveys conducted over a period of two years (2015-2016) by PILO coaches as well as interviews conducted in 2017 at some of the schools in Pinetown district.

Secondly, after looking at the Secondary data provided, a follow up using semi - structured interviews was conducted at all six schools (three from Pinetown District and three from ILembe District).

4.8.1. Secondary Data Collection

Secondary data is data which is obtained via second hand sources and could be in various forms such as questionnaires, surveys, pictures, documents or interviews (E. Smith & Smith Jr, 2008). Field notes, semi-structured interviews and observations made by others can also form secondary data. In this study, secondary data was useful as this data was collected for similar intentions and could be directly linked to the objectives of this study. The secondary data used in this study are that of semi-structured interviews, semi-structured interview questionnaires, surveys and a self-evaluation checklist that participants had to fill in. The six forms of secondary data presented here are only for the selected schools in the Pinetown district. Schools in ILembe district have had no secondary data collected as they only became involved in the PILO initiative in 2018.

a) School Review 2015 (SR 2015)

The School Review 2015 (SR 2015) was a semi-structured interview questionnaire in which participants were able to evaluate what was working and what was not working in the usage of the curriculum planner and tracker tools. This instrument dealt with evaluating the extent to which teachers and HODs took ownership of the tools provided by PILO and to verify the extent of usage by looking at the tracker. Hence, the participants in this instrument were HODs and teachers. This review was conducted by a PILO coach assigned to the school. Only one of the three schools for Pinetown district, in this study, had participated in this school review which took place on 20 October 2015.

b) School Review 2016 (SR 2016)

The School Review 2016 (SR 2016) served a similar purpose to that of the School Review 2015. It consisted of a semi-structured interview questionnaire and was conducted with HODs. In this study two schools of the three participated in this review. The purpose of this review was to engage with HODs to determine the usage of the CPT by Mathematics and Science teachers that they supervise in Grades 8 and 9, as well as in Grade 10-12. The data focused on was that of Grade 9 Mathematics as that was pertinent to this study. This instrument engages with the usage of the trackers by teachers and its impact on ensuring curriculum coverage. It also probed into reasons behind improved curriculum coverage or a lack thereof. It also sought

to uncover whether HODs are making use of monitoring tools and to what extent that is taking place. Lastly, this instrument allowed for the participant to provide feedback on challenges experienced, positive outcomes as well as areas for improvement and support should they felt they were needed. These reviews took place on 27 January 2016 at one school and on 28 November 2016 at another school.

c) Self-Evaluation 2016 (SE 2016)

The Self-Evaluation 2016 (SE 2016) was a checklist type document that was sent to schools involved in the Jika iMfundo initiative. This instrument looked at evaluating how the School Management Team (SMT) described where they are in terms of certain criteria. The criteria evaluated covered various areas such as monitoring and supervision, tracker usage, meetings with various stakeholders, record keeping and available resources. SMT involved in this self-evaluation had to tick the columns which described where they were with regards to a criteria or question that had been posed.

For each question, put a in tick (☐) in the column which best describes where you are <i>now</i> as an SMT	We do this routinely with confidence	We are trying, but need help	We are not able to do this
1. The principal has her/his own Curriculum Management Supervision Plan			
2. The principal is monitoring curriculum coverage according to the plan			
3. Each HoD has her/his own curriculum management supervision plan			
4. Each HoD is using a tool to track her/his teachers' curriculum coverage			
5. Teachers are using the Planner-Trackers consistently (in subjects that have them)			
6. There are one-on-one meetings between the principal & HoD s			

Fig. 4.1. Sample of the SE 2016

The way schools rated themselves was allocated by colour codes of Green, Amber and Red. If the SMT engaged with an activity routinely with confidence, it was Green. If they tried to do those activities but required help it was declared Amber and if they were unable to do those tasks it was declared Red.

The dates on which the Self-Evaluation took place varied as each school completed them at different times. Due to the fact that Self-Evaluations are filled in by the school and not done by an external person such as a PILO coach, it was difficult to verify whether the information provided was entirely accurate or if it was the way the school wanted to be perceived.

d) August Survey 2016 (AS 2016)

The August Survey 2016 (AS 2016) was a school survey on curriculum coverage, dealing with Grade 9 Mathematics as its focus area. This survey was conducted by PILO coaches across 89 sample schools which were randomly selected from a total of 1209 schools within the uThungulu and Pinetown districts. The AS 2016 formed part of the Jika iMfundo Monitoring Programme to ascertain how well the initiative is being received by the schools that have them. The primary purpose of this instrument was to determine the extent of continued tracker usage and to determine how much of the curriculum had been completed in Term 2 of 2016. This survey focused on evaluating evidence by looking at learner books against the tracker exercise, looking at the DBE workbooks and checking how much of the tracker was filled versus what was claimed. Learner tasks were also compared against teacher record books such as the mark file.

This survey was flexible in that it allowed the participants to comment and give reasons for some of the observations being made when going through their documents. This instrument aims at helping Jika iMfundo with improving curriculum coverage by uncovering how much of the curriculum gets covered by looking at learner work. This form of secondary data also highlights the challenges experienced by those who deliver the curriculum, which were the teachers and it will enable the Jika iMfundo programme to gain insight in how to improve the assistance of teachers in curriculum management. This survey took place in two schools, the first school had the survey conducted on 26 August 2016. The second school had the survey conducted on 29 August 2016.

e) Semi-Structured Interview August 2017 (IA 2017)

An Interview took place in August 2017 at School C1 - Glen P5. The interview conducted took place with four participants. The interview was semi-structured and was used to probe into claims made in previous data collected for this school. This instrument was the transcript of the interview in which there were four participants. There were two male teachers and two female teachers. Codes were given to represent the interview and for each participant. Person A was the interviewer, Person B and D were Male 1 and Male 2 respectively and Person C and E were Female 1 and Female 2, respectively.

f) Interview Report 2017 (IR 2017)

The Interview Report 2017 (IR 2017) is an instrument which was conducted by another researcher who visited School A1 in 2017. The interview was semi-structured and took place on 10 August 2017 and the report was compiled after visiting the school and it outlined the outcomes of what took place at the interview. The participants in the interview were the HOD, a Grade 8 and 9 Mathematics teacher and a Grade 10 Mathematics teachers. This instrument contains field notes and observations mentioned in the report with key findings and recommendations.

This Interview Report could be beneficial in providing insight into the events taking place at the school which could influence their usage of the Jika iMfundo tools. It can also aid in providing us with the enabling factors and challenges being experienced at the school which play a role in using the curriculum planner and tracker. The IR 2017 may offer suggestions to enable improved utilisation of the curriculum planner and tracker as well as other monitoring tools provided by PILO.

4.8.2. Primary Data Collection

Primary data collection is used by a researcher to get first-hand information from participants. It is useful in obtaining fresh data from a new perspective and can be used to compare or explain previous data collections or to provide reasons behind phenomena taking place. It provides direct interactions with participants, whereas surveys and questionnaires may not provide for room for participants to air their views. According to Hox and Boeije (2005), researchers need to use procedures of data collection which suit the needs of the study, therefore primary data collection must be collected to keep in line with the research problem under investigation. It should aim to expand existing knowledge on the problem by collecting fresh insights. A popular method of primary data collection are interviews which allow participants to air their views and give their inputs on the areas related to the research problem. Interviews are a good source of primary data as it is a qualitative data collection method in which a researcher wants to learn more about the behaviours of people within their environments (Hox & Boeije, 2005). In this study, interviews were conducted in 2018. Document analysis also took place in 2019 based on workshops that were held by PILO. Document analysis involves the gathering of facts and are interpreted by the researcher in an attempt to provide meaning (Owen, 2014).

a) Semi-Structured Interview 2018 – see Appendix D

Interviews are necessary to bridge the gaps identified in the secondary data or to confirm data previously obtained, for example, verifying close-ended questionnaire responses. In addition, interviews were conducted with teachers at iLembe district to find out the extent to which they used the CPT and how it helped them with curriculum coverage. The interviews are necessary to understand the realities of the participants. This assisted with collating the experiences of the new teachers in the programme with those who had been involved in the programme more than three years.

Grade 9 Mathematics Teachers and HODs for Mathematics in the Pinetown District had been interviewed during the Third Term in August 2018. They would have been able to make use of the trackers in Term 1 and Term 2. There was a single interview in the three schools in the Pinetown district as there is also secondary data available that could be perused and used to confirm if any changes had taken place in the 2018 year with curriculum coverage.

Grade 9 Mathematics Teachers and HODs for Mathematics in the iLembe District had been interviewed during the third term in September 2018. ILembe district is one of the newly piloted districts making use of the trackers for the first time this year, hence interviews in Term 3 would have allowed the teachers and HODs to make use of the trackers and monitoring tools for at least two terms prior to this. Participants responses during the interviews conducted at the six schools were recorded on an audio recorder and transcribed later. Field notes were made during the interviews and in cases where participants did not consent to being recorded, their verbal responses had to be written down.

b) Document Analysis 2019

Document Analysis is useful in providing insight and can complement other forms of data collection. Bowen (2009) discusses how documents can provide information on a topic under investigation and can deepen background knowledge. This can become very useful in contextualising research. O’Leary (2014) concurs with these statements and describes how proper evaluation of documents and ensuring subjectivity of documents can solidify the credibility of research.

Documents analysed in this study were those of various reports on meetings that took place which dealt with Jika iMfundo. The first report back document was for a meeting which took place on 21 February 2019 which was conducted by a Subject Advisor in iLembe District and had some focus areas on Jika iMfundo in Mathematics. Another report back document dealt with a meeting conducted by PILO which focused on Jika iMfundo – Module 5 and focused on HODs in iLembe District. This second meeting took place on 25 April 2019. Secondly, the HOD who attended these meetings created charts in order to conduct workshops with staff on what transpired at those meetings. Those charts used in the workshop with teachers were made available and were also analysed. Lastly, monitoring documents based on Jika iMfundo developed by another HOD at a secondary school in I Lembe district was analysed.

4.9. Analysis of Data – Coding and Thematic Analysis

Saldaña (2015) describes coding as a process in which a researcher assigns a word, phrase or code to represent key ideas, summaries, or the essence of a set of data that have been collected. The purpose of using codes is to eventually find patterns where pieces of data have some sort of relationship between them. Each set of data to be coded can have their own unique codes that do not have to be exactly the same as codes from other data sets but if the codes generated are similar it can be seen as a pattern emerging (Saldaña, 2015).

In this study, codes were generated by first reading through the data and looking at what ideas and thoughts emerged from the data many times. These common ideas were assigned a code in the form of a phrase and could be abbreviated. Codes were generated manually and were written down and later tabulated against the various data extracts. Codes which were similar in nature were those that fit together logically and shared the same common ideas. This then led to patterns in the codes that allowed for themes to emerge. It is these themes that emerge from the coding process that need to be analysed.

This data which had been coded and had generated themes was analysed using thematic analysis. Thematic analysis is a type of qualitative method used to ensure trustworthiness of data as well as analyse large qualitative data sets (Nowell et al., 2017). Thematic analysis is a method used to identify, analyse, describe, organise and find themes within the data the researcher has collected (Nowell et al., 2017). In this study the themes that arose for analysis

were aligned to the research questions of the study and guided the way in which the analysis and discussion of the data was set out.

4.10. Ethical Considerations

Any research study needs to consider the effect that the research study will have on the participants involved (Cohen et al., 2011). Ethics involves being sensitive to participants and respecting their invaluable contributions made to the study. Christensen et al. (2015) together with Cohen et al. (2011) discuss how ethical considerations involve respecting participants, their privacy and opinions, providing anonymity and confidentiality and whereby participants are not deceived or betrayed by the researcher.

In this study, ethical procedures were followed to ensure that all these ethical considerations were adhered to. The researcher met with the respective school principals and they were asked to consent to their school being involved in the research study. Consent also had to be obtained from the participants involved in the study. All six principals and all eight participants were informed of the intent of the study and what the study entailed. They were all informed that the school name and names of participants would not be mentioned and that only pseudo-names would be used. They were guaranteed that anonymity and confidentiality would be maintained. Participants were requested to give their consent to being recorded either with audio or video. Participants who did not wish to be recorded in any form during the interview process were not forced to do so or deceived in any way by being recorded without their knowledge. In the instance of participants not consenting to audio or video recording, their responses were simply handwritten.

Participants were notified that they were free to revoke their participation in the study at any time and doing so would not be held against them. Participants were also welcome to review and comment on any parts of the final product of the research prior to publication. All data for this research was stored on a password protected server where authentication would be required to access the data.

Ethical clearance was applied for and the gatekeeper letters, consent forms and all research instruments to be used were submitted to the Humanities and Social Sciences Research Ethics Committee. Application for ethical clearance was granted full approval on the 26th of July 2018.

The ethical clearance certificate is valid for a period of three years and can be found attached together with all relevant clearance documents such as gatekeeper letters and consent letters in the Ethics Annexure section. The Ethical Clearance Letter can be found as Appendix A, Appendix B is a sample gatekeeper letter and Appendix C is a sample participant consent letter.

4.11. Trustworthiness and Credibility of the Study

Trustworthiness and credibility of the study is addressed through honesty, depth, richness and scope of the data. The participants were approached using these precepts. These were also applied to the extent of triangulation and objectivity of the researcher (Cohen et al., 2007). Triangulation can involve the use of multiple data sources, and research methods in order to corroborate research data as well as conclusions (Christensen et al., 2015). In this study, triangulation was used in the form of multiple data collection methods in order to strengthen the trustworthiness of the data. Secondary data was collected over a period of two years (2015-2016) in the form of questionnaires and surveys to increase validity. Primary data was collected over a period of three years (2017-2019), through interviews and document analysis in order to consolidate and confirm what was found in the secondary data collection. Furthermore, ensuring trustworthiness involved maintaining the confidentiality of the participants, using pseudo-names in the interview transcript as well as for the name of the schools.

4.12. Conclusion

This chapter evaluated the various aspects of the methodology used for this study. Encapsulated in this chapter are all the aspects that needed to be considered in order to conduct this research study. The critical research questions acted as a guide to establish the best suited research paradigm, design and style to be used in the study. Having established what research methods suit the study, the next step involved finding suitable participants and establishing a sample and the sample procedure to be used. Data collection methods used in this study had to be in keeping with data collection methods that suited the research paradigm, research design and research style. Ethical considerations are important when planning the data collection. It is also important to understand that in working with people one needs to be mindful of their circumstances and respect their commitment and contributions in assisting with making a research study meaningful. The next chapter will discuss and analyse the enabling factors and challenges that were drawn from secondary data collection.

CHAPTER 5

ANALYSIS AND DISCUSSION OF FINDINGS ON ENABLING FACTORS AND CHALLENGES DRAWN FROM SECONDARY DATA

5.1. Introduction

The previous chapter discussed the methodology that was used in this study. It dealt with the research paradigm chosen for this study, the research style, design, sampling procedure and data collection methods. This chapter evaluates secondary data that resulted in the emergent themes of enabling factors and challenges. The secondary data presented here is only available for the Pinetown district seeing as ILembe District had only implemented the Jika iMfundo Curriculum Planner and Tracker (CPT) in 2018. Due to the roll out of the CPT to other districts and implementation in 2018, no secondary data is available for ILembe district and as such, primary data has been collected which will be analysed in the next chapter, together with primary data for the Pinetown District. Therefore, the secondary data presented here will be for each secondary school in the order of the instruments used from 2015 to 2017, if the school participated in them (with participation in at least any two instruments). Coding and thematic analysis is used to arrive at the two main themes which are the enabling factors and challenges experienced in the usage of the CPT.

5.2. School A1 – Zuzu P1

This school belonging to the Pinetown District is rated as Quintile 1. Quintile 1 means that this school, Zuzu P1, receives the most funding from the Department of Education and it is a no fee-paying school. Therefore, the resources needed by the school are dependent on the support and funding of the Department. The secondary data presented for this school has been collected over a period of two years since the school's involvement in the Jika iMfundo CPT since 2015. The instruments to be discussed and analysed are the School Review 2015, the School Review 2016 and the Self-Evaluation conducted in 2016.

5.2.1. Teachers' utilisation of the Curriculum Planner and Tracker (CPT) and HOD utilisation of monitoring tools – School Review 2015 (SR 2015)

The first instrument is that of the 2015 school review, which explored teachers' utilisation of the CPT. This review was conducted in October after the introduction of the CPT in January 2015. The aim was to explore teachers' usage of the CPT since its inception. Some questions

were directed to teachers and some questions were directed to the HOD. However, the responses appeared as if they were drawn from the HOD only, not teachers, as shown in the Table 5.1 below that contains the extract from SE 2015. Questions that relate to management of the school were omitted since the purpose of this study is only to explore teachers' utilisation of the CPT.

Table 5.1. Extract showing data from School Review 2015

Question 1: (<i>HODs and teachers</i>)	Yes	To Some Extent	Don't know	Not at all
1. In your opinion are the trackers being used routinely?				√
There have been many issues in the school and, therefore, they are NOT USING the trackers at all. The school has gone through many challenges. There was no teaching and learning taking place for TWO MONTHS and the materials were strewn everywhere by learners who were protesting.				
Question 2:	Yes	To Some Extent	Don't know	Not at all
2. Is the professional reflection section being completed routinely? (<i>HODs and teachers</i>)				√
Because the trackers are not being used, there is no reflection being completed.				
Question 3:	Yes	To Some Extent	Don't know	Not at all
3. Could the trackers and other teaching support materials (learner activity sheets, posters, dictionaries etc.) be improved? How? (<i>HODs and teachers</i>)			√	
The School needs to be workshopped on the Trackers and how to use them. The whole staff needs to be shown that the ATP given by the Department is the same as the Trackers.				
Question 4:	Yes	To Some Extent	Don't know	Not at all
4. Do you feel the HOD tool assists you to have professional and supportive conversations, based on evidence with teachers as a matter of routine? Have you started doing this? (<i>HODs Only</i>)			√	
Please elaborate on what is working and where you need more support from Jika 'iMfundo. The tool is not even available in the school for them to have a look at.				

From the responses in Table 5.1, it appeared that teachers were not using CPT. Many contextual factors were cited as being reasons for this, such as school protests, which had disrupted teaching and learning for a period of two months. Due to this, the curriculum planner and tracker (commonly referred to as CPT or tracker) were not being used at all. This then had a ripple effect on professional reflections. Without tracker usage, there is no reflection being completed. Upon being asked about whether the tracker and other support materials could be improved, the response was that they did not know. The response from the participant was that the school should be workshopped on the purpose of the trackers and how to use them. It is in the respondent's opinion that the whole staff needs to be shown that the Annual Teaching Plan (ATP), given by the department, is the same as the trackers.

In addition to the lack of reflections, it appears that professional conversations also do not take place. Professional conversations take place when HODs meet with their teachers to discuss professional problems related to teaching, learning, resources or administrative duties; the aim of having professional conversations is to air issues experienced and to find ways to resolve them or to provide support and assistance to teachers. At Zuzu P1 there are no professional conversations taking place for there to be adequate support to be given to teachers. This is because the CPT were not used at all and the tool for HOD monitoring is not available at the school. To compound the problem, no efforts were made to obtain the tools necessary that would have enabled monitoring to take place.

Table 5.2. Data from SR 2015 indicating HOD usage of Jika iMfundo tools

Question 5:	Yes	To Some Extent	Don't know	Not at all
5. Do you have a curriculum coverage supervision plan? Did you attend the HOD workshop? (HODs Only)				√
Please elaborate on what is working and where you need more support from Jika iMfundo. The HOD did not attend these Workshops. They are in the process of putting these things in place.				

Table 5.3. Data from SR 2015 indicating HOD usage of Jika iMfundo tools

Question 6:	Yes	To Some Extent	Don't know	Not at all
6. Does your SMT look at learners' work to track learner achievement against curriculum coverage? (HODs Only)				√
Please elaborate on what is working and where you need more support from Jika iMfundo. The HOD's do not look at the learners work.				

The data presented in Tables 5.2 and 5.3 serve to indicate that there is no curriculum coverage supervision plan in place. The HOD had not attended any workshops regarding using a curriculum coverage tool and they were still in the process of getting a supervision plan in place. The School Management Team (SMT) also do not monitor learners' work, therefore, they are unable to monitor and keep track of learner achievement against curriculum coverage. When questioned on whether the principal plays a role in monitoring assessment results against assessment plans, once again the responses received were not favourable. The response attained was that although the principal asks for assessment plans, there was nothing on paper and once again the principal does not attend any workshops related to monitoring.

In order to verify the extent of CPT usage, based on what had transpired in the interview, which required evaluating the CPT, it was found that the CPT had not been filled in and had also not been completed up until Term 3. The tracker was not filled in and so the extent of curriculum coverage was unlikely to be derived from the tracker. This was further supported by the fact that the HOD does not monitor curriculum coverage and there was no evidence of curriculum coverage monitoring tools being used, with or without Jika iMfundo tools, as shown in Table 5.4.

Table 5.4. Extract taken from SR 2015 on verification of tool usage

No	Checklist	Yes	Partly	No
1	Is there evidence of the HOD monitoring curriculum coverage with the Jika iMfundo tools?			√
2	Is there evidence of the HOD monitoring curriculum coverage with the other tools not from Jika iMfundo?			√
3	Is the HOD Curriculum Checklist filled out completely and correctly for term 3?			√
4	Is the tool not being used at all?	√		

As evident in the data from the 2015 review, much work is needed to be done by all stakeholders in this school in order for the CPT to be utilised effectively. This was further supported by the comments from the PILO coach in their report in the SR 2015.

“This school needs some serious work done. The whole staff need to be workshopped and a “buy in” into the programme done. Teachers still feel that there is too much hard work when they hear the word Jika Imfundo because they do not understand what it is about. The relationship between the teachers and the SMT is something that also has to be looked at as information is not cascading to everyone.”

Contextual factors were raised as the main problem affecting teachers’ utilisation of the CPT. Although the entire school was affected by disruptions, language teachers were found to have had access to the CPT. However, it was not used. This is in comparison to mathematics teachers who did not have access to CPT at all and so could not use it. While there seems to be contextual factors affecting teachers’ utilisation of the CPT, the PILO coach raised other concerns regarding the cascading of information from the HOD to the teachers. HODs are the ones attending the training sessions and are expected to train the teachers by following the “train the trainer model”, as adopted by PILO when introducing the CPT to schools. It would seem that due to the lack of communication between the HOD and teachers, there is no “buy in” from the teachers which suggests that regardless of the contextual factors of the school, teachers have not bought into the use of the CPT, simply because it is perceived to be more hard work.

Perhaps this is because of the lack of understanding as the channels used for cascading the information and training necessary have not been working effectively at Zuzu P1.

Continual monitoring of teachers' utilisation of the CPT were conducted in 2016. The first review in 2016 then took place in August 2016 and looked at the aspects of teachers' usage of the CPT as well as its impact on curriculum coverage.

5.2.2. a) Teachers' utilisation of the Curriculum Planner and Tracker (CPT) – School Review 2016 (SR 2016)

The second instrument is the School Review conducted in 2016, which consisted of a semi-structured questionnaire in which the aim was to gather information on the extent to which teachers are making use of the CPT and the extent of its impact on curriculum coverage. The participant in this instrument was the HOD and he was supervising eight teachers within six subjects. Keeping the purpose of this study in mind, the discussion and analysis on this instrument will focus on what takes place in Grade 9 for teachers using the trackers and the current trends in the curriculum coverage within Grade 9. However, where relevance can be gathered from other data collected for grades in the FET phase, those selected data may also be discussed, provided they had relevance to this study.

As shown in Table 5.5, the HOD stated that all the mathematics teachers make use of the trackers routinely to track curriculum coverage.

Table 5.5. Data from SR 2016

	All	Some	None	Do not know
1. Of the Grade 8-9 Maths teachers you supervise, how many use the Maths planners and trackers routinely to track coverage?	X			
<i>Verification using Term 3 Trackers: Trackers are used routinely and are up to date (Note it is possible for the tracker to be up to date but for the teacher to be behind with CAPS)</i>				
Comment Teacher was not using the trackers but they were using the planner which is not used properly				

Contradictory to findings in the SR 2015, it seems that there was a drastic improvement in 2016 since it was now claimed by the HOD that teachers are now using the CPT as indicated in the review. Although the HOD emphasised this, the comment made by the PILO coach revealed that teachers, were in fact, not using the CPT but were making use of the Annual Teaching Plan (ATP). However, even this was not being used correctly. The PILO coach comments are in direct contrast to the HOD, stating that all teachers use the trackers routinely. Perhaps the lack of understanding and feeling of being overloaded with work, as a result of disruptions in 2015, were contributing factors. The purpose of the CPT is to unpack the curriculum and to assist teachers in accomplishing a thorough completion of the syllabus to be taught. This plays a role in ensuring curriculum coverage which will be discussed in the context of the SR 2016, in the next section.

5.2.2. b) Impact of Jika iMfundo tools on Curriculum Coverage – School Review 2016 (SR 2016)

The CPT was developed to assist teachers to manage and track the curriculum. Though the main aim of the introduction of the CPT was to ensure curriculum coverage, this aim eventually led to the development of HOD tools and training to assist in this endeavour. One of the HOD tools assisted with enhancing professional conversation between HODs and teachers. These conversations are important to develop teachers and to meet the end goals of the CPT. However, from the school review 2016, it seems no changes had taken place in this respect, since activities from the school review in 2015, as evident in Table. 5.6 below.

Table 5.6. Extract from SR 2016 on tool usage and curriculum coverage

	Yes	To Some Extent	Don't know	Not at all
13. Are the HoD tools and training assisting you to have professional and supportive conversations about curriculum coverage based on evidence?		X		
Verification of records				
Comments (please discuss each tool, and note where the HoD has adapted the tools) They don't use tools so far because he attended only module 1				

In terms of the HOD tools being utilised to have professional and supportive conversations, the HOD claimed that it only assisted him to some extent. However, the comment made by the PILO coach contradicts that, as it indicated that there was no evidence that the tools aimed at having professional conversations regarding curriculum coverage were taking place and being utilised. Furthermore, it was pointed out that it was possible that this was due to a lack of knowledge since the HOD had only attended module 1 training. This lack of knowledge was also confirmed by the HOD in his response regarding the need of support. From the data above, the HOD revealed that he required assistance from Jika iMfundo in the form of curriculum management workshops, the usage of the tools provided as well as for regular visits to take place in order to maintain support and monitoring of the curriculum.

Another reason or inhibiting factor raised by the HOD regarding curriculum coverage was the high rate of absenteeism. As indicated by the figure below extracted from the SR 2016, the comment made was that the teacher had been said to be on and off from school often due to ill health. This acted as a restraining force to prevent curriculum coverage. Of the Grade 8 and 9 teachers being supervised by the HOD, they reported that none of them had completed all the CAPS content in 2016. In the professional valuation by the HOD, he felt that there was no improvement in the curriculum coverage in 2016 compared to the coverage in prior years. The reason cited for the lack of improvement was that of internal problems within the school.

Table 5.7. Data from SR 2016

	All	Some	None	Do not know
2. Of the Grade 8-9 Maths teachers you supervise, how many reported that they had completed all of CAPS in 2016 in Maths?			X	
<i>Verification using Trackers</i>				
Comments: The teacher has been on and off due to ill health and lot of absenteeism				
	Yes	Some	No	I do not know
3. In your assessment, have more Maths Grade 8-9 teachers covered more of Maths CAPS than in previous years? (If you answer "No" or "I do not know" go directly to question 5)			X	
Why do you think it has improved/ not improved? Do you have evidence (any records from previous years)				
Not improve because internal problems within the school				

Unlike the Grade 12 National Senior Certificate (NSC) examinations, it is known that there are no exit level examinations at Grade 8/9 levels. Therefore, teachers may not test according to the full extent of the curriculum and could possibly only test learners based upon what they had taught thus far. This would prevent learners from excelling when reaching higher grades due to not having sufficient knowledge-depth and skill development in the content.

5.2.3. a) School A1’s evaluation regarding teacher utilisation of the CPT – Self-Evaluation 2016 (SE 2016)

In November 2016, instead of completing questionnaires and having PILO coaches conduct interview with HODs, a Self-Evaluation was conducted by an SMT member in the school. The Self-Evaluation makes use of three colour codes under which schools’ rate themselves per criteria. A Green code means that the school takes part in the activity routinely (all the time). An Amber code means that the school partakes in an activity some of the time and a Red code means that the school does not engage in fulfilling the activity at all.

1. The principal has her/his own Curriculum Management Supervision Plan	2. The principal is monitoring curriculum coverage according to the plan	3. Each HoD has her/his own curriculum management supervision plan	4. Each HoD is using a tool to track her/his teachers’ curriculum coverage	5. Teachers are using the Planner-Trackers consistently (in subjects that have them)	6. There are one-on-one meetings between the principal & HoDs	7. There are subject/phase meetings of the HOD & her/his teachers weekly	8. There is an Annual Assessment Programme for all grades and subjects in the school	9. The school is on track with the assessment programme
1	2	3	4	5	6	7	8	9
GREEN	AMBER	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN

Fig. 5.1. SE 2016 data coded for Zuzu P1 (School A1)

In response to questions pertaining to teachers’ utilisation of the CPT and engagement with professional conversations between teachers and the HOD, questions 5, 6 and 7, Zuzu P1 has rated themselves green. This then would suggest that those activities were happening effectively. This is contradictory to school reviews 2015 and 2016, in which all these aspects were not in existence as per PILO coaches’ comments. Unlike in the previous reviews, there was no verification done by PILO coaches to confirm the data collected from the Self-Evaluation. This indicated huge improvements in the usage of the CPT and engagement in the professional conversations which were not taking place before. In order to verify these claims

made in the coded data of the SE 2016, semi-structured interviews were conducted in 2017 by the researcher.

5.2.3. b) School A1's evaluation regarding curriculum coverage – Self-Evaluation 2016 (SE 2016)

The aim of the CPT was to help with curriculum coverage and the aim of this study was to explore teachers' usage of the CPT to meet the ultimate goal of curriculum coverage. In this section the researcher presents findings from the Self-Evaluation pertaining to curriculum coverage. In the Self-Evaluation 2016, Questions 1, 2, 3 and 4 refer to curriculum coverage and monitoring. Zuzu P1 indicated that their principal had a curriculum management supervision plan; however, it was not being used effectively to monitor curriculum coverage effectively to the extent needed, as per the Amber colour rating.

The evidence as per Figure 5.1 would serve to indicate that there had been no change from what had taken place in the SR 2015, in which it was stated that the effective usage of curriculum monitoring tools was not used as intended. The school has rated themselves as Green in which they indicate that HODs had a curriculum monitoring plan and were using it routinely to monitor and track teachers' curriculum coverage. Having rated themselves Green for all these aspects, would indicate a huge improvement in usage as well as interactions between the teachers and the SMT. However, how true this evaluation was, was yet to be confirmed; as a Self-Evaluation can reflect how the schools wishes to be portrayed as rather than what is the truth. If the SE 2016 was a true reflection of the activities which are taking place in this school, then that would make it a huge achievement on the part of the school. It was a massive turnaround based on what had taken place in the previous academic year. In order to verify and confirm the claims made in the SE 2016, the semi-structured interview conducted in 2017 would be used to confirm what had emerged from the self-evaluation. The interviews would verify or provide conflicting statements regarding the claims made in the SE 2016. The findings from the semi-structured interview will be presented in Chapter 6.

5.2.4. Enabling factors and challenges associated with teachers' utilisation of the CPT and Curriculum Coverage pertaining to Zuzu P1

In analysing the secondary data for this school common codes emerged. These codes were PT (Poor training), LK (Lack of knowledge), PCC (Poor curriculum coverage), NM (No monitoring) and NR (No reflections).

Using the theoretical framework of this study, the work of Rogers (2014) discusses inputs which are the Jika iMfundo tools as supplied by PILO, activities are those actions used to arrive at change. However, the work of Lewin (1947) would view these actions as having played a role as driving change or restraining change. Those activities that drive change would be enabling factors and those that inhibit change would be challenges. In the case of Zuzu P1, there appeared to be no enabling factors that allowed for the utilisation of CPT or any other tools provided by PILO. In other words, there were no driving forces, but rather there were many restraining forces that were keeping the status quo the same and maintaining the equilibrium in which no change was being achieved. The inputs (the availability of the CPT) are provided but there was no initiative taken to make use of them. There were insufficient activities taking place to initiate the unfreezing of the current status quo and to provide movement to change (Kotter, 1996).

The common thread throughout was that teachers and learners are not monitored in terms of assessments, curriculum coverage, achievement and attainment. SMT does not take attendance of workshops seriously and as a result there appeared to be very poor monitoring of both teachers and learners. SMT was unable to provide the proper support needed to assist teachers. Much was lacking in the communication between the parties concerned, leaving teachers on their own to do their own thing without any assistance.

In School A1 – Zuzu Secondary School, it appears that there was poor knowledge regarding the usage of the tracker. In the SR 2015 contextual factors as well as lack of know-how and training affected effective monitoring of the curriculum coverage. At that stage there was no evidence of any usage of the tracker and the school experienced a period of unrest which would have made usage of the CPT rather difficult. Those periods of unrest were again alluded to in the SR 2016, where it appeared that internal problems were still plaguing the school and prevented efficient and effective teaching and learning by taking place.

In the area of curriculum coverage, there did not seem to be any improvement in the curriculum coverage when comparisons with that in prior years took place. However, it must be noted that this review took place rather early in the year so it was possible that improvement would occur at a later stage. The SE 2016 which took place later in the same year would serve to indicate that improvements had been made since the SR 2016 took place. This is to be explored further in the semi-structured interview for 2017.

Some of the lessons learned from the secondary data were that communication is vital to ensuring the success of any intervention programme. The relevant stakeholders need to be involved in ensuring that the HODs, together with their teachers, are able to use the tools by PILO effectively, through adequate training initiatives. Contextual factors experienced at schools need to be addressed as early as possible with as much support and monitoring by PILO coaches to ensure that issues regarding usage are rectified as early as possible. Newly appointed teachers who have had exposure to PILO tools before, need to receive proper training either at school or circuit level. This training would assist largely with ensuring that HODs could then have professional conversations regarding curriculum coverage in which, either the HOD or the teacher, could learn how to use these tools. Professional conversations should be aimed at: looking at reflective practice, the pros and cons of using the tracker; how contextual issues that are unique to their circumstances could be addressed and lastly how best they could utilise the tracker to ensure its maximum use. Subject advisors need to be supportive of the Jika iMfundo trackers, ensuring that all parties concerned take ownership of the provided tools to improve teaching and learning strategies.

5.3. School B1 – Umta P2

This school, belonging to Pinetown District, is rated as Quintile 2. The secondary data presented here is available only for 2016 in the form of two instruments, namely the August Survey 2016 and the Self-Evaluation 2016. This school did not participate in the 2015 School Review and there is no data available for 2017.

5.3.1. Teachers' Utilisation of Curriculum Planner and Tracker (CPT) and its impact on Curriculum Coverage – August Survey 2016 (AS 2016)

The purpose of the August Survey 2016 (AS 2016) instrument was to follow up on continued tracker usage and to measure the extent of writing taking place in Mathematics, as well as the number of written exercises done as per each curriculum focus area. This survey took place on 26 August 2016. In this survey, the books of the top three learners in Grade 9 were reviewed with the number of the written exercises counted from the DBE workbooks and their exercise books. The aim of this survey was not to nit-pick or to perform inspections on the school but was to track the progress of Jika iMfundo in the school and to assess whether it was working as it was intended.

Conducting this school survey on curriculum coverage enabled Jika iMfundo to gain a better understanding of the extent of curriculum coverage by looking through the work completed by learners. Looking into learner work enabled this programme to improve in assisting teachers with curriculum coverage issues by working on the challenges that arose from those types of surveys and interviews. It was important to note that it was highly appreciated that teachers took the time to be part of the survey. Their inputs were invaluable in ensuring the useful and relevant progress of the Jika iMfundo programme to be inculcated in everyday teaching practice.

The first part of the survey focused on the Learning Teaching Support Materials (LTSM) being used at the school for Grade 9 Mathematics. It was indicated by the teachers being interviewed that they only possessed the teacher guide for the Oxford Successful Mathematics textbook. To supplement this, the teachers provided other LTSM's which they made themselves and handed to the learners. These teacher-made resources were to be used several times a week.

Next under evaluation was the review of the extent to which the curriculum planner and tracker were used in Term 2 of 2016. It was found that the CPT, or in short what is referred to as the tracker, was not used to a large extent in the second Term of 2016. It was only found to be up to date for less than 4 weeks. Considering that the second term generally consisted of 10-11 weeks with the first 7-8 weeks reserved for teaching time, having a tracker to be up to date for less than half of the time taken to cover the curriculum was very worrisome. However, the teachers stated that they used the 1+9 lesson plans and only filled the tracker occasionally. This was provided in the data extract below from AS 2016.

Table 5.8. AS 2016 data showing tracker usage

	Up to date for 8 weeks	Up to date for 6 – 7 weeks	Up to date for 4-5 weeks	Up to date for less than 4 weeks	Tracker not filled in at all
To what extent was the tracker used in Term 2 2016?				X	
Comments: Teachers use 1+9 lesson plans and fill the tracker occasionally.					

The 1+9 programme, which is mentioned above, refers to a programme in which a ten-day cycle involved teachers attending a workshop for one day which prepared them for the next nine days. The workshop days were used to strengthen content and pedagogical knowledge and skills, providing resources and lesson plans to carry with them to be prepared for the next nine days of teaching. The 1+9 programme was a recurring programme, every fortnight, excluding weekends. The use of the tracker was overshadowed by using the 1+9 lesson plans and the tracker was only used in a very shallow sense for the sake of saying that it was used.

Reinforcement of this shallow usage of CPT was further confirmed, based on the number of activities done by learners in that particular term. The estimation on completed learner exercises ranged between 50% - 74% for the time period of Term 2 in 2016, as per the response received from AS 2016.

Table 5.9. Extract from AS 2016 indicating the estimated number of exercises covered from CPT

	100% exercises done	75% - 99% learner exercises done	50% - 74% learner exercises completed	25% - 49% learner exercises completed	Less than 25% learner exercises completed
To what extent have learner exercises from the tracker been completed in Term 2 2016? (This is just an estimation by teacher /HOD it does not have to be counted)			X		
Comments: They use more of Sasol Inzalo than the tracker.					

Based on the comments in Tables 5.8 and Figure 5.9, it seemed that teachers are prepared to use any other tool except the CPT. There might be various reasons for this, such as familiarity and the use of tools that had already been planned and completed; therefore, teachers did not have to worry about completing it themselves as was the case with the CPT. There could also be a lack of knowledge and understanding of how those various tools could complement each other instead of treating them as competitors. Realising that teachers opt to use other tools as opposed to the CPT, it was critical to understand their reasons behind choosing other tools instead of the CPT.

Comments provided to justify usage that range below three quarters of completed exercises was that teachers made more use of the Sasol Inzalo rather than the tracker. As indicated earlier,

those teachers made use of LTSMs which were not part of the CPT. One of those LTSMs was the Sasol Inzalo which the teachers used more frequently. Sasol Inzalo mentioned here refers to workbooks and teacher guides produced by the Sasol Inzalo Foundation in collaboration with the Department of Basic Education. Those workbooks and teacher guides by Sasol Inzalo are free of charge and available online as well for teachers and learners to use. Hard copies of the workbooks were distributed to schools; however, it must be noted that these workbooks focus on content whereas Jika iMfundo’s focus was on managing curriculum coverage. In terms of learner exercise completion, it was claimed that Jika iMfundo did not list the Sasol Inzalo workbooks as part of their resource. It was possible that the school did not have access to the books that the Jika iMfundo Curriculum Planner and Tracker had listed and as a result they made greater use of the LTSMs that were readily available, which in this case meant making greater use of the Sasol Inzalo workbooks in preference to the books listed in the tracker. Aside from LTSM issues, other challenges impacted on getting through the curriculum.

The estimation of learner exercises completed, as obtained from the August Survey 2016, reflects not only how the tracker has been used but also provides an indication of how much of the curriculum was covered in that term. The estimation in Table 5.9 correlates to the estimation on Table 5.10 below. The figure below provides additional challenges faced by the teachers who are the implementers of the CPT.

Table 5.10. Challenges associated with curriculum coverage from AS 2016

	100%	75% - 99%	50% - 74%	25% - 49%	Less than 25%
a) How much of the curriculum of 2016 do you think you have covered?			X		
b) What are the 3 biggest challenges you have faced this year in getting through the curriculum? -The transfer of teachers from one school to the next. Both teachers started at this school in term 2 & there were term 1 backlogs they had to contend with. -Large classes of 70-90 make teaching difficult, disruptive learners are a challenge. -Learners do not do their homework thus slowing progress with curriculum. They are from informal settlements.					
c) Has the tracker helped you plan and monitor your coverage of the curriculum? Please explain your answer. Both teachers refer to the tracker but they plan independently of it since they use 1+9 LPs.					

It was estimated by those teachers that less than three quarter and a little more than half of the curriculum had been covered. There are three reasons or challenges cited for the lack of curriculum coverage at this school. Those challenges were all contextual in nature and though by no means unique to this school alone, these are challenges which affect schools differently. The challenges being faced are threefold and include the lack of manpower involved in imparting the curriculum, large class sizes which could lead to disruptions in teaching and learning as well as learners not engaging in homework tasks. Unpacking the first challenge cited, which is the lack of manpower, came about as a result of teaching staff being transferred from one school to the next. The teachers involved in Grade 9 mathematics at the school were teachers who were transferred to the school and only began in Term 2. They had to contend with a backlog of work from Term 1 in which the syllabus to be covered in Term 1 was not completed. Struggling to cope with this backlog in syllabus acted as a restraining force by preventing positive movement towards ensuring curriculum coverage at the level it should have been. That challenge could be a reason explaining why the curriculum planner and tracker would have not been utilised fully: owing to a bottleneck effect from having work not covered in the previous Term and having to still teach Term 1 content, well into Term 2.

As a result of this first challenge, many other challenges could arise. If work was not covered from Term 1, Term 2 teaching time could be held back and the vicious cycle could bleed into Term 3 where Term 2 content needed to be covered. However, knowing that this backlog existed, the teachers should have tried to ensure that they were able to cope with covering the curriculum to the best of their ability, given that they are not in the most ideal of situations. Efforts to curb that challenge could involve having a catch-up programme, during interval breaks, an hour before school or an hour after school. It was left to the discretion of the teacher as to how they intended to make up for lost time. It would take a great deal of commitment, both on the part of the teacher as well as the learners who needed to attend those much-needed sessions – a challenge! Curriculum coverage cannot take place if learners are not provided with adequate and sufficient opportunities to learn. Stols (2013) conducted studies into Opportunities to Learn (OTL) with Grade 12 learners and those findings can be extended to the context of this study and to the context of this school. It was found that when teachers did not teach concepts to the depth intended, learners were left with no opportunity to engage in activities of that nature. The same would occur with the Grade 9 learners at this school if these teachers did not engage them with sufficient curriculum exposure.

The second main challenge raised was that of large class sizes in which there are 70 – 90 learners in a class, making teaching and learning very difficult. Such large classes lead to disruptive behaviour by learners. However, this could be due to poor classroom management techniques and control of teachers taking charge of these classes. Another factor that could have led to the disruptiveness was that of the attitudes between learners and teachers regarding the learning and teaching processes. This is supported by Mitchell (1989) who after much research and evidence collection states that behaviour changes in both learners and teachers could account for educational gains when smaller class sizes are present. However, when changed behaviours are not accompanied by reduced class size, expected improvements in teaching and learning will not take place. Schneider (2002) colludes with the idea that large class sizes do not necessarily hamper teaching and learning. Despite popular belief that smaller class sizes are better, class sizes have not been found to be linked to improved performance levels of learners. Instead, many other enabling or restraining factors could play a role in the management of class sizes to achieve better teaching and learning; and by extension better curriculum coverage as well.

This further added to the restraining forces present. Lastly, learner motivation and ability to complete their homework was an ongoing challenge experienced by teachers. Once again the issue of learners not completing the work assigned to them was an ongoing challenge in most schools and was not unique to Umta P2. However, how they dealt with such issues and respond to them might be different from other schools. Learners who did not complete their homework or attempt their homework lead to slow progress with the curriculum. Poor attempts by learners to complete work resulted in difficulty with moving on to new concepts to be taught, as teachers found themselves having to repeat teaching the concepts. The teachers further added that those learners lived in informal settlements. The assumption made by those teachers is that coming from a rural background prevented learners from completing their work or being motivated to commit to tasks given to them. Visser, Juan, and Feza (2015) talk about socio-economic factors which can influence the extent of learner performance. Though socio-economic status should not impact on the cognitive ability of a child, the socio-economic status could bring external factors to the child which prevented solidifying content knowledge and application. An external factor which could prevent a child from focusing on their studies might be that a child coming from a child-headed household where they have to work after school might not have time for school tasks. There is research that supports the fact that not completing homework results in

challenges to curriculum coverage due to poor understanding of content, if work is left without being attempted (Visser et al., 2015).

In responding to a question as to whether the CPT had helped the teachers to plan and monitor their coverage of the curriculum, the response received was that teachers did refer to the tracker but they planned independently of it. This was due to their making use of the 1+9 lesson plans. However, this response indicated that the purpose of the CPT was not fully understood as the CPT was not providing lesson plans. It was meant to be a tool to track the curriculum daily. It appeared that teachers view the CPT and the 1+9 lesson plans as interchangeable. The use of the 1+9 lesson plans could be used in conjunction with the CPT, but that did not seem to be the case.

3.3 Evidence of Learner Work Done as set out in the Tracker										
3.3.1 Total Number of Exercises/Activities										
<i>Count the total number of activities in the exercise book</i>										
Total Number of Exercises/Activities Learner 1	0									
Total Number of Exercises/Activities Learner 2	0									
Total Number of Exercises/Activities Learner 3	0									
Written exercises There are written exercises but not as per tracker.										
Count the number of written exercises per week in term 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Total	Comments
Number of written exercises Learner 1	3	2	3	3	1	3	3	0	18	1+9 exercises
Number of written exercises Learner 2	4	1	3	0	5	2	1	0	16	1+9 exercises
Number of written exercises Learner 3	3	1	0	0	1	1	1	0	7	1+9 exercises
Have you picked up evidence of term 1 work being done in term 2										No
Have you picked up evidence of term 3 work done in term 2										No

Fig. 5.2. Extract indicating number of completed exercises

<p>Comments: The DBE workbooks were not available and both teachers conceded that they did not use them as such as most of the work they do is based on 1+9.</p>
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Fig. 5.3. Evidence of Learner Work in DBE Workbook – AS 2016

In view of these responses, extracted from AS 2016 in Figure 5.2 and 5.3 above, the tracker was clearly being used more as a referral guide as opposed to its true purpose. The purpose behind the usage of the CPT was for teachers to track what had been covered in the curriculum, looking into the depth and extent to which it was covered. Usage of the CPT had a rippled effect on the extent of curriculum coverage. In this instance the CPT was not being utilised in full and could not be used as a measure of the influence it had on curriculum coverage.

5.3.2. a) School B1’s evaluation regarding teacher utilisation of the CPT– Self-Evaluation 2016 (SE 2016)

<p>For each question, put a tick (☐) in the column which best describes where you are <i>now</i> as an SMT</p>	<p>We do this routinely with confidence</p>	<p>We are trying, but need help</p>	<p>We are not able to do this</p>
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Fig. 5.4: The criteria used to identify colour codes in the SE 2016

Green codes refer to aspects in which schools identify as doing things routinely with confidence, Amber refers to trying but needing help and Red refers to an inability to engage in a task or aspect. In the Self-Evaluation 2016, the school Umta P2 rated themselves as Green, thus making reference to engaging in activities routinely.

The following questions are relevant to determine teacher utilisation of the CPT in which Umta P2 rated themselves as green: Questions 5, 6, and 7. Teachers were using the Planner-Trackers consistently (in subjects that have them). There were one-on-one meetings between the principal & HoDs, there were subject/phase meetings between the HOD and their teachers on a weekly basis.

1. The principal has her/his own Curriculum Management Supervision Plan	2. The principal is monitoring curriculum coverage according to the plan	3. Each HoD has her/his own curriculum management supervision plan	4. Each HoD is using a tool to track her/his teachers' curriculum coverage	5. Teachers are using the Planner-Trackers consistently (in subjects that have them)	6. There are one-on-one meetings between the principal & HoDs	7. There are subject/phase meetings of the HOD & her/his teachers weekly	8. There is an Annual Assessment Programme for all grades and subjects in the school
1	2	3	4	5	6	7	8
GREEN	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN

Fig. 5.5. Extract from the SE 2016 indicating colour codes for Umta P2

The data presented from this instrument (SE 2016) painted a very positive picture in which all seemed to be going very well at Umta P2. At this stage, the responses were a result of what the school wanted to put out there, since there was no PILO coach that had conducted this evaluation. The claims made here will be verified in primary data with the semi-structured interview that took place in 2018.

5.3.2. b) School B1's evaluation regarding curriculum coverage – Self-Evaluation 2016 (SE 2016)

Questions 1 – 4 dealt with the management of curriculum coverage and as per Figure 5.5 covered the following aspects: The principal had their own Curriculum Management Supervision Plan; the principal monitored the curriculum coverage according to the plan; each HOD had their own curriculum management supervision plan; and each HOD used a tool to track their teachers' curriculum coverage. Those four areas were all rated green indicating that things were going well and that the monitoring of curriculum coverage was a routine exercise.

The extract and green ratings served to indicate that things were on track at the school. However, that seemed unlikely since the August Survey had taken place in the same year and spoke to the fact that the curriculum coverage was not completed. It could also be said that the SE 2016 did not specifically refer to the usage of the tracker but leaned more towards general curriculum monitoring by HODs and the principal. The AS 2016 focused more on the usage of the tracker and challenges faced. In retrospect, it could be possible that the SE 2016 was accurate as it did not specify a method of curriculum monitoring, hence HODs and principals could be using their own tools to monitor curriculum. There was some information or data

collected prior which could discredit the data presented here but there was no further secondary data that came after to prove or disprove the data here. The data in SE 2016 indicated that supervision of curriculum did take place and that teachers made consistent use of the CPT in subjects that had them. It could be possible that the first part was true, the latter, however, does not tie into the data from AS 2016 in which the teachers indicated that they did not use the tracker to its full capability. Monitoring of curriculum does not necessarily mean that the curriculum was being covered but it could mean that HODs were aware of the lack of coverage and could then offer support to ensure better coverage.

5.3.3. Enabling factors and challenges associated with teachers' utilisation of the CPT and Curriculum Coverage pertaining to Umta P2

Umta P2 has only two instruments of secondary data. The depth at which we could explore what had been taking place with the usage of the CPT then became rather limited and confined to data collected within 2016. Codes identified were SI (Sasol Inzalo) and OPN (1+9 Programme), and PCC (Poor Curriculum Coverage), LLI (Lack of Learner Initiative), NR (No reflections), SP (Social Problems).

The theoretical framework for this study posed that change towards a goal is accomplished when inputs are available; the activities are favourable to the change; and that they must be enabling forces. If activities are unfavourable there is no movement towards change and the excess of restraining forces upsets equilibrium. The efforts of the forces would cause an unfreezing of the current status quo, upon change being effected there would be a refreezing to solidify the change eventually resulting in the desired output (Lewin, 1951; Rogers, 2014).

In the case of Umta P2, the inputs were provided in the form of the CPT. However, the activities engaged in were to not use the tracker and to instead make use of other inputs such as Sasol Inzalo workbooks. In the AS 2016, it became rather apparent that the usage of the CPT, commonly referred to as the tracker, had not been used to the extent envisaged and was more a tool for reference. The teachers preferred making use of tools and resources provided by other organisations and perhaps that was due to something they deemed to be lacking in the tracker. In the context of this school, the teachers did not seem to be using the tracker as the LTSM they made use of is the Sasol Inzalo workbooks which were more readily available as a resource. It was further claimed that Sasol Inzalo was not supported in the tracker as one of the recognised LTSMs. Due to this and their use of 1+9 lesson plans, they did not find the tracker

to be the most useful of tools. Many challenges were cited as reasons for poor tracker usage. These restraining forces, as Lewin (1947) calls it, prevented these teachers from taking full ownership of the tracker and there was no mention of HOD support to maintain the usage of the tracker. These activities engaged in were restraining forces, inhibiting change from achieving the desired outputs.

Even though in the very same year the SE 2016 claimed that the teachers were making constant use of the tracker, the AS 2016 data seemed to contradict these 'Green code' claims. Furthermore, there was no data collected that makes mention of and proves that curriculum monitoring was taking place. Self-Evaluations were conducted by the school and not by outside personnel such as a PILO coach, so the legitimacy of the claims made in the Self-Evaluation might not always be what was taking place. At that stage, what was abundantly clear was that the tracker was rarely used as intended. By extension, there were no weekly reflections taking place and lastly there was no true way of knowing the extent to which curriculum coverage was being monitored.

At the time of the AS 2016, curriculum coverage, together with the use of the tracker, was very poor and limited. Usage of the tracker and ownership of tools provided were very scanty and it was not used for its intended purpose. It was just there to be a reference tool to look at to know what should be done for the day, week or possible section to teach. It was unknown if there were any improvements in 2017 as there was no data available for that time. Therefore, findings presented for secondary data at this school were limited to data available. Further exploration will be engaged with in primary data where semi-structured interviews took place in 2018.

5.4. School C1 – Glen P5

The secondary data collected for this school was threefold and had been collected over a period of two years and was not part of the schools reviewed in 2015. The instruments to be analysed were in the order in which they were conducted. Firstly, the August Survey conducted in 2016 (AS 2016); secondly the School Review 2016 (SR 2016), and lastly the Interview which took place in August 2017 (IA 2017).

5.4.1. Teachers' Utilisation of Curriculum Planner and Tracker (CPT) and its impact on Curriculum Coverage – August Survey 2016 (AS 2016)

This August survey formed part of the Jika iMfundo Monitoring Programme and was conducted in 89 sample schools that were randomly chosen from a total of 1209 schools across UThungulu and Pinetown districts. The survey was conducted by PILO coaches assigned to schools and districts with the purpose of evaluating the continued use of the tracker in the school and to evaluate how much of the curriculum was covered in Term 2 of 2016. This survey focused on Grade 9 Mathematics and the participants in this survey consisted of the two Deputy Principals and two teachers. The survey focused on evaluating evidence of curriculum coverage by taking the following aspects into consideration: number of weeks tracker was filled in Term 2, number of completed assessments compared to what was required (evidence of this would be found in teacher's mark file and sample of learner's written work), classwork books and assessment scripts of the three best learners.

Once again, the purpose of this exercise was stressed before discussing the same instrument for Umta P2. The purpose was to gain better insight into the extent of curriculum coverage by evaluating learner work in order to better understand how to improve the use of the CPT in instances where it seemed there is a shortfall. Unlike Zuzu P1 and Umta P2, PILO coaches found that teachers at Glen P5 used the CPT effectively and there was evidence of professional conversations between teachers and the HOD. In a conversation with teachers and the HOD it was evident that they were prepared to embrace the new innovations as they attempted to address the imbalances of the past as per the comment extracted in the figure below. Comments made refer to the adoption of Jika iMfundo in the school and interactions that took place between the various stakeholders, including the Circuit Manager (CM). The comments extracted from the AS 2016 are presented below in Figure 5.17.

Comments: *What a refreshing conversation with this staff. It was made very clear by the school that we need to adopt the pilot project because we are trying to address the imbalances of the past. The school has adopted the JIKA IMFUNDO slogan because what we all do matters as the nation is counting on us to change education around. This is a journey and we are walking it every day no matter how slow. It was good to see a parent in the school trying to work hand in hand with the educators to help the learner as they had seen that she is slipping – because a majority of the parents believe that if I send my child to a good school, their grades will automatically be good but we need to work together.*

I thoroughly enjoyed this conversation because the CM was also there and it was great to see him getting involved and working together on the CM Tool.

The Mathematics HOD is not a Mathematics Specialist which makes Supervision difficult especially when it comes to class visits. They are done but it would be better if the person looking was a Mathematics person. Lead teachers are not prepared to do it as they are not paid and it becomes a Union issue when we enlist their help. This particular HOD has 12 educators with 8 subjects that he needs to supervise so he would be glad to have a generic Supervision Tool that just looks at a three way check that looks at the basics.

Fig. 5.6. Extract of comment by PILO coach from AS 2016

What was noticeable in the extract from Figure 5.6, which is unique to Glen P5, is that all stakeholders were involved in ensuring that teaching was taking place and they were open to implement innovations that were meant to enhance teaching. Even the Circuit Manager (CM) was also on board, by getting involved with driving the process forward and making use of the tools for circuit managers. The HOD at Glen P5 was not a mathematics specialist but was still expected to work with teachers to track and manage the curriculum. The HOD echoed that the tools had been of great help especially with classroom visits. Furthermore, the HOD echoed that *“it is hard to empower teachers on areas for improvement or to help them when one is not familiar with the content and shortfalls in the content knowledge and pedagogy which is required.”* Therefore, the HOD suggested that having a generic tool to assist with monitoring and support would be beneficial in supervising so many different teachers and subjects.

When responding to questions exploring the extent to which teachers utilise the CPT, the HOD indicated that at Glen P5 the tracker had been used for at least 6-7 weeks of the second term in 2016. The reason for not having used it for the full duration of the term was due to challenges with language barriers. The issue of language still played a role as a restraining force or a barrier in this school which had diverse learners. Bringing in these learners from varying backgrounds to be on par with syllabus coverage accounts for the lack of having a tracker completely up to date. This had a ripple effect on the amount of learner exercises completed, as indicated in the table below.

Table 5.11a. Showing usage of CPT in Term 2 of 2016

	Up to date for 8 weeks	Up to date for 6 – 7 weeks	Up to date for 4-5 weeks	Up to date for less than 4 weeks	Tracker not filled in at all
To what extent was the tracker used in Term 2 2016?		X			
Comments: <i>The issue of language is still a barrier as we have learners coming from far and wide to the school who might not have had the same grounding as others so we have to start somewhere.</i>					

In trying to establish the extent of curriculum coverage, it appeared that there are restraining forces at play as showed in Table 5.11b.

Table 5.11b. Extract from AS 2016 indicating the extent of completed exercises

	100% exercises done	75% - 99% learner exercises done	50% - 74% learner exercises completed	25% - 49% learner exercises completed	Less than 25% learner exercises completed
To what extent have learner exercises from the tracker been completed in Term 2 2016? <i>(This is just an estimation by teacher /HOD it does not have to be counted)</i>		X			
Comments: <i>We have many disruptions so the activities are not all completed although we try very hard to make sure that they do the work.</i>					

As indicated by the supporting extracts (Tables 5.11a and 5.11b), restraining forces were present which prevented the full extent of usage for the CPT. Language barriers and school disruptions prevented the completion of exercises as intended, despite teachers trying. This impacted the extent to which the CPT played a role in aiding curriculum coverage. Many challenges were posed when it came to evaluating issues with curriculum coverage and how the CPT assisted with curriculum. The data extracted is provided in Figure 5.19 below.

Table 5.12. Challenges faced with curriculum coverage and CPT usage

	100%	75% - 99%	50% - 74%	25% - 49%	Less than 25%
d) How much of the curriculum of 2016 do you think you have covered?		X			
e) What are the 3 biggest challenges you have faced this year in getting through the curriculum?					
<ul style="list-style-type: none"> • We have covered the work but not to the intensity that we would have liked. • We have a challenge of resources. • Learner’s attitude to their work is also an issue – they do not see the need to work at home they expect EVERYTHING to be done in class. • Absenteeism also affects curriculum coverage – the parent leg in rearing learners has been lost. 					
f) Has the tracker helped you plan and monitor your coverage of the curriculum? Please explain your answer. YES it tells us exactly what to do daily and we try and incorporate the 1 + 9 lesson plans that have been given to us. It also helps us have curriculum monitoring once a week where we can discuss and highlight the problems especially since the HOD is not a Mathematics Specialist.					

As indicated in Table 5.12, an estimated, 75%-99% of curriculum coverage was attained by Term 2 in 2016 for the content intended to be covered by then. Further challenges which prevented getting through the curriculum are threefold. These challenges could be viewed as restraining forces according to the works by Lewin (1947). Firstly, even though they had covered the work, it was not to the intensity or depth they would have liked to have. Secondly, availability of resources posed a huge challenge. Lastly, the learners’ attitude to work was very poor. They did not see the need to do any work at home and everything must be done solely in class. To compound the problem even further, there was high absenteeism from learners which created a negative impact on curriculum coverage. It was difficult to complete the curriculum if the learners were not in class to receive the content. In terms of learner presence, the parent’s role in ensuring their children attended regularly had been lost. Though some parents played active roles in visiting the school to help their child, the same cannot be said for all learners. As the HOD mentioned before, parents expected their children to do well even in the absence of their support. The challenge of absenteeism could explain why the first challenge existed; lack of depth coverage could be due to lack of learner presence as well as the lack of initiative to do work at home. It became unrealistic to expect full depth to be covered in topics that needed this time to complete the syllabus. Furthermore, if learners displayed high absenteeism during normal school days, there was no guarantee they would avail themselves if teachers tried to have catch up lessons outside of school time. Though teachers might have wanted to do their best to ensure the curriculum is covered extensively, learners need to also take initiative and do their best. All stakeholders should be involved, which included the parents. Regardless

of these challenges, Glen P5, unlike Zuzu P1 and Umta P2 seemed to understand how to comprehend the tools and did not choose one over the other. This was evident in the HOD response who asserted that teachers and HODs could find ways to incorporate the CPT and 1+9 lesson plans.

Considering the comments made in Table 5.12, many challenges or restraining forces were made abundantly clear; however, some positives did come to light. Those positives are referred to by Lewin (1947) as driving forces which can promote change. In the context of this study, those driving forces correlated and aligned to that of enabling forces or enabling factors that allowed for teachers to utilise the CPT. Hence, from the comments in the Table 5.12, some of the enabling forces would lie in the CPT’s ability to inform the teacher on what to do and how to use it as a tool to highlight issues faced with curriculum coverage when discussions with the HOD took place. As the HOD was not a mathematics specialist, the CPT made it easier to point out areas of difficulty in implementation in the classroom. Using the CPT, the HOD was able to see the amount of activities or exercises done by the learners, whether sufficient or not, even though he was not a specialist; he could, however, still manage the curriculum coverage through using the CPT. As evident in Figure 5.20 and 5.21 below, by looking at the number of activities and exercises done by top learners in the class, one could tell the extent to which the curriculum had been covered.

During the August Survey 2016, learners’ books were analysed to see the extent of the exercises and activities completed. Learners’ books of the top three learners were selected. However, only two exercise books were available on the day of the survey. Figure 5.7 and 5.8 showed the number of exercises/activities done by learners during Term 2 of 2016 as captured in the August Survey.

Total Number of Exercises/Activities Learner 1	41
Total Number of Exercises/Activities Learner 2	
Total Number of Exercises/Activities Learner 3	30

AT THE BEGINNING OF THE CLASSWORK BOOK THERE IS A PAGE OF ALL THE HOURS AND ASSESSMENTS THAT THE LEARNERS AND PARENTS MUST KNOW FOR THE MATHS SO THAT THEY CAN TRACK THE PROGRESS OF THE LEARNERS.

Fig. 5.7. Number of exercises completed

Written exercises										
Count the number of written exercises per week in term 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Total	Comments
Number of written exercises Learner 1	2	3	4	3	3	4	4	4	27	Extra 14 activities
Number of written exercises Learner 2										
Number of written exercises Learner 3	2	3	4	3	3	4	4	4	27	Extra 3 activities
Have you picked up evidence of term 1 work being done in term 2										No
Have you picked up evidence of term 3 work done in term 2										No

Fig. 5.8. Number of activities done

As can be noticed from Figure 5.8 above, the number of exercises done were more than the required amount of 27 exercises. The basic number of activities were 27. However, the learners had exceeded this number by completing extra activities. This indicated that indeed the teachers had worked hard to get work done and followed through with their claims of doing as much as they could. They did make regular use of the trackers and do cover many activities that would serve to indicate their attempts at accomplishing maximum curriculum coverage. This would all suggest that despite the challenges mentioned previously, teachers at Glen P5 had found ways to rise above them and used the CPT to track and manage the curriculum as intended.

5.4.2. a) Teachers’ utilisation of the Curriculum Planner and Tracker (CPT) – School Review 2016 (SR 2016)

The second instrument is the School Review of 2016, which took place in November. The aim was to further verify the progress made with the usage of the CPT. Data from the semi-structured interviews collected during the review process, as shown in Table 5.13, revealed that all the Grade 8 and Grade 9 teachers used the CPT routinely to track curriculum coverage and verified that all the teachers in Term 3 and Term 4 were indeed using the CPT in Grade 8 and 9 unlike Zuzu P1 and Umta P2.

Table 5.13. Usage of CPT by teachers extracted from SR 2016

	All	Some	None	Do not know
1. Of the Grade 8-9 <u>Maths</u> teachers you supervise, how many use the Maths planners and trackers routinely to track coverage?	X			
Verification using Term 3 Trackers: Trackers are used routinely and are up to date (Note it is possible for the tracker to be up to date but for the teacher to be behind with CAPS)	X			
Comments: The trackers are a real challenge in Term 4 and this needs to be reviewed going forward because the curriculum being so vast is still posing a real problem.				

Although the HOD said all teachers were using the CPT, the comment made by the HOD raised concerns about its implementation in the fourth term. It was not clear though why there seemed to be challenges in the fourth term. To explore this, further interviews were conducted in 2017 and 2018. In terms of curriculum coverage, it seemed this aspect was covered as indicated in the Table 5.14.

5.4.2. b) Impact of Jika iMfundo tools on Curriculum Coverage – School Review 2016 (SR 2016)

Table 5.14. Curriculum coverage by teachers extracted from SR 2016

	All	Some	None	Do not know
2. Of the Grade 8-9 <u>Maths</u> teachers you supervise, how many reported that they had completed all of CAPS in 2016 in Maths?	X			
Verification using Trackers	X			
Comments: All the work has been done including Term 4. We were able to achieve this by making worksheets to cover content that is <u>examinable</u> and we also did Team Teaching.				

To clarify how teachers have managed to complete the prescribed curriculum, it appeared that teachers at this school formulated worksheets to assist each other and engaged in team teaching. This collaboration aligns to what Jita and Mokhele (2014) discuss about teacher clusters and

collaboration in which teachers work together to share experiences and knowledge. In doing so, teachers would be able to complete the syllabus by working as a team. The extent of curriculum coverage was indicated by the HOD through supervision of learners' books, work-schedule and lesson plans as shown in the figure below. What was noticeable was that verification of curriculum coverage was gauged by using other tools and not the CPT.

Table 5.15. Extract supporting the coverage of curriculum from SR 2016

	Yes	Some	No	I do not know
3. In your assessment, have more Maths Grade 8-9 teachers covered more of Maths CAPS than in previous years? (If you answer "No" or "I do not know" go directly to question 5)	X			
<p>Why do you think it has improved/ not improved? Do you have evidence (any records from previous years)</p> <p>They may have covered more CAPS but it does not mean they excelled in it. We can not base this on the results only. From my Supervision I can see that more topics have been covered by looking at work schedule, lesson plans and the learners work.</p>				

The CPT was introduced for teachers to track and manage curriculum. However, teachers work together with the HOD to manage curriculum. Therefore, HOD tools that align with the CPT were also introduced to ensure that professional conversations with respect to curriculum coverage did take place. In exploring the HOD usage of tools at Glen P5, it appeared that just as with the CPT, there were challenges that hinder its usage. Considering the issues raised by the HOD in the table below, it seemed that there were challenges with using the tools to manage so many teachers. Although there are indeed challenges present, the HOD indicated that the tools had been useful when it came to streamlining the supervision.

Table 5.16. Use of HOD tools and impact on Curriculum Coverage

	Yes	To Some Extent	Don't know	Not at all
13. Are the HoD tools and training assisting you to have professional and supportive conversations about curriculum coverage based on evidence?		X		
Verification of records		X		
Comments (please discuss each tool, and note where the HoD has adapted the tools) I have a big department to manage so <u>its</u> difficult to strictly follow the tools.				
14. Is there anything else you want to say about anything that is changing because of <u>Jika iMfundo</u>, and where you need more support from <u>Jika iMfundo</u>? 1. The content workshops helped a lot especially in Grade 8 & 9 NS. 2. Management tools have helped to streamline my supervision to an <u>extent</u> but it is still a challenge to implement. I have put this in my report that I will be tabling for the National Department for PLC's in Pretoria next week.				

In terms of areas where change was taking place as a result of Jika iMfundo, the HOD stated that content training workshops provided had helped extensively, especially for Grade 8 and 9 Natural Sciences. Lastly, he stated that he would be tabling discussion for the National Department with regard to Professional Learning Communities (PLC's) in Pretoria in the week following this School Review. This was testament to his capabilities as an efficient manager.

5.4.3. Enabling factors and challenges associated with teachers' utilisation of the CPT and Curriculum Coverage pertaining to Glen P5

In the secondary data discussion and analysis, codes were identified. LB (Language barriers), CO (Curriculum Overload), NR (No Reflections), LLI (Lack of Learner Initiative), SP (Social Problems).

Using the theoretical framework, these codes translated to being restraining factors which inhibited change. These restraining factors acted as challenges in the context of this study. For Glen P5, it appeared that there were more challenges than there were enabling factors which would assist in the utilisation of the CPT. Starting with enabling factors, the use of collaborative teaching or team teaching assisted in the completion of the curriculum but the team teaching would not have actually played a role in CPT utilisation. Its role would have been more towards

ensuring curriculum coverage. Looking through secondary data, one of the enabling factors that can be picked up from SR 2016, was that the HOD found that the tools assisted in streamlining his monitoring of the curriculum. However, no mention was made of the influence on CPT usage.

In the AS 2016, the school appeared to be doing well with making use of the CPT, though there were restraining forces present such as language barriers, school disruptions and inability to make use of the DBE workbooks. The issue of disruptions was also echoed in Zuzu P1, issues with using the DBE workbooks also arose in Umta P2. Some challenges could be said to be common amongst the three schools. Issues with interest in learner initiative and working with homework tasks also arose as problems within all three schools and was mentioned in detail in SR 2016 for Glen P5. SR 2016 did not indicate the frustrations and true reality being experienced at this school. It focused on what was going right. It spoke to the experiences of the HOD and was not an in-depth evaluation of teacher experiences with the tracker. The interview with teachers in 2017 shed light on teacher feelings and beliefs as well as the true realities faced in the classroom. Though Glen P5 ensured that they completed the curriculum, even through all the challenges experienced, they also conceded that the quality of completion was different compared to what was expected. They complete the curriculum but at the expense of learner understanding, quality teaching and learning and depth of content. Learners were said to be struggling with many of the concepts. In the presence of a lack of resources, teachers made their own resources in order to aid with being ready for examinations.

One of the positive things that were going well at that school, was the weekly meetings with the HOD after school to discuss curriculum coverage. However, those meetings did not get into the deep probing of problems being experienced by teachers. Mathematics teachers at that school coped with the workload by working together as a team, which was also referred to in the SR 2016 in which they were seen to work together to do Team Teaching, in order to complete the syllabus. Though there were indeed many challenges, they attempted to circumvent these challenges by finding creative ways to teach as a team.

5.5. Conclusion

This chapter looked at raw data obtained from secondary data at three schools in the Pinetown district. It discussed all aspects of the secondary data, exploring the enabling factors and

challenges that could explain the extent of CPT utilisation by teachers. It also explored the ownership of the PILO tools by looking at whether professional conversations were taking place and whether HODs were taking an active role in the monitoring of the curriculum. In analysing the data using coding, two major themes emerged which were enabling factors and challenges associated to CPT utilisation. From the developing discussion, there appeared to be very poor utilisation of the CPT, this as a result of not having sufficient enabling factors or driving forces that could promote the utilisation of the CPT as an input device to promote change (Rogers, 2014). Furthermore, the number of restraining forces or challenges prevent the full encapsulation of what the CPT can offer. There are too many contextual issues that are preventing the utilisation of the CPT. However, this was just one part of the complete picture. After analysis of primary data using a similar procedure, the researcher will be able to draw conclusive findings as to the utilisation of the CPT together with other aspects that will answer the research questions. Conclusive findings will be presented in Chapter 8.

CHAPTER 6

ANALYSIS AND DISCUSSION OF FINDINGS ON ENABLING FACTORS AND CHALLENGES DRAWN FROM SECONDARY DATA IN 2017 AND PRIMARY DATA IN 2018

6.1. Introduction

The previous chapter looked at the discussion and analysis of secondary data from Pinetown district which led to themes that can assist in answering the main research questions. This chapter will endeavour to accomplish the same goals by discussing and analysing data collected in 2017 and 2018. In this chapter, secondary data from two schools in Pinetown district and primary data from a total of six schools, was collected from both districts, namely Pinetown and ILembe. The primary data will be discussed and analysed using coding and thematic analysis. As discussed in Chapter 4, thematic analysis has been used to generate themes that had emerged as a result of coding the data. The next chapter will investigate primary data from 2019.

6.2. Enabling factors and challenges associated with teachers' utilisation of the CPT and impact on curriculum coverage from Secondary Data 2017

In this section, the researcher explored the findings from interviews conducted at two schools in Pinetown district in 2017. The findings involved the enabling factors and challenges associated with teachers' utilisation of the Curriculum Planner and Tracker (CPT). It also explored the influence of the CPT on curriculum coverage at these two schools; namely Zuzu P1 and Glen P5. No secondary data for Umta P2 was collected in 2017 as the school was not available for interviews.

6.2.1. Enabling factors of using CPT from Zuzu P1 as evident in the interview Report August 2017 (IR 2017)

In the secondary data prior to 2017, findings for Zuzu P1 indicated vast challenges or restraining factors that impeded change. However, upon having conducted a semi-structured interview in 2017 with two participants (a Grade 8/9 mathematics teacher and a Grade 10 mathematics teacher) who were selected by the HOD and compiling a report, the researcher

was able to gather some positive inputs within a vast array of negatives. In as much as there were challenges with using the CPT, there were several advantages in using the tracker as indicated in the following comment from the Grade 8/9 mathematics teacher who stated the following: *“I appreciate the tracker because it guides me to keep within the timeframe specified by CAPS, it is specific in nature with clear cut activities to do for each lesson either during my teaching or for homework purposes and so it gives me more direction rather than the work schedule.”*

From the supporting comments made by the teachers above, it seems that teachers found the CPT useful in terms of the guidance it provides when it came to the timeframes to cover content, as specified by the Curriculum Assessment Policy Statement (CAPS), as well as providing teachers with clear cut activities which could be used during teaching or for homework. While in the secondary data (in Chapter 5) from surveys conducted it seemed that teachers preferred to use other tools rather than the CPT. However, the interview extract showed that teachers perspectives have changed as they commented that the CPT provided better direction on content to be covered as opposed to the work schedule (ATP). The Grade 10 teacher spoken to in the interview confirmed the comments on the positives of the tracker made by the Grade 8/9 teacher stating that *“the tracker makes life easy with everything in one place and all activities done for the day are specified. I thought that all the activities has to be covered no matter what.”* Initially, this teacher assumed that every activity in the tracker had to be done no matter what. This was due to the lack of knowledge on how to use the tracker effectively. By the end of the interview session, she was able to take away the idea that she was free to select activities which were suitable for her lessons in the interest of time. This was further supported by an extract below, taken from the CPT. The extract below indicates that it is advisable to cut out some routine activities to save time to allow for curriculum coverage, should lessons be delayed for any reason.

7. Sequence adherence

The content in the programme of lessons has been carefully sequenced, and it is therefore important that lessons are not skipped. Should you miss a Mathematics lesson for any reason or should you be going at a slower pace, you should continue the next day from where you last left off. Do not leave a lesson out to get back on track. You may need to speed up the pace of delivery to catch up to the lesson schedule – by covering the lesson concept content of two consecutive days in one day. To do this, you could cut out or cut back on some of the routine activities, like homework reflection, to save time, until you are back on track for curriculum coverage.

Please note that the KwaZulu-Natal sequence of topics for Term 2 is not the same as that of the CAPS. However, the topics covered are the same.

Fig. 6.1. Extract taken from the CPT

6.2.2. Challenges with using CPT from Zuzu P1 as evident in the interview Report August 2017 (IR 2017)

The Interview Report conducted in August of 2017 (IR 2017), revealed many challenges that impeded the use of the CPT, as indicated by the following responses from teachers regarding their knowledge and training on Jika iMfundo:

“I know about Jika iMfundo because I use the tracker but I never attended any training directly from Jika iMfundo and my HOD didn’t guide me. The JIT workshops showed me how to plan and pace my work to teacher according to the book I am using. In 2016, I attended workshops by the DoE but they concentrated on the work schedule, you know the ATP. But they never speak about the tracker. My colleagues are biased towards the ATP and turn a blind eye on the tracker, even some of them may not even know what a tracker is all about if we were to ask them.”

From the comments above, one of the challenges raised was that of poor usage knowledge of the CPT because of the lack of training. It appeared that teachers did attend workshops focused on using the work schedule or ATP but in the case of the CPT only HODs or senior teachers who attended training did so with the expectation that they would train other teachers in the schools. However, since teachers who attended workshops on the ATP tended to “turn a blind eye” on the use of the CPT and use what they have been workshopped on, i.e. the ATP. The issue of lack of knowledge was further emphasised when comments made by the Grade 8/9 mathematics teacher claimed that if his colleagues had to be asked about the CPT, some would not even know what it is. That meant that there was poor communication between the teachers with regards to their practices. At the same time the HOD was not guiding the teachers on the use of the CPT and its purpose. Based on these comments, it seemed the model “train the trainer” is not working at Zuzu P1.

The challenges posed from those comments in IR 2017 above was echoed in 2015 but in 2016 the Self-Evaluation made it seem as if all was going well but this was clearly not the case. Just in Time (JIT) Workshops were attended by Grade 8 and 9 teachers and the ATP or work schedule was constantly promoted. Little to no mention of the CPT needing to be used was brought up. In the interview, blame had been placed upon the DoE for not advocating the use of the CPT. Poor communication reared its head again from 2015, as being cited for the reason behind poor use of the CPT. The HOD admitted to poor use of the CPT and involvement in the JIT programme due to poor communication and a lack of adequate workshops and training.

Poor training in usage of the tracker and tools led to the HOD being incapable of providing enough support and assistance to his teachers. Newer teachers came into contact with the CPT, not knowing how to use it and with no assistance from the HOD. The teacher concerned made a statement in isiZulu saying *“La ikwamazibonele”* which translates to “in this place you learn to do things yourself without any assistance.” Poor training in using and implementing the tracker to the level it needed to be could be detrimental to its success in keeping the end goal in mind. The whole purpose behind using the tracker was to ensure that curriculum is adequately and appropriately covered. If little to no training on its use took place, it defeated the purpose of even attempting to implement it in the school, knowing that it will be used very superficially.

IR 2017 dug a little deeper to gain information on the usage of the CPT and the responses below speak to what had been taking place at Zuzu P1 regarding the usage of the CPT. The Grade 8/9 mathematics teacher stated the following: *“I joined the school at the beginning of 2016, but I had not attended any training while in this school. The training session I attended on the tracker was in 2015 at another school. I use the tracker all the time.”*

The comment above found that teachers who received training at another school and were transferred to Zuzu P1 claimed to be using the tracker; however, upon inspection of the actual tracker those statements were contradictory. Evidence from the CPT (tracker) indicated that three weeks into the term the CPT was not filled in, yet the teacher claimed to have been using it. This begs the question as to how reliable the information received is, based on the notion that the responses are in direct contradiction to the evidence supplied. Having noticed that there are contradictions, the teacher gave the following response: *“I was lazy to use it and rely on my memory for what I covered in class. That’s why I don’t do reflections.”*

The teacher conceded to having been too lazy to complete the CPT and to have relied on memory. Therefore, this led to not filling in reflections on his teaching. Again, the point of poor knowledge about the tracker was raised by the participant stating that *“if you were to talk to some of the colleagues, they would not know what a tracker is.”* The HOD indicated that he deliberately chose interviewees based on who was using or attempting to use the CPT. This is as per the following comment by the HOD: *“The teachers I chose for you to interview are those that are using the tracker or trying to. The senior teacher and I, we currently teach Grade 11 and we taught Grade 12 in 2016 so we are not using the trackers at all.”* According to the

Grade 8/9 mathematics teacher “*people are reluctant to change from their old practices and without the necessary support and training they will not see the value of changing and using the tracker.*” In other words, people are reluctant to use what they know little about. Therefore, to change their old practice and ways of doing things is extremely difficult, change becomes hard to achieve if one does not know the reasons for why the change is necessary. The theoretical framework used in this study can aid in explaining this concept of change using Lewin’s strategies for change (Lewin, 1947). Adequate training and support are needed in order to unfreeze a person’s current practice, the training provided needs to be engaging in order to provide adequate driving forces to enact change. Once enough training and support has been provided, the person is able to refreeze into a new practice with the ability to use the tracker for its intended purpose.

Many statements made by teachers do not seem to tie in with each other. One Grade 8/9 teacher stated that trackers had arrived before the end of Term 2 for the next term:

“The tracker had arrived before the end of Term 2 and I had an opportunity to plan my Term 3 work during the school holidays.”

This very same teacher stated that that had provided him with an opportunity to plan his Term 3 work during the holidays. A large contradiction to this was made when an interview with a Grade 10 teacher brought about claims that the tracker had arrived late. Furthermore, the work for the first week commenced late due to advice from her HOD. She only waited to do Term 3 work when she obtained the tracker. This is evidenced by an extract from the IR 2017 below.

The grade 10 teacher interviewed also claims to be using the tracker because the first week had been filled in with five dates only starting from 31 July and when probed about this, she indicated that her tracker arrived late and on the advice of her HoD she waited and did not proceed with Term 3 work
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Fig. 6.2. Contradiction of CPT being available on time

For the purposes of this study, which focuses on Grade 9 teachers’ usage of the CPT, the data extracted would indicate that the Grade 9 teacher was attempting to make use of the CPT despite having had no assistance from their seniors. It is possible that this ability to want to make use of the CPT was due to the teacher’s beliefs surrounding the teaching of mathematics which views the teacher as a self-regulated individual (Hudson, Kloosterman, & Galindo, 2012).

Numerous challenges came about as a result of using the tracker and are expressed in the response below.

The Grade 8/9 mathematics teacher stated: *“Perhaps the tracker could assist me better with teaching learners with superior abilities because so many of my learners take time to grasp concepts and they generally do not engage with their work as expected. But the tracker does not consider the contextual matters that result in a loss of time when we have recurring water shortages in the school. School closes early and then I lose teaching time.”*

From the above comment, it would appear that one of the challenges experienced was that the CPT does not consider contextual factors which resulted in the loss in teaching time. On the notion of the slower pace followed, rather than the one suggested by the tracker as a possible hindrance, the teacher stated that *“...calibre of learners is the reason for this but I use the days meant for consolidation in the tracker to catch up and if that doesn't help then I am forced to use morning classes to assist learners because they take longer to understand certain concepts.”*

The Grade 8/9 teacher felt that the CPT was better suited to teaching learners with superior abilities as many of the learners took time to grasp the concepts and as a result building onto these concepts at the pace proposed by the CPT did not work. However, to evaluate this challenge, the CPT does have a section for weekly reflections which could aid in finding alternative and creative means of delivering the curriculum in its entirety to these learners with lower ability levels. The CPT suggests time frames which are stemming from the CAPS document. It does not mean to say that the teacher cannot use their own discretion to make up for lost time. Teachers may not have a say in the content to be taught or be able to change policy but they do have the power to decide how to structure their lessons to ensure maximum benefit in their delivery of the content. Nothing stops an teacher from adjusting the pacing of teaching content based on the learners they have; which can be seen from Fig. 6.1 which discusses pacing. Therefore, making reflections and having reflective practice is so important to work out what works and what does not work.

Further challenges include the fact that the CPT does not consider other contextual factors which affect the day to day running of the school programme. One of the issues which plagued the school was the recurrent water shortages resulting in early closures leading to loss of teaching time. The Grade 8/9 teacher accommodated for this loss of teaching time by using the

time allocated for consolidation in the tracker as time for teaching. That would serve to indicate that that teacher was indeed making use of the tracker within the contextual limitations of the school. In addition, he must have morning classes to assist with catching up on missed lesson. Those morning lessons also aided in assisting learners with lower ability levels to catch up.

This was important since this teacher also stated that the poor calibre of learners made it difficult to keep to the pace proposed by the tracker. He had taken the initiative to resolve this challenge by using the consolidation time stipulated in the CPT and holding morning classes which was a commendable effort. However, another challenge which could result from that was the fact that there was then no consolidation taking place as the time needed for consolidation in the tracker was used for teaching content rather than reaffirming the content.

As much as it is important to teach the concepts in its entirety, it is just as important to ensure that adequate understanding and application of the content taught has taken place by means of consolidation, revision and remedial exercises. It is possible to have taught all content only to then realise that the learner has gained nothing from all the teaching that has occurred. Consolidation allows for the teacher to take a step back and evaluate what the learners have really gained from all the teaching which took place.

Having looked at the usage of the CPT and having evaluated the enabling factors and challenges, the researcher needs to investigate the impact the CPT has had on curriculum coverage in order to answer the research questions.

6.2.3. The Impact of CPT on Curriculum Coverage at Zuzu P1 (IR 2017)

With regards to curriculum coverage, the Grade 8/9 mathematics teacher was not specific regarding the influence the tracker had played in ensuring curriculum coverage. Secondary data from previous years revealed that all grade 8/9 curriculum was covered in 2016 but that the Grade 10/11 was not. When asked why there were contradictory statements regarding curriculum coverage from previous years, the HOD denied that he had been part of those interview sessions conducted in 2016. The HOD stated “...*the claims of all Grade 8 and 9 curriculum being done in 2016 was not made by me, perhaps these claims were made by my deputy principal because sometimes this is what normally happens at the school.*”

The response from the HOD indicated that he did not take accountability for what went on in his department and blame shifting seemed to be the way out of it. At that stage there was no substantive proof to indicate how the tracker influences curriculum coverage. Often internal school issues are cited as reasons for disjointed management practices. Those findings were contradictory to the findings by Mkhwanazi, Ndlovu, Ngema, and Bansilal (2018) who contend that there seemed to be a relationship between usage of the CPT and curriculum coverage. In this study, findings at Zuzu P1 do not correlate to those of Mkhwanazi et al. (2018) as there was no evidence of any positive correlation between CPT usage and curriculum coverage.

6.2.4. HOD Usage of the Curriculum Tools at Zuzu P1 (IR 2017)

IR 2017 revealed that the HOD did not use the tracker nor did he participate in supportive and professional conversations with his teachers. Those revelations were in direct contrast to the school classifying themselves as green in the SE 2016, wherein green denotes routine actions which occur consistently. In the self-evaluation of 2016, the school rated themselves green on the notions that *“each HOD is using a tool to track his/her teacher curriculum coverage”*, *“there are subject/phase meetings of the HOD and his/her teachers weekly”* and *“teachers are using their planner-trackers consistently (in subjects that have them).”* The interview held contradicted the green ratings given for the above notions and it was quite clear that very little to no ownership of the tools had taken place. The HOD stated that they were in desperate need of further training as a team regarding the usage of the tracker. In addition, it was suggested that for the tracker to be used effectively and by extension for it to be taken seriously, subject advisors need to take the enforcement of the trackers seriously. Currently, subject advisors only query the unsigned ATP’s which is what has been taking place at recent moderation processes. No mention of the usage of trackers was enforced at those moderations and some subject advisors might not even have been exposed to the trackers themselves.

When comparing what transpired in the 2015 and 2016 survey, to the 2017 interviews, the following findings emerged: it appeared as if the school had achieved a massive turnaround, having rated themselves green in areas involving the usage of the CPT, in the monitoring of curriculum coverage and in the weekly subject meetings with the HOD. However, there appeared to be contradictory findings in the 2017 interviews. It seemed that during the surveys there has been false representation of what had really taken place in the school. SMT interactions with teachers to offer support and monitoring were essentially non-existent. It is possible that the surveys reflect the goals of the school and paints a picture of where they would

like to be. If this is the case, then the SMT, together with the teachers, requires extensive training and support to be at the level they need to be in order to achieve the goals placed by PILO. The goal is to ensure curriculum coverage by using the CPT to achieve that end. In order to explore these contradictions between the findings from the surveys and interviews, further interviews were conducted in 2018.

6.2.5. Enabling Factors of CPT Utilisation from Glen P5 as evident in the Interview Report August 2017 (IA 2017)

The interview that took place in August 2017 at Glen P5 included four participants, 2 male teachers and 2 female teachers. Person A was the Interviewer, Person B was Male 1, Person C was Female 1, Person D was Male 2, and Person E was Female 2. This section emanating from the interview explored the enabling factors and challenges associated with usage of the CPT in this school. In addition it explored, the influence the CPT has on curriculum coverage and the extent to which teachers and HODs are taking ownership of the PILO tools and activities.

At the outset of the interview, the data received was vastly different when compared to the findings of the surveys conducted in 2015 and 2016. In this interview, it appeared that there were many negative perceptions surrounding the use of the CPT and the additional paperwork required. The surveys presented a picture that all was going well with the usage of the CPT at this school. According to Person B, education was not moving in the correct direction and the information provided was a farce making it appear that things are “hunky dory” at the school when that was not the case.

Person B justified his comments on things looking perfect by stating the following:

“...it filters across the board that everything is fine meanwhile at grass roots level we know that things are not working out. It is bad and math results will prove to you that it is so bad and one of the reasons for it being so bad is number one we got that tracker, the ATP, we are teaching a syllabus and we got the workbook and now all these things you have to do and if you got weak children it becomes absolutely difficult to work.”

Furthermore, Person B reiterated the comments made in the SR 2016 in which teachers felt that the DBE workbooks were beyond the capabilities of their children. He stated that: *“the workbook is out of this world, especially in the case where learners are struggling to even obtain 20%.”* He felt that all those documents were somewhat restrictive and did not allow

teachers to manoeuvre the syllabus as they saw fit to accommodate the learners. This was captured in his comment: “*Simpler examples would yield better knowledge of mathematics but if we do our own examples, it would mean that parts of the workbook are left incomplete.*” The above statement showed that teachers used the provided documents (DBE workbooks) for compliance purposes just to satisfy authorities, not because it was in the learner’s best interest to use them.

The same sentiment was echoed by Person C who felt that their efforts were futile in attempting to get learners to do activities from the textbooks and workbooks since “*normally learners did not even do the homework.*” This is a challenge, as teachers must be accountable for why the workbooks are incomplete which results in the CPT being incomplete. This challenge was mentioned in other instruments as a restraining force or a challenge. From the above comments made by Person B and C it seemed that teachers found it difficult to do all the activities that were prescribed in the CPT. Person B, was of the belief that teachers were overloaded with all those documents but had to make use of it because the department had spent a lot of money to provide them. In general, the outlook of those teachers was that the DBE was wasting funds with formulating additional documents, they would rather just use the ATP.

Teachers further raised the issue that while the CPT unpacks day to day topics to be covered, the main difficulty was to get learners to process the activities that needed to be completed for that particular lesson. That affected the alignment between what was taught and what appeared in the learners’ book. Person D commented and said the following “*We are taking learners from predominantly Quintile 1, 2 and 3 schools. 90% of our learners are second language English and English and Math are serious challenges. But at the end we are supposed to account why less activities are done in workbook or why the tracker is not complete. We are here to teach learners not to complete documents.*” Person D and Person B both felt that the language barrier posed great difficulty for learners to understand the activities by themselves and therefore, teachers needed to take time unpacking questions for learners. Thus, topics were not completed by the end of the day. However, such dilemmas are not catered for in the CPT.

While in the surveys it appeared that teachers at Glen P5 were self-driven in using the CPT, Person B’s comments contradict that statement. It was pointed out that the statements which were made in the August Survey 2016 were not a true reflection of the feelings of teachers. He felt that sections on reflections in the CPT did not encourage ones’ feelings but rather make

one say that one was complying with everything expected of one. The supporting comments are indicated below:

Person A: *“Glen P5 is doing well with the trackers and they did some surveys, it was a curriculum survey in August 2016.”*

Person B: *“The guys that they interviewed were not honest. That is not a true reflection. What will you change next time in the tracker, what nonsense is all that? That is ridiculous. It should not be there.”*

Person A: *“You are saying they are forcing you to be on two levels. On a dishonest level to say you comply with everything. And your true things you have to keep to yourself and you still feel unsupported. You feel the department is expecting too much from you.”*

Person C felt that with the amount of re-teaching that must take place, the CPT did not work as it did not cater for remediation and allow for time taken for revision. The consensus is that teachers should work with the ATP. When pointed out that actually the CPT provides weeks at the end of the term for revision, teachers did not comment further on that. What transpired from the discussion was that teachers seemed quite frustrated with all the administration work they should be doing and with the number of workshops they should attend. Points of frustration were also raised by Person E who commented that that they: *“have been teaching for a long time and know what is happening, what to teach and how to teach; therefore, following an ATP each term should be enough.”* Person B saw workshops as a waste of time; Person E supported that by stating that: *“workshops are more beneficial to novice teachers who need the experience and guidance.”* They also pointed out that before the introduction of the CPT they already had weekly meetings with their HOD, after school for 20 minutes, to discuss curriculum coverage.

It seemed at Glen P5 that what was specified in the CPT and other tools had already been taking place. What seemed to be missing was the guidance as to how the CPT was not different to what they had been doing. It was felt that the CPT provided additional work for them which seemed to raise the emotions of anger and frustration. Secondly, teacher’s lack of willingness to absorb innovations seemed to be a stumbling block as they pointed out that workshops should be for novice teachers not seasoned teachers like themselves. The Norms and Standards (Department of Education, 2000) sees a teacher as a lifelong learner, however, it seems these teachers have not bought into that philosophy.

The sentiments of seeing the CPT as just another additional administrative task was further captured in the comment below from Person E:

“Copies of this and that and I am just thinking all these things you want I was going to ask how is it going to improve the math results in my classroom. All this documentation you want a lovely file 2nd term, 3rd term how will it change what the children know in mathematics. If I did not spend so much time on that I could have focused on the children and improved their math to a certain extent. It is so unnecessary things. It really puts you down. It takes you away from teaching. For me I generally don’t do a lot of paperwork I ignore it and focus on the teaching. Teachers are afraid of their superiors and taking their time in class to do the paperwork and what is happening with the child now. The child is suffering. While they got shining records and lovely files meanwhile what are they doing in the classroom. They are not teaching I can tell you that.”

From the comments expressed above, it was evident that teachers at Glen P5 have a passion for teaching but at the same time it became evident that they were resistant to change. Perhaps they lacked knowledge as to how to align learning programmes, rather than viewing it as an additional workload. Instead of training HODs to use the CPT and expecting them to cascade the information to their teachers, it might be better to train teachers directly as teachers were expected to implement it. Drawing from the comments by Person E, it appears that the person at grass roots understands what is happening. These findings confirm what Mkhwanazi et al. (2018) argued for with regards to teacher training and support. The authors argued for synergy between the documents provided to teachers and for subject advisors to support teachers. If such suggestions can be adopted perhaps these sentiments of frustration among teachers at Glen P5 might be minimised. Furthermore, Person B and D agreed that the DBE needed to take a serious look at revisiting the heavy content of the Grade 9 syllabus which expect too much from learners. Due to this, teachers are forced to complete the syllabus even though the quality of completion might not be as they hoped it would be. *“Different classes also have different ability levels”*, as Person E pointed out, *“so you cannot approach the different learners in the same way.”*

Despite being a Quintile 5 school, Glen P5 has a population of learners stemming from Quintile 1, 2 and 3 schools and thus they share many of the challenges experienced in quintile 1, 2 and 3 schools, especially in areas of social background of learners. Every school does have its own identity and its own unique context. However, they do share some similarities. Jika iMfundo is

seen by teachers, not only in Glen P5 but in other schools as well, as being an intervention which does not adapt to the context of each school. They struggle with the perceived lack of flexibility that the tracker imposes, and frustration levels are very high as indicated in IA 2017.

SR 2016 did not indicate the frustrations and true reality being experienced at that school. It focused on what was going right. It spoke to the experiences of the HOD and was not an in-depth evaluation of teacher experiences with the tracker. The IA 2017 made it very clear that teachers were upset with being bombarded with paperwork, with the lack of support from department, with dealing with the issues they face in the classroom and with being inundated with an overloaded curriculum. They were struggling on a regular basis especially when learner absenteeism was high and teacher morale was lowered by the lack of dedication and effort on the part of the learner and parental involvement. The AS 2016 praised some level of parental involvement but in the IA 2017 many flowery depictions of the school were debunked by the teachers as being dishonest claims by whoever was engaged with the AS 2016 and SR 2016. Though it was true that they filled in the trackers, during the interviews it was clear that that was not done out of engaging with professional development and improving curriculum coverage: it was done out of necessity. Teachers were of the feeling that they had to do those things or the department would have a problem with the school. Though Glen P5 ensured that they completed the curriculum, they also conceded that the quality of completion was questionable. They completed the curriculum but at the expense of learner understanding, quality teaching and learning and depth of content. Learners were said to be struggling with a many of the concepts so more difficult concepts were problematic to introduce. In the presence of a lack of resources, teachers made their own resources in order to aid with being ready for examinations. Those comments support what Stols (2013) argued about, that time on task for learners is not adequate regardless of the syllabus completed and so impacts on the achievement of learning outcomes by learners. One of the positive factors that was evident in the surveys and in the interviews was that teachers and HODs did have regular meetings to discuss curriculum coverage. There was evidence of team teaching having taken place to complete the syllabus.

6.3. Factors associated with the utilisation of the CPT and its impact on curriculum coverage drawn from Primary Data in 2018

Curriculum planner and tracker was implemented in other four districts in 2018. To date six districts in the KZN province are expected to use the CPT in order to track, manage and improve curriculum coverage. In Chapter 5 and the Secondary data section above, Pinetown district was one of the districts where the CPT was originally piloted was presented. In this section, the researcher presents findings collected in 2018 in three schools that have been involved with the project over three years, i.e. schools in Pinetown district and three schools that have been involved in the project just for a year, i.e. ILembe district. The aim is not to compare but to explore if there are any changes either positive or negative that can be drawn from the two districts to inform the roll out of the programme in the subsequent years. As explained in Chapter 1, it is ideal to explore perspectives of teachers who had just started using the CPT and those who had used it for a long period time to understand the factors affecting the usage in the initial stage and in the progressive stage.

Data presented here was collected in 2018 from six schools, three from Pinetown district and three from ILembe district. The aim was to understand the enabling factors and challenges associated with teachers' utilisation of the CPT from the perspectives of the teachers and HODs. It also explores the influence of the CPT on curriculum coverage at these schools. It is hoped that these findings can aid in uncovering the extent to which teachers and HODs are taking ownership of PILO tools and activities. For each school, the researcher engaged in the discussion with participants and analysis of issues pertaining to teacher usage of the CPT to uncover the enabling factors and challenges. Thereafter, the discussion and analysis will speak to the role the CPT plays in curriculum coverage. Lastly, there will be discussion on the ownership of these tools by teachers and HODs.

The findings are presented per school and later conclusion is drawn based on all the findings presented per school. The three schools, that is Zuzu P1, Umta P2 and Glen P5, whose secondary data was analysed from Pinetown district, participated in 2018 data collection process unlike in 2017 where only two participated, that is, Zuzu P1 and Glen P5. In the ILembe district all the three schools selected participated in the study, which is Grout I3; Stan I4 and Mano I5.

6.3.1. Enabling factors and challenges emanating from primary data at Zuzu P1

The semi-structured interview was conducted on 15 August 2018 and took place with the HOD who also teaches grade 9 mathematics. The semi-structured interview session with the HOD revealed information on interactions with the JIT workshops, tracker usage together with enabling factors and challenges and the impact made on curriculum coverage.

Looking at the JIT workshops aspect first: the HOD responded that he had attended numerous JIT workshops and that even the Deputy Principal and Post Level 1 teachers had attended these workshops as well. When the researcher probed as to whether these workshops had assisted and helped in planning and preparing for lessons, the response was: *“Yes, it did help.”* The HOD offered no supportive statements to elaborate on how the workshops assisted when probed further. When asked to provide an explanation on the purpose of the tracker from his own understanding, the respondent stated the following: *“I think the tracker concentrates on HOD workshops to explain everything and to control the management of work.”*

From this response, it appeared that the HOD had understood the CPT’s purpose as one which involves monitoring of curriculum but said nothing that indicated the teacher’s role in curriculum management.

In terms of the actual usage of the CPT by himself and other Grade 9 mathematics teachers, the HOD stated that none of them used it. When asked to provide reasons given that the intervention project had been running in KZN since 2015 and that various JIT workshops had been held, the HOD provided the following response: *“Let them take it away and keep the ATP. The date started and completed for the DP to sign is enough. This tracker is too much and we are no longer using it.”*

This bleak response indicated that though earlier he had said that the JIT workshops were helpful, the CPT itself was not being utilised and there were no enabling factors and no driving forces to ensure that it would be used. Rather than making any comments on what could enable the use of the CPT, the HOD focused more on the challenges that restrained the utilisation of the CPT. Those findings provided an unclear picture of the usage of the CPT at Zuzu P1. It was a concern that teachers in a school that had been involved in a project since 2015 still saw no value in the intervention. What was also a concern was the transfer of teachers from one school to another. The teacher who had participated in the interview in 2017 and seemed to be trying to use the CPT was no longer in the school. The data collected since 2015 seemed to emanate from different people with different perspectives on the usage of CPT. However, what can be

concluded for this school was that there seemed to be no usage or there seemed to be minimal usage of the CPT by teachers. The School Management Team (SMT) seemed not to be encouraging teachers to use it. The model of “train the trainer” is based on training HODs to train teachers, therefore, if the HOD sees no value in using the CPT, it is unlikely that teachers would be encouraged to use it.

The challenge encountered in the utilisation of the CPT were stated by the HOD as follows: *“It is too much work. The ATP is shorter and not as heavy.”* When probed on how the HOD could address such a challenge, he indicated that he did not engage in any activities to resolve challenges with CPT utilisation. Since a comparison was being made between the CPT and the ATP, further probing took place regarding what was different or similar between the two. In terms of similarity the HOD claimed: *“there is too much duplication of work”* and in terms of differences, *“ATP is less paperwork.”* Further comments made by the HOD are as follows: *“Trackers shouldn’t be used. We are frustrated in schools; it is easier to control with the ATP. With tracker must sit and plan for 15 to 20 minutes planning before. ATP, no planning. Even the subject advisors are less strict with the trackers. They look at ATP, because less than 50% using it.”* The attitude stemming from these comments are that why should teachers use something that even subject advisors do not care for, when they are already frustrated with other paperwork. The 50% referred to in the comment meant that less than 50% of teachers were using the tracker. They were instead using the ATP.

The HOD also alluded to internal power struggles between him and his post level 1 teachers stating that they experience conflicts if he comes down hard on them to engage in more paperwork and that *“they view the CPT as an additional unnecessary requirement.”* The HOD says the following about his relationship with the teachers: *“They cope with me, some teachers are like the learners, they don’t even do reflections. They say time is against them and all this is extra job.”* The poor relationship between the HOD and his teachers could also prevent meaningful change from taking place. This was further compounded by the many unrests at the school and with the calibre of learners they have. Teachers felt frustrated when asked to do more paperwork which they felt made no difference to the quality of teaching and learning. Those unrests were mentioned before in the secondary data as well. Findings from IR 2017 showed that teachers were making greater use of the CPT, but in 2018 this utilisation of the CPT had dwindled to no utilisation at all. In 2017, low utilisation was encountered due to lack of training and knowledge on the part of the HOD yet in 2018 the HOD had claimed that

numerous workshops were attended and that teachers still did not want to make use of the CPT. Based on those comments it could be concluded that the “train the trainer” model was not working at Zuzu P1. As a Grade 9 mathematics teacher, the HOD was also not making use of the CPT. As a result the post level 1 teachers could see no point in making use of it when their HOD was not. At that stage there was no evidence of any enabling factors. The restraining forces which were the challenges being experienced at that school were preventing the movement to change in order to utilise the CPT (Lewin, 1947). Due to there being no usage of the CPT at that school at that stage, no evidence of it influencing curriculum coverage was visible.

On looking at the influence the CPT played on ensuring curriculum coverage, the HOD made it clear that: *“no curriculum coverage when using the tracker due to extra paperwork, we are enjoying the ATP.”* From his comment, it could be said that perhaps he meant that the tracker played no part in ensuring curriculum coverage. In terms of adopting activities from PILO within their teaching, he stated that: *“we use some of the activities from the tracker but mostly use our own resources.”* The HOD said that he had told his teachers: *“use what is easier for you.”* That meant that there was not much guidance going on and teachers were been given no support or direction as to what was best for their teaching. Rather the onus was put on them to do as they saw fit. In terms of accountability, it would seem that that statement made by the HOD removed his accountability for any action.

Further comments on curriculum coverage from the HOD are as follows: *“Learners are not coping with a three day lesson that takes five days. It’s impossible to follow tracker. Curriculum coverage is purely through ATP. They don’t even attend extra classes. In Grade 9, from 189 learners less than 50% pass. Even our grade 12 not coping.”* He also referred to other contextual factors that impeded curriculum coverage. *“Grade 12 think are too big, they come with drug issues and influence other learners.”* Those contextual issues affected the rate of curriculum coverage. At Zuzu P1, it appeared that the odds were stacked against this school being able to fully embrace the CPT. The only positive aspect gathered from that interview session was that the JIT workshops were helpful.

6.3.2. Enabling factors and challenges emanating from primary data at Umta P2

In this school the semi-structured interview was conducted with the Grade 9 mathematics teacher only. The HOD was unavailable due to cultural activities that took place at the school.

This session firstly explored teacher's exposure to JIT workshops that would have aided in making use of the CPT, the extent of CPT usage by evaluating the enabling factors and challenges associated to CPT usage and lastly the influence it had on ensuring curriculum coverage.

Firstly, looking into the response from the teacher on the exposure of JIT, the teacher stated that *"I never went for any workshops, I learned about Jika iMfundo from the previous HOD from 2016. Maybe she attended it, she is the one who gave us this Jika iMfundo tracker. This HOD now is new."* The response indicates that in terms of training, it was unclear as to whether the HOD, prior to the current one, had attended the JIT workshops. Since the JIT workshops focused on HODs not teachers and the HOD were meant to train teachers, it seemed that the previous HOD had done that and therefore teachers had the knowledge of JIT. However, it seemed the issue of the transfer of the HOD was causing discontinuity as it seemed the new HOD had not shared with teachers any information about JIT. Since the teacher had been exposed to JIT it meant that the teacher had the knowledge of the CPT. Therefore, in an attempt to understand usage of the CPT, the researcher asked the following question: *"How often do you use the Curriculum Planner and Tracker?"* The response to this question was: *"I use the tracker every day. It helps to track the learners' performance plus it has question papers at the back and you can take it to revise with the learners."*

The response provided the enabling factors that allowed for the utilisation of the CPT. Even though the current HOD had never engaged with teachers about CPT usage, it appeared that the teacher did have the CPT and had the knowledge of how to use it. For a change there was a teacher who had found value in using the CPT. Although this was the case of one teacher, it showed that there were teachers in Pinetown district using the CPT.

When questioned on any challenges experienced in using the CPT, the response received was as follows: *"The tracker is fine, the timeframe, content and everything is the same. The tracker is not too fast but the ATP is too fast."* This response was contradictory to the responses gathered in the 2017 interviews, from Zuzu P1 and Glen P5, in which respondents indicated that the CPT did not consider learner pace. The contradictory part of this response was that of saying the ATP is too fast, when the ATP provided broad themes of CAPS content and the CPT was simply an unpacking of the CAPS document by breaking it down on a daily basis. Perhaps

the teacher meant to say that the ATP was too packed as had been the comments about CAPS itself by Pournara et al. (2015)

Most certainly the main enabling factor experienced at Umta P2 was that the CPT catered for easy tracking of learner performance by engaging with the tracking of the curriculum. In addition, the availability of question papers at the back of the CPT provided some revision exercises to assist teachers in their remedial programmes. In terms of challenges being experienced, that teacher noted that there were no challenges as: *“the tracker is fine...”* However, some challenges can be picked up from analysing the initial responses regarding LTSM (Learning and Teaching Support Material) usage. *“I am using Sasol Inzalo and Premier. But Premier is also in Jika iMfundo so its fine with that one but Sasol Inzalo its not there”* *“...must include Sasol Inzalo, the rest is fine.”*

That teacher used the Sasol Inzalo textbook, not the other textbooks listed by the Department of Basic Education (DBE). It was claimed that the CPT only tracked activities from DBE listed books which is why the teacher then made incomplete use of the CPT. As a result, the CPT would only be filled in for the parts that corresponded to the teacher’s use of the Premier textbook. That meant that on days when using activities from the Sasol Inzalo textbook, those activities from Sasol Inzalo would not be reflected in the CPT. However, the CPT is not meant to be a tick box exercise but was meant to track and manage curriculum. Therefore, as long as it was evident that the specified topic had been covered in that term, the curriculum would have been considered to have been completed.

The teacher’s comments regarding the Sasol Inzalo textbook not being on the list of approved DBE LTSMs, made it appear as though the CPT did not cater for Sasol Inzalo textbooks and that that was the reason behind why the teacher could not use the CPT. However, there are inconsistencies in this teacher’s comments, where in fact the CPT does have the Sasol Inzalo textbook listed in the approved list of LTSMs as indicated in Figure 6.3. It appeared that the teacher is unaware that the CPT does cater for the Sasol Inzalo Mathematics textbooks and this contradiction could be an indication that the teacher’s ignorance of the fact is due to not using the CPT.

D. Trackers for Each Set of Approved LTSMs	
Premier Mathematics	12
Spot On Mathematics	23
Platinum Mathematics	34
Oxford Headstart Mathematics	45
Oxford Successful Mathematics	56
Clever: Keeping Maths Simple	67
Solutions for All Mathematics	78
Mathematics Today	89
Sasol Inzalo Mathematics	100

Fig. 6.3. Extract from CPT Grade 9 Mathematics indicating approved LTSMs

In response to whether the teacher engaged in reflective practice, the teacher stated that she only looked at reflecting on her successes and failures sometimes: “...*reflections sometimes, when lessons don’t work, I must go back.*” The above comments suggest that reflections were not daily practice while in the CPT this was emphasised as the daily practice because it was through reflection that teachers and HODs would develop professional conversations. The challenge that seemed persistent even in the surveys and evident in other schools which could be a restraining force, was the late delivery of the CPT itself. This was indicated when the teacher asked: “*Why didn’t we receive Jika iMfundo tracker this year?*” That meant that the untimely arrival of the CPT be a factor in the low rate of utilisation. At the same time, if teachers had not received the CPT that year, the claims made about completing it becomes questionable.

Having evaluated some of the enabling factors and challenges that arose from this discussion, it was also important to uncover the role of the CPT towards curriculum coverage. Though the teacher claimed that the CPT had helped to cover more of the curriculum that year, there was no evidence that could be provided to support that claim, especially in light of the many contradicting statements made by the teacher. Furthermore, the CPT was not completely filled in, especially when it comes to activities given to learners. This was due to the claim by the teacher that Sasol Inzalo workbooks are not included in the CPT. However, Figure 6.3 indicates that this was not the case. The use of Sasol Inzalo books being preferred was also mentioned in secondary data for Umta P2. It could be possible that the failure to see that the Sasol Inzalo workbook was now included in the CPT was plain ignorance from the teacher. Although the CPT was being used the influence the CPT had on curriculum coverage could not be verified

as the teacher could not provide learners' exercise books and assessment marks to show if there had been any improvement in the learner performance.

6.3.3. Enabling factors and challenges emanating from primary data at Glen P5

Unlike the 2017 interview where four teachers participated in the interview, now only the HOD and one grade 9 teacher participated. The same teachers participated in the 2017 interviews. When asked about feelings towards the tracker and what was working and what was not working, the HOD gave the following response:

“The problem with the tracker is that the teachers complain that it is too much to cover in one week. The other problem is that trackers are not received on time and as a result, teachers are using the ATP or work schedule. Another problem is that teachers complain it is too much paperwork and somehow, they do not have time to complete the bottom section where there's reflections.”

It seemed there had been no change at Glen P5 with the usage of CPT. The challenges that had been evident in the surveys and 2017 interview seemed to be continuing, for example, the late arrival of the CPT, time factor to complete the tasks, teachers' unwillingness to reflect and teachers seeing CPT as an additional administrative work. However, further probing brought to light the fact that some teachers did not want to fill in reflections as they perceived this to be a critique. Also, shortage of resources at the school seem to be hindering the usage. This was supported by the following comment: *“Teachers are reluctant to fill the reflections part and are loath to fill it in because it seems to be about them not the lesson. When the tracker comes there are insufficient copies and it is a costly exercise to duplicate it. In an ideal situation where teachers are open to the objective, it is a good exercise of self-reflection to examine what went wrong and what went right but practically it's difficult.”* In addition to the challenge of having teachers not wanting to fill in the CPT, the insufficient copies of the CPT resulted in it becoming a costly affair for the school as they now needed to duplicate the CPT for teachers to each have their own copy.

Further comments came from the Grade 9 teacher who had provided the following inputs:

“The tracker is basically like the ATP, the problem as sir said was that there is just too much to be covered in one week. The good thing about it is that it gives you quite a few textbooks to use, the exact pages and a breakdown of the exercises. But they give you quite a bit and unfortunately, we are limited by time. The poor understanding learners have, when you give

homework you still have to review it the next day. The tracker does not accommodate for review. It gives us the opportunity to reflect, however we do not have the time to do so. It does not have immediate impact. I haven't been to any workshops but sir has. The tracker does not come on time so there is duplication of work with filling the tracker and ATP."

Looking into the comment above, the teacher recognised some of the positive aspects of the CPT in which it catered for various textbooks and provided the exact pages as well as exercises. Although the HOD indicates that some teachers were uncomfortable with reflections, the Grade 9 teacher was positive about reflections. Again the issue of insufficient time to complete the syllabus seemed to be a persistent issue.

The grade 9 teacher further commented and had this to say:

"I like it, it's always about progress and progress within teaching and learning. But where is the time to implement change in teaching, if we do then we are lagging behind with the syllabus and then we won't meet the deadlines. It works for the ideal school but which school is ideal?"

Although there seem to be persistent of challenges but as compared in the previous years there seem to be a change of view from some teachers in the school which gives hope that given time teachers becoming familiar with the CPT and restraining forces being addressed they might end up using it for its intended purpose

The HOD raised the comment that the problem of the packed curriculum was not with CPT but with CAPS:

"We have critiqued the CAPS through the principal we have made submissions that the CAPS content is too extensive. Waterdown CAPS. The 8 and 9 syllabus basically mirrors each other...it could be covered within two years instead of duplicating the work each year. Good system if the CAPS curriculum catered for it, if it's watered down. I have been for several workshops, the notion and intention is very noble and good but implementing is impractical. The complaints are always about the CAPS curriculum. The paperwork is the problem, not the tracker itself. From a management perspective, monitoring tools we make use of some but cannot realistically do all of them."

Another critical factor which could be considered an enabling factor was that teachers and HODs are engaging with CPT and are engaging in professional conversations. The ability to unpack such information about the curriculum meant there were discussions taking place about CPT usage and the curriculum itself.

What was evident here was that although there were challenges, both the HOD and the teacher seem to have gradually changed their view about the utilisation of the CPT. It is true that challenges still outweigh the driving forces that promote change but there is an element of willingness to adopt change among teachers and HOD. Using Rogers' (2014) notions on change, the CPT is viewed as the input to this change initiative. However, as one of the challenges deal with late arrival of the CPT or insufficient copies it means that the inputs are not actually available and as a result the activities needed to drive the change process will not lead to the desired output which is that of the utilisation of the CPT in order to ensure curriculum coverage.

6.3.4. Enabling factors and challenges emanating from primary data at Grout I3

At Grout I3 the interview was conducted with a Grade 9 mathematics teacher. The participant was aware of the CPT. In response to being asked whether Jika iMfundo was working at that school, the teacher immediately responded that it was not working. The response given is as follows:

“I would say for now it is not working simply because the day in which the tracker documents are delivered, you find beginning of the term and sometimes in the middle of the term nothing comes just before the last few weeks of the term it comes when it’s too late. If we were to stick to it, we would be backtracking, it is not completely the same as the ATP and some term content is mismatched and is not aligned to the new ATPs. It could work if delivered on time and if it is corrected to be in line with the current ATP.”

From the response above, two challenges were highlighted. The first issue was not an unfamiliar one. It has been evident since 2015: the late delivery of the CPT. In addition, some of the content in the CPT was not aligned to current work schedules or the updated ATP. There appeared to be inconsistencies in ensuring the correct topics were reflected in the CPT. However, although these challenges had been raised by the teacher at Grout I3, the comments showed willingness to use the CPT as suggestions were made about enabling forces that could lead to change from teachers’ perspectives. When probed further about enabling forces that could lead to utilisation of the CPT, the teacher said:

“Tracker should be flexible, it is rigid, it needs to take into account extra-curricular but does show you the topics to be covered. The part of reflections it’s also good, it helps to know whether what you were doing in class was effective or not, but we normally do it even though

we don't express it like that. At our school the normal day starts at 7. We target the ones with potential, the weaker ones are a losing battle. Morning classes, afternoon classes, evening classes, holiday classes. With regards to senior classes, they don't have free time and weekends, programmes continue to five pm."

The CPT was perceived as rigid and inconsiderate of external factors that could negatively impact on curriculum coverage. However, the section on reflections was appreciated for its potential to improve teaching and learning. Similar sentiments were expressed by the Grade 9 teacher at Glen P5. In terms of catering for curriculum coverage, even without the utilisation of the CPT, that school held numerous classes. However, they focused on the learners with potential while struggling learners were not considered. In as much as it would be good to work with them, the conversation with that teacher implied that struggling learners had no interest in those classes and so did not attend. In addition, that school produced a 91% pass rate in the 2017 National Senior Certificate (NSC) Examinations and considered to be due to the effort and dedication of the teachers and the time that was devoted to extra classes. Those extra classes was the enabling factor for ensuring curriculum coverage to the depth required, even though sometimes they had not indicated in the CPT the topics completed. Grout I3 could be an example to show that CPT is not a tick box exercise but a means for teachers to track curriculum coverage. As evident in that school, while they complained about its rigidity, they were able to use the CPT to see the topics to be covered and plan extra classes to complete the curriculum.

6.3.5. Enabling factors and challenges emanating from primary data at Stan I4

The semi-structured interview was held with the grade 9 mathematics teacher. In response to how this teacher felt towards the CPT, the teacher stated the following: *"The Jika iMfundo tracker, firstly covers a vast number of books so I agree on that, it's actually quite a nice instrument to use. But the problem with it, some of the books are not available, like for instance if you using the Sasol Inzalo. Sasol Inzalo is on the tracker but we cannot use it because we do not have it. Not every school is provided with Sasol Inzalo. The tracker covers the topics but the timeline is not realistic. Too many disruptions with school like SADTU meetings. Also, some topics are incorrect and were supposed to be done in other terms."*

Those comments are similar to what had been said at other schools. Even though the school contexts were all different, many of the challenges experienced were similar. Here it was more

an issue of LTSM availability as the books the teachers would like to have used were not available. In addition, school disruptions were not accommodated for in the CPT. That echoed what was said by schools in Pinetown district (Zuzu P1 and Glen P5) as well as in Ilembe district at Grout I3, in which contextual factors such as school disruptions made it difficult for teachers to work with the CPT. In response to questions posed on other challenges or factors that contributed to being able to use the tracker, the teacher provided the following response:

“Like I said, the weeks are unrealistic, we do not correspond with their dates, we use our own and follow the ATP. I honestly feel we should do away with the tracker, they should meet with teachers to meet realistic goals to know the reality rather than involving subject advisors. Basically, it’s just doing paperwork. In terms of the tracker, it’s not a helpful tool, a new teacher comes in, the tracker does not develop them. Senior teachers and the HOD will develop them, the tracker will only confuse them. It will help if it is revised. Do away with the tracker and Jika iMfundo, the HOD goes for the workshop and doesn’t have time to meet with teachers to explain how the tracker works. Rather have the workshop with all the teachers even if it’s over a weekend so it does not disrupt school that will be a better way to improve. Another problem is having more than one teacher using different books and then parents come to complain why children in one class have certain examples and in the other class the examples are different. It is because we are using different books that suit the tracker. If department give us enough textbooks we all can use the same and same examples because parents think.”

From the comments of this teacher, it seems the restraining forces that hinder usage of the CPT are actually not the CPT itself but other external factors, for example, HODs were not workshopping teachers on its usage. Those comments were evident also in 2017 at Zuzu P1 where “train the trainer model” was considered to not be working. It seemed that the problem was not that teachers did not want to use the CPT but rather that they lacked the training and knowledge to do so. The lack of training and knowledge is the restraining force which prevented change. From the comments, it appeared that this teacher did not view the CPT as a helpful tool for teacher development. The teacher felt that the role of developing new teachers stemmed from senior teachers and the HOD. The CPT is a document like a book or the ATP and it is the duty of the senior teachers or HOD to guide new teachers on how to use it. One can conclude that because of a lack knowledge such sentiments were raised (as seen by Zuzu P1 and Glen P5) that the CPT was also seen as additional administrative work. What appeared as the enabling factor was the fact that teachers were using the CPT to track curriculum as Grout I3 did. This was evident when the teacher commented that the work was still covered in

different timeframes from those in the CPT and further stated that: “...we always finish the syllabus and ensure it is completed. Learner performance is terrible, there are problems with bunking, learners have poor foundation in maths from primary school, they are just pushed through from there, no good foundation and then we sit with the problem.”

It is suggested that a way to improve the tracker would be to involve the people who are meant to implement it, namely the teachers in the classroom and not the HODs, even if it needs to be done on a weekend. The cascading of the information from the HOD sometimes does not take place due to a time factor and all these issues compound the challenges that hinder the utilisation of the CPT. Though the report back from the HOD did not always take place due to time the teacher said that: “Subject committee meetings take place twice a week with the HOD, he always converses with us to where we are with the syllabus.” The HOD took an active role in ensuring that he was aware of where the teachers were with the curriculum and what problems they were facing. It is assumed that these conversations would be similar to the professional conversations that *Jika iMfundo* advocates for.

6.3.6. Enabling factors and challenges emanating from primary data at Mano I5

At Mano I5, both the teacher and HOD were available to be interviewed. In the discussion with the teacher, very positive responses arose when probed about the teacher’s feelings about their interactions with the CPT. For the first time, since looking at secondary data and primary data at other schools, an teacher preferred the CPT over the ATP and provided reasons for this as indicated in the comment below:

“Especially being a young teacher, Jika iMfundo I feel is more comprehensive with regards to what I’m supposed to teach when it comes to a particular section. With the ATP, for example looking at whole numbers, the ATP will say something like solve problems but in the Jika iMfundo it will tell you that for whole numbers you can do the financial portion and you can go to a textbook and refer and look at examples related to that. It’s just more comprehensive than the ATP.”

The comment made above indicates that one of the enabling factors for the use of the CPT lies in the comprehensive nature of the document when it serves to unpack CAPS on a daily basis while the ATP offers only a broad topic with no clarification on the scope and depth of the topic to be covered. In terms of workshops that provided knowledge on how to use the CPT,

this served as another enabling factor, further strengthened by the support and guidance of the HOD as indicated by the teacher in the comments below:

“HOD is very supportive, he and I both attended a workshop regarding Jika iMfundo which was very helpful and when I went for another on my own and gave him feedback he understood and agreed with my feelings towards Jika iMfundo....and he suggested that we use the Jika iMfundo over the ATP.I would prefer using just one document but we still have to fill the ATP for dates. I’m one for using the tracker only instead of multiple documents. Reflections I fill because in my lesson plans there is not enough space, so I use the CPT to do my reflections. The tracker doesn’t correlate to the topics in the ATP, it’s misaligned so the timing goes off.”

The comment above indicates more enabling factors as well as a challenge that has appeared several times in other schools. In terms of enabling factors, the support of the HOD indicates the good rapport he has with the teachers, especially when the teacher states that: *“meetings are anytime, anywhere whenever you see the need for it. Formally twice a month.”* This would really assist in having a good relationship and foster meaningful professional conversations. In addition, other enabling factors include the use of reflective practice. From the response regarding reflections, it would appear that prior to the CPT, this teacher was already engaging in reflecting on lessons and now with the introduction of the CPT, it has catered for an easier platform to record the reflections. The teachers appears to be self-regulated and confident in their abilities and this is indicated by the following response: *“...use of the tracker is self-motivated, I’m the junior lead so it makes it easier to set worksheets and assessments. Besides the tracker not being aligned to the ATP, once it’s aligned I would prefer to use the tracker since it’s so comprehensive and it’s a good document to use.”* This comment indicates that a confident individual who also displays a good attitude towards teaching would be more open to change (Chatzistamatiou et al., 2014). However, one of the challenges that hinder the utilisation of the CPT completely is the misalignment of the topics between CPT and ATP in terms of time frame to be taught. The ATP is designed based on topics to be taught each term but sometimes the topics in the ATP change while the same change is not effected in the CPT. These issues were brought up in other schools as well such as Glen P5, Grout I3 and Stan I4.

In the discussion with the HOD, similar sentiments were shared regarding feelings towards the CPT and what was taking place with the CPT implementation. The responses were as follows: *“For a teacher that is young, or even the fellow that’s old, the tracker breaks down ATP further. It gives you detail on what to do for the day. The good part, I like it, thing is that it tracks not*

what you are doing but what the learner is completing in a period of time.... what irritates me is that we have the ATP that's coming from department...it should be merged as one document. Don't have to make a booklet kind of thing, but even if it is a booklet, it must give you in detail what is expected..."

The comment above is similar to that of the teacher who spoke of the comprehensive nature of the CPT. The suggestion is that it be merged as one document that can be used by all. In terms of challenges, the common problem of time is brought up (similar to Glen P5) as indicated below:

"Challenge is time in calling the teacher and doing the reflections, that the problem with time. Technically, you got the job you have to do it, if you have the time it's not an issue but with so many thousand things to do, discipline issues and serving relief. Getting down to it is a problem but otherwise I'm happy with the tracker. Just to modify it, the kids we have its time consuming. When we meet, we do it all one time, so the professional conversation happens there. I like the CPT.....but tracker doesn't take into account exam dates, disturbances, moderation. But we were told use your discretion and pick up the pace and catch time. Deep into examinations the tracker expects you to teach but that's unrealistic. You work with the pace of your class. When you fill the ATP, fill the tracker at the same time, if you do what is expected then you have no issues. It will take a long time to get used to initially but after some time it becomes second nature."

The comments above indicate some additional challenges which are from a management point of view. As a member of the SMT, the HOD basically regards time as of the essence and not to be wasted. As a result he endeavoured to ensure that when he did meet with teachers it was fruitful. Due to the contextual issues, challenges with discipline impact on covering the curriculum. However, it was clear that the contextual factors were not used as an excuse nor were they seen as the reasons why the work should not be done. The HOD pointed out ways to work around the contextual issues and it appeared that he was also self-regulated and self-motivated and that his attitude had cascaded to his teachers. The interviews with the teacher and HOD were conducted independently of each other and still the positive attitude and genuine like for the CPT was evident in both conversations. The HOD suggested that getting into new routines and developing the habit of making use of the ATP, together with the CPT, would seem difficult initially but once the habit and routine had been developed it should

become, as he said, second nature. With regards to workshops and delivery of the CPT, the following comments were made:

“Just in Time workshops were more content based where you had issues with sections but I’ve been to the tracker workshops. Sequencing of the tracker is not same as the ATP, but it requires the teacher to go to parts of the tracker from other terms and look for what was out of place. It’s an issue if the teacher is too lazy to look otherwise it’s all there, you just need to go back and look for it...Other issue was the delivery of the tracker. Well into the third term and the tracker only comes now, third term to me is as good as finished, honestly, we going to use just the ATP for now. Then we are told they will give us soft copies and we have paper issues, if each one is going to print a copy for each teacher, it’s costly.”

The comments above indicate the HOD’s involvement in workshops which are considered helpful, as per the discussion that took place with the teacher who also attended them. The issue of sequencing and content mismatch is reiterated. However, the HOD did not view the mismatch as a huge debilitating factor. His comments essentially would mean that if a teacher is truly serious about making use of the tracker they will endeavour to go and look back in the CPT for other terms and make a concerted effort to use it. Again, this would involve teachers to be self-regulated and conscientious in filling in the CPT. However, in saying that, there is the factor of not having the CPT delivered on time. Should the CPT arrive late, it does affect its utilisation as it is unrealistic to go back and refill for months at a time. Though a resolution was to send out electronic copies to schools, paper resources for duplicating these CPTs to teachers becomes a problem and a cost factor is incurred.

In response to being asked whether the HOD had any suggestions or additional comments on CPT, the HOD provided the following:

“Perhaps if we are given one concise document for the whole year at the beginning of the year. Anything new, some do not want to do it. But we use it, if it comes late the teachers must fill as of when it is made available. But for this term it would be futile. Tracker will help with curriculum coverage, in context of how much the learners have done. We are lucky we come to school on Saturdays so it helps with covering up if things were missed. If a teacher is not here for a long time, whoever is available we help out where we can.”

In the comment above, the issue about having a concise document was raised, as had been done previously. At the same time, mention was made of teachers being resistant to change. That

idea of being resistant to change upon encountering anything new had also been brought up and not “buying in” to the concept of *Jika iMfundo*, in secondary data presented in Chapter 5. It was not unique to any particular district or school and depended on the attitudes of teachers. In addition the HOD spoke of enabling factors that not only promoted the utilisation of the CPT, but factors enabling curriculum coverage. The CPT was used for its ability not to track what teachers do but rather to track what learners have done and that is pivotal to ensuring curriculum coverage. Furthermore, should an teacher be away for a long time, other teachers could assist and this collaborative practice ensure that learners do not lose out. Instruction classes on weekends are also a common practice to assist in the catch up of lost time. Jita and Mokhele (2014) agree that collaborative practice enhances professional practice.

At Mano I5, there were numerous enabling factors that contributed to the utilisation of the CPT as compared to those in other schools in the two districts. The enabling factors or driving forces far outweigh the restraining forces and as a result had changed the status quo to be in favour of accepting change (Lewin, 1947). The enabling factors include: the comprehensive nature of the CPT, the engagement in reflective practice, HOD support and monitoring, attendance of workshops and self-regulation. The factors that act as a restraining force or challenge that prevents full time usage of the CPT is that the CPT is not aligned to the ATP, time for monitoring and late delivery of the CPT is not taken into account and the printing to assist in such a case incurs expense.

6.4. Conclusion

This chapter looked at secondary data from 2017 and primary data from 2018 in which two main themes arose: that of enabling factors and challenges experienced in the utilisation of the CPT. It discussed secondary data taken from 2017 from two schools in Pinetown district and primary data from 2018 in both Pinetown and ILembe district. The aim was to explore the enabling factors and challenges that could explain the extent of CPT utilisation by teachers and to also explore the ownership of the PILO tools by looking at whether professional conversations were taking place and whether HODs were taking an active role in the monitoring of the curriculum. From the discussion that developed, there appears to be very poor utilisation of the CPT. With the exception of Mano I5, this is as a result of not having sufficient enabling factors or driving forces that can promote the utilisation of the CPT as an input device to promote change (Rogers, 2014). In some cases, the late delivery of the CPT meant that the inputs were not provided. If no inputs were provided, there were no activities

that could develop change. Compounding the problem was the number of restraining forces or challenges preventing the full encapsulation of what the CPT can offer. There are too many contextual issues that are preventing the utilisation of the CPT, ranging from school disruptions to learner attitudes and commitment. Thus far, findings from Chapter 5 and Chapter 6 indicate very bleak results, apart from the findings from Mano I5 which indicate very good utilisation of the CPT. However, this is just one part of the complete picture. The next chapter will investigate primary data collected in 2019 which will aid in finding out if any progress has been made.

CHAPTER 7

ANALYSIS AND DISCUSSION OF FINDINGS ON ENABLING FACTORS AND CHALLENGES DRAWN FROM PRIMARY DATA IN 2019

7.1. Introduction

The previous chapter looked at the discussion and analysis of secondary data collected in 2017 and primary data from 2018. The secondary data was from two schools in the Pinetown district while 2018 primary data was from both Pinetown district and I Lembe district. The discussion that took place was useful in painting a comprehensive view of where each school stood after sufficient time of having been exposed to the Curriculum Planner and Tracker (CPT). The discussion and analysis led to themes that can assist in answering the main research questions. This chapter will endeavour to accomplish the same goals by discussing and analysing primary data collected in 2019. In this chapter, primary data was collected from I Lembe district in the form of documents provided by HODs. These documents include report backs from meetings, charts developed to workshop teachers and modified monitoring tools developed as a result of Jika iMfundo tools. The primary data will be discussed and analysed using coding and thematic analysis. As discussed in Chapter 4, thematic analysis has been used to generate themes that emerged as a result of coding the data. Thematic analysis was used to synthesise the data presented from all six schools, looking at common threads and other commonalities that had emerged from secondary and primary data. These common threads will be presented and discussed in the next chapter to conclude findings. Prior to presenting and discussing these common threads, the next section provides a discussion on primary data.

7.2. Document Analysis – Primary Data 2019

In this section, the analysis of documents reveals the various factors that contributed to the utilisation of the CPT and the mitigating factors that prevented the utilisation of the CPT. After engaging with raw data and generation of themes, the discussion around the enabling factors and challenges associated with the utilisation of the CPT, as drawn from the documents, were elaborated.

7.2.1. Findings drawn from meetings held related to Jika iMfundo

The three HODs from the three schools, that is Grout I3, Stan I4 and Mano I5 attended meetings and workshops that related to Jika iMfundo at the beginning of the year and had to cascade the information gained to teachers in their respective schools. This meant that the “train the trainer” model is still considered the best way to cascade information to teachers about how to use the CPT and other curriculum tracking tools. Figures 7.1 shows the agenda of the report back meeting by an HOD at Grout I3.

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MEETING / WORKSHOP REGARDING:											
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2.	Reading Methodology										
3.	IsiZulu (FAL)										
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HANDOUTS GIVEN: YES / NO: YES											
IF YES: PLEASE PROVIDE DETAILS AND HAND TO DH/DP FOR RECORDING.											
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Fig. 7.1. Report back on first Jika iMfundo related meeting

Figure 7.1, indicates the agenda of a meeting held in ILembe district and the brief report back on what had transpired. One of the topics discussed in the agenda was the Jika iMfundo programme. The subject advisor for ILembe district conducted the meeting. It appeared that subject advisors in ILembe district had taken a keen interest in the Jika iMfundo CPT, unlike in the Pinetown district where it transpired that subject advisors promoted the use of the ATP instead of the CPT. It seemed that at ILembe district subject advisors were taking the initiative to empower HODs in understanding the relationship between the ATP and CPT. Such initiatives might address the challenges raised by teachers in which they viewed the ATP and CPT as contradicting documents. It is hoped that after those initiatives had taken place, teachers would view the CPT as being an extension of the ATP.

The above meeting took place on the 21st of February 2019 and the report back meeting by the HOD took place on the 25th of February 2019. The report back meeting was conducted timeously ensuring that there was no delay in disseminating the information to teachers. This timeous feedback seemed to be a challenge in the Pinetown district. This study does not aim to compare the two districts but rather to explore teachers and HOD utilisation of the CPT and other curriculum tools. During the interviews conducted in 2018 some of the challenges that emerged from secondary data collected from 2015-2017 in Pinetown seemed to also be experienced in ILembe district. However, the attitude of teachers and HODs towards the CPT from the two districts differ. Even though there are challenges, teachers and HODs in ILembe district seem to be willing to adopt the usage of the CPT as compared with teachers and HODs in the Pinetown district. Also those in authority, i.e. subject advisors in ILembe district seem to be encouraging the adoption of the CPT. As pointed by Graven (2016) the success of the intervention depends on the people expected to implement it. The findings from the two districts confirms the argument made by Graven (2016).

In a discussion with an HOD at Stan I4, it appeared that even unions support the utilisation of the CPT and signed a memorandum to allow HODs time to attend workshops and to conduct internal meetings with staff after attending workshops, as shown in figure 7.2. The HOD was given time off to attend the workshop conducted in April 2019.

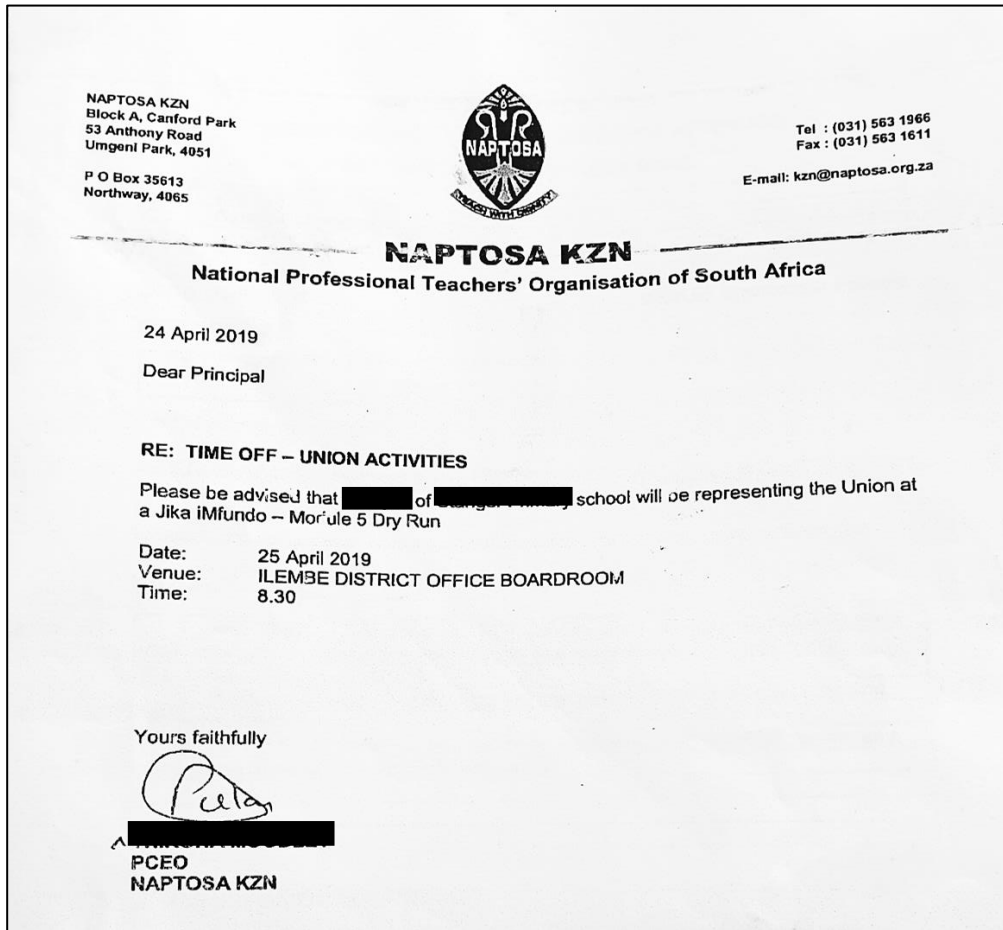


Fig. 7.2. Union acknowledgement giving time off for HOD to attend Jika iMfundo workshop

Figure 7.2 above indicates that teacher unions are taking an initiative to be a part of the Jika iMfundo programme and are supporting the conduction of the various workshops. NAPTOSA (National Professional Teachers' Organisation of South Africa) is a teacher union that, as indicated in the letter above, ensures that principals are made aware that the HOD needed to attend the Jika iMfundo Module 5 Dry Run workshop. The endorsement and support of these workshops by teacher unions could actually serve to be an enabling factor and aid in allowing for HODs to cascade the information, gained at these workshops, to the teachers at their respective schools. At the same time, it is imperative that HODs do share the information obtained at these workshops for it to have the desired impact. Figure 7.3 below shows the content of what was discussed in the workshop and the way forward for HODs and teachers.

[REDACTED] SCHOOL
 REPORT BACK OF MEETING / WORKSHOP ATTENDED
 MEETING / WORKSHOP REGARDING:

1. Jika iMfundo - Module 5

DATE: 25/04/2019

VENUE: District Office

ATTENDED BY:

1. [REDACTED]

MEETING / WORKSHOP CONDUCTED BY:

1. PILO

BRIEF REPORT BACK:

<p>Challenges expressed by SADTU, NATU and NAPTOSA.</p> <ul style="list-style-type: none"> • Too much duplication of paper work. • Time management. • Tracker – too many different aspects to cover within a week. • Allowance not made for slow learners – extra time to grasp concepts. • Shortage: Late delivery of materials. • Cascading of information from meeting by educators - vary in feedback.
<p>Programme to improve learning outcomes:</p> <p>Focus: Curriculum Management</p> <ul style="list-style-type: none"> • Jika iMfundo – CAPS driven / is not beyond CAPS. Unpacks CAPS. Jika tools (tracker) are not rules. • CAPS ATP – serve as tracker. Each school free to ADAPT them to suit your school before you ADOPT them. Don't compare with other schools. • Coverage: if this term is 11 weeks all aspects of syllabus must be covered according to weighting. Have catch-up programme for teacher absence / holidays.
<p>1 – 1 meeting:</p> <ul style="list-style-type: none"> • Educator and SMT – must be evidence based. • Minuted planned meeting
<p>Differentiation: Assessment Module 4</p> <ul style="list-style-type: none"> • Baseline assessment: lead to grouping of learners according to ability. • Formative assessment: monitor learners performance on a daily basis. • Summative assessment: end of term
<p>Differentiation:</p> <ul style="list-style-type: none"> • In common question paper must have: lower order questions (for slow learners - BB) • middle order – bulk of questions (for average learners – A) higher order for high flyers (AA) • Must have paper trail for underperforming learners

<p>Reflection:</p> <ul style="list-style-type: none"> • Focus on learner's work • Must be based on: Did the learner learn?. Educator can reflect in the tracker / lesson plan – no need for duplication • PILO- will visit school for grades 3 – 6 – check curriculum coverage in learners written work as well as tracker / ATP plus lesson plan. • If child don't understand / cannot grasp concepts, re-teach before moving on – make use of resources. • Good practices: learner performance start from foundation phase.

HANDOUTS GIVEN: YES / NO: NO

IF YES: PLEASE PROVIDE DETAILS AND HAND TO DH/DP FOR RECORDING.

DATE OF REPORT BACK MEETING: 30/04/2019

EDUCATOR/S SIGNATURE:

1. _____
 2. _____

SIGNATURE OF DH /DEP PR / PRINCIPAL: _____

DATE: _____

Fig. 7.3. Content of the workshop conducted by PILO on Jika iMfundo

As evident in Figure 7.3, the principal needed to sign as proof that they have seen the report of the workshop attended by the HOD. This meant that principals also needed to ensure that report backs do take place after the HOD attended the meeting, thus addressing the issue of accountability that Mkhwanazi et al. (2018) commented on. The challenges that had been raised by teachers in the secondary data seemed to have been noted by unions. What is evident in the report is that suggestions of a way forward are provided which can be considered as the driving forces or enabling factors to guide HODs and teachers in the utilisation of CPT. There is also an emphasis on evidence required of school based meetings to ensure that professional conversations with regard to utilisation of CPT and curriculum coverage is taking place. These initiatives might help in addressing the concern raised in secondary data where there was no evidence of meetings taking place. In cases where meetings were taking place, there was no evidence of a discussion around CPT usage and curriculum coverage. If such initiatives can be adopted in all districts, there is a possibility to alleviate the challenges experienced by teachers and HODs of lack of knowledge and time to conduct school based meetings.

7.2.2. Tools developed by HOD to promote professional conversation with teachers at Grout I3

At Grout I3, the HOD took the initiative to develop materials to be used in disseminating the information gained at the workshop. This initiative shows ownership from the HOD side to ensure that correct information is cascaded to teachers timeously. The four charts developed by the HOD are shown in Figure 7.4 to Figure 7.7.

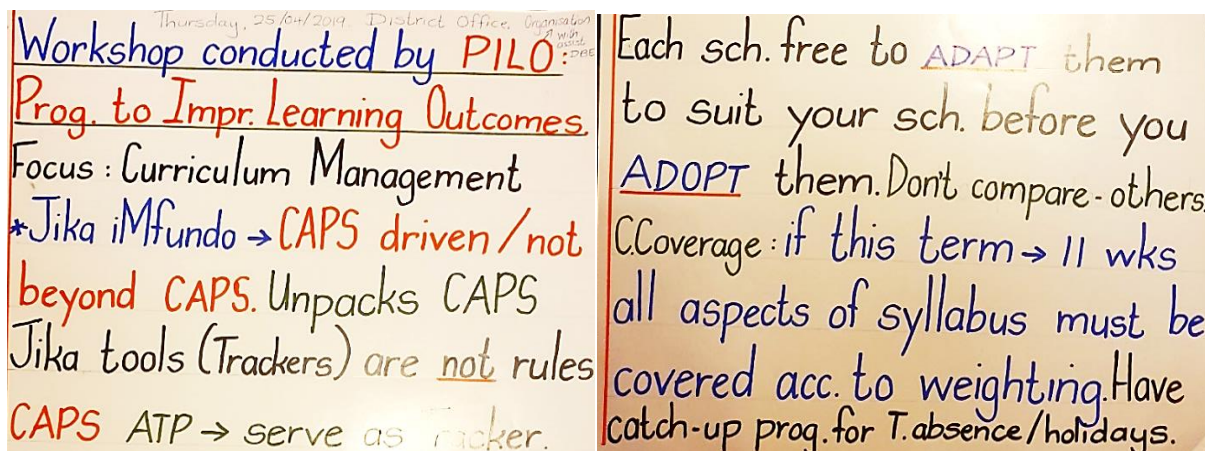


Fig. 7.4. Chart 1 outlining the focus of PILO in implementing the Jika iMfundo CPT

Chart 1 (Figure 7.4), outlines the focus of the workshop by PILO (Programme to Improve Learning Outcomes). The purpose behind the workshop was to drive the point that the primary goal of the CPT is to ensure curriculum coverage. The HOD that developed these charts, places emphasis on the fact that the CPT is meant to unpack CAPS and it is not there to stipulate to teachers what to do. It is not to be perceived as prescriptive but rather viewed as a tool to assist teachers in the tracking and monitoring of their coverage of the curriculum. This idea that the CPT is meant to unpack CAPS was also discussed in Chapter 1. It is clear that even in workshops this concept of unpacking the curriculum is there. Many of the challenges that arose from secondary data and primary data are due to contextual factors that teachers claim impede their utilisation of the CPT. However, in Chart 1, it was made clear that each school was free to adapt the CPT to their own unique school contexts before adopting them, whilst keeping the goal of ensuring curriculum coverage in mind. There are challenges which could be the restraining factors that inhibit change, as per the theoretical framework by Lewin (1947) used in this study. However, there are some driving forces which could upset the equilibrium and move towards establishing change that enable the use of the CPT. Furthermore, the theoretical framework of this study which combined the views on change by Lewin (1947) and Rogers (2014) could help to unpack some of the key suggestions in Chart 1.

The CPT is an input which according to Rogers (2014) are the tools provided to initiate change. Next are the activities that need to be engaged with in order to facilitate change. In this case, those activities would be the act of adapting the CPT in order to meet the contextual needs of the teachers and the school. Lastly, comes the outputs, which are as a result of the driving forces which would shift the current status quo leading to the adoption of the CPT. Suggestions made in Chart 1 that would serve to be those driving forces, as discussed by Lewin (1947) and in the context of this study, would be the enabling factor of having catch up programs to cater for loss of teaching time in the event of teacher absenteeism being a challenge. Promoting complete syllabus coverage would mean making complete use of the CPT, not leaving out vital syllabus content. Chart 1 depicts some enabling factors by means of teachers' actions to adapt the CPT and to take initiatives to have catch up programs. However, Chart 2 depicted in Figure 7.5 indicate the challenges that have been raised by various teacher unions.

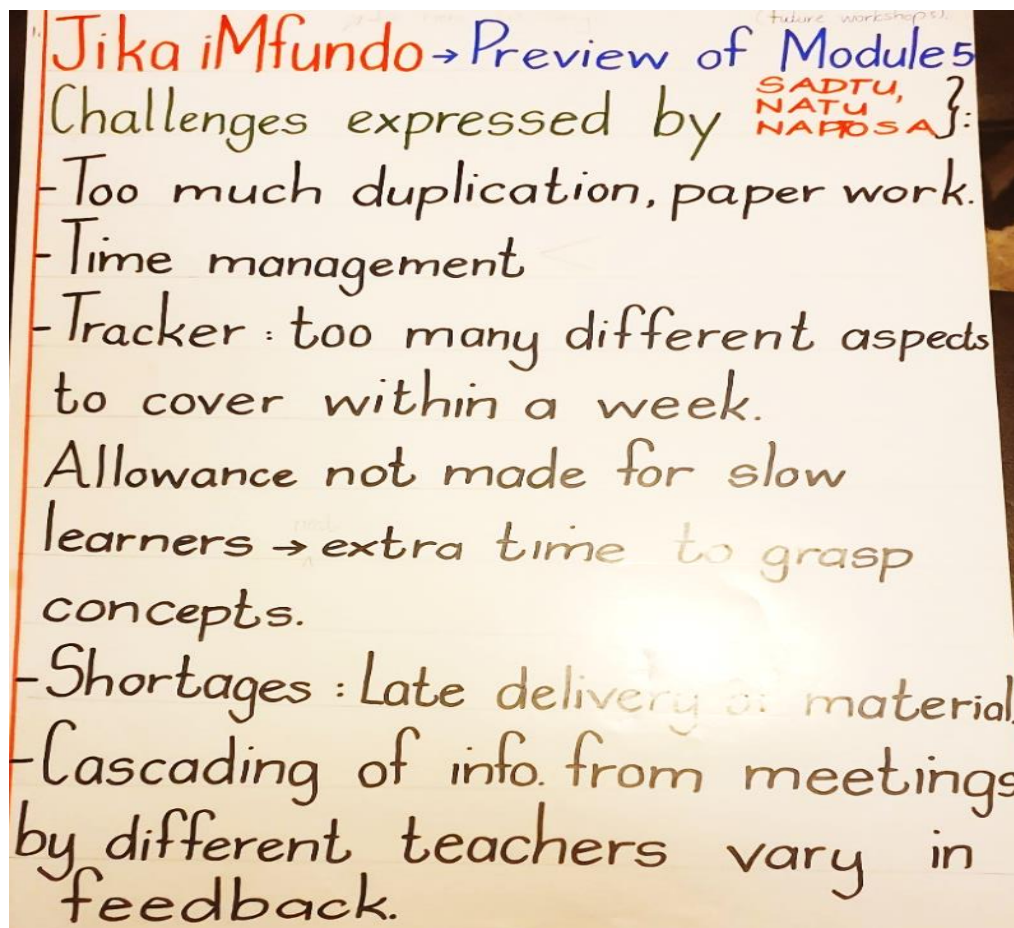


Fig. 7.5. Chart 2 depicts the challenges associated to CPT usage as expressed by various teacher unions

Chart 2, in Figure 7.5, outlines the various challenges being experienced in using the CPT. Those were challenges that were raised by various teacher unions such as SADTU (South African Democratic Teacher Union), NATU (National Teachers' Union) and NAPOSA (National Professional Teachers' Organisation of South Africa). Many of the challenges expressed in Chart 2 have been echoed in both secondary and primary data prior to 2019 from schools in both Pinetown and ILembe district. Duplication of paperwork and issues with time management were mentioned in multiple schools, especially in secondary data from schools in Pinetown district, namely Zuzu P1, Umta P2 and Glen P5. Other challenges as indicated in the chart above are that of the tracker being perceived as having too many different aspects covered within a week; this issue was reiterated by teachers in secondary data for all three schools in the Pinetown district and some schools at ILembe district during the interview in 2018. Many teachers, as indicated in secondary and primary data prior to 2019, prefer the use of the ATP over the CPT for this reason, stating that no allowance is made for slower learners or contextual issues within the school. However, from Chart 1, a way around this is to come to the realisation

that the CPT is not as prescriptive as this challenge makes it out to be. The CPT can be adapted to suit the needs of the school before it is adopted in practice.

Other challenges expressed by the various unions is that of shortages of the CPT or the untimely arrival of the CPT, as well as the poor cascading of information from meetings from those who had attended it. These challenges were also found to exist at Zuzu P1 and Umta P2. Issues with late arrival were also noted at schools in I Lembe district, namely Grout I3 and Mano I5 (in Chapter 6). At these schools it was noted that the CPT sometimes arrived late to the school and as a result the CPT could not be filled on time. At Glen P5, during the semi-structured interview the HOD and teacher also indicated that the late arrival and having to make copies of the CPT, due to having received an insufficient number of CPTs, is an immense challenge. At Umta P2, the teacher had not received direct training on the use of the CPT, instead the teacher had received knowledge on the CPT from the previous HOD. It was not clear whether or not the current HOD had received any training on the CPT and if any training had taken place, there appeared to have been no cascading of this information to other teachers.

These were challenges expressed by teachers in secondary and primary data within Chapter 5 and Chapter 6. Though the primary data presented here is within I Lembe district, the challenges that are encountered are prevalent in both districts used in this study. However, what transpired in the information presented in these workshops is that stakeholders involved, i.e. Department of Education and PILO working with HODs are findings ways to alleviate those challenges at I Lembe district. Such initiatives need to be cascaded to other districts, e.g. Pinetown district.

Lewin (1947) and Rogers (2014) principles of the theory of change point to such factors as the restraining forces that restrict the full utilisation of the innovation, in this case, the CPT. In the instances where the CPT was not delivered on time or were in short supply, these acted as lack of inputs, where according to Rogers (2014), the CPT will be seen as the input devices that would be used to enact change in ensuring curriculum coverage. If the inputs are made available then according to Lewin (1947) the driving forces or enabling factors would change the status quo to unfreeze current habits and refreeze habits towards change. Alternatively, in view of the many challenges or restraining forces, these would regress change and the status quo would be unaffected even though the input of the CPT is present. The lack of activities that would enable change would all cause the use of the CPT, for its intended purpose, to not take place at all. As a result the output expected, which is the enhancement of curriculum coverage through the use

of the CPT will not be effected. This is because the change is dependent on having the input (the CPT), maintaining activities (enabling factors) that would ensure unfreezing of old habits and refreezing of new habits, which would serve to eventually ensure that the CPT is utilised by teachers and that curriculum coverage takes place.

In the surveys and interviews, teachers showed resentment to doing reflection as they saw no value of it towards their teaching. However, based on literature, one of the significant elements of improving teaching and learning in education is for teachers to be reflective practitioners (Dewey, 1933b; Farrell & Ives, 2015; Schön, 1983). Çimer et al. (2013) state that reflection upon teaching practice will more likely enhance teacher professional growth and discipline knowledge. Furthermore, reflective practice will probably lead teachers to understand the pragmatics of classroom instruction. Evidently so, in Figure 7.6, it is emphasised. This will thus, push teachers to be reflective practitioners.

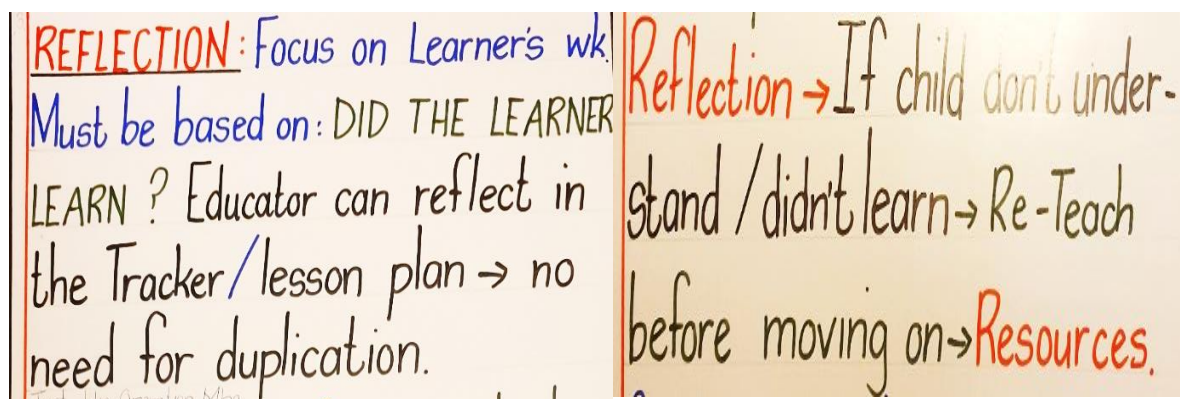


Fig. 7.6. Chart 3 indicates an emphasis on reflective practice

Chart 3 in Figure 7.6 places much emphasis on reflective practice and its importance in ensuring curriculum coverage, as well as its ability to enable CPT usage. Based on Figure 7.6 it appeared that reflection is a strong factor in enabling better usage of the CPT. In order to alleviate the challenge of duplication of paperwork, which was indicated in Figure 7.5, it is suggested that these reflections on learner progress and curriculum coverage take place in the tracker (CPT) or in the lesson plan. Contrary to beliefs indicated in secondary data and interviews from primary data, if lessons could not be conducted on time due to contextual factors, it does not mean that those lessons should be skipped. In addition, if learners are not at the same pace as what is indicated in the CPT, it is not necessary to go faster than the capability of the learners. Part of the reflections is knowing where learners are and the progress they have made, if learners have not understood and it is required to reteach, then it is up to the teacher's

discretion to decide how to restructure their time and to pace re-teaching concepts. Challenges from data presented in Chapter 5 and Chapter 6 indicate that teachers and HODs are under the impression that there was no time allocated for the re-teaching of concepts when there are slower learners; however, from suggestions made in Figure 7.6 it can be seen that it was not the case. The importance of reflecting can greatly assist in making the CPT work and from Figure 7.4, adapting the CPT before adoption is key to the success of the CPT. Figure 7.7 below offers other enabling factors that could assist as well as suggestions that could improve assessment and monitoring skills.

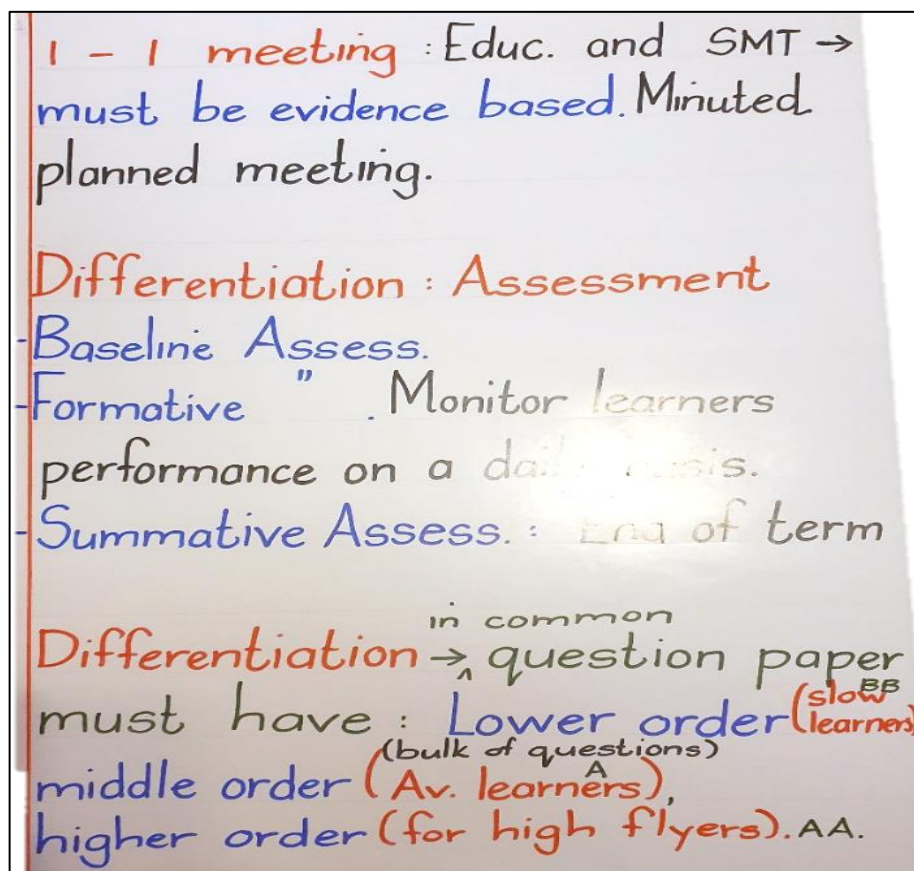


Fig. 7.7. Chart 4 discusses issues on meetings with teachers and differentiated assessment practices

Figure 7.7, poses an important enabling factor, which is one of having one-on-one meetings between teachers and the School Management Team (SMT). In this case, the relevant SMT personnel is the HOD. It is also important that there are minutes of these meetings being recorded and Jika iMfundo refers to those meetings as Professional Conversations. These meetings could be pivotal in ensuring the utilisation of the CPT for the following reasons: a) it

would allow for teachers to discuss problems faced and to receive support and monitoring from the HOD; b) it would allow for the HOD to build a strong rapport with the teachers in order to develop them; c) it allows for the development of Professional Learning Community (PLC) which supports collaboration between teachers and can strengthen pedagogical and knowledge skills and it would build confidence in the teachers (Steyn, 2013). Research suggests that collaboration between teachers and the formation of PLCs are proven to be of benefit in order to meet the growing challenges, social and economic needs of the country (Botha, 2012).

For the purposes of this study, the aspect of differentiated assessment as indicated in Figure 7.7 is beyond the scope of the study and will not be explored. Challenges that hindered change and prevented movement towards change were indicated in Chart 2 (Figure 7.5). The charts served the purpose of showing that the success of utilisation of the CPT rests upon the willingness to take ownership of the initiative despite the challenges and to embrace change in education for the benefit of the learners. Having evaluated the four charts presented in Figure 7.4 to 7.7, the following factors could enable the usage of the CPT: adaption of the CPT to suit the school context and not viewing the CPT as prescriptive and engaging in reflective practice and having collaborative meetings. These enabling factors, according to the framework adopted for this study, would see the input of the CPT together with these activities as being the driving forces that promote movement to change (Lewin, 1947; Rogers, 2014).

7.2.3. Tools developed by HOD to promote professional conversation with teachers at Mano I5

At Mano I5, the HOD produced documents showing that after attending the workshops material had been modified and adapted to suit the context of the school. Some are an extension of the concepts from the Jika iMfundo CPT and other PILO tools as shown in Figure 7.8 to 7.13.

CURRICULUM MANAGEMENT PLAN

CODE	ACTIVITY/KEY PRACTICE	DH	DP's	PRINCIPAL
LP	CHECK LESSON PLANS	2 X MTH	2 X MTH	1 X MTH
ATP/TR	CHECK ATP/TRACKERS	2 X MTH	2 X MTH	1 X MTH
LW	CHECK LEARNERS WORK	2 X TERM	2 X TERM	1 X TERM
ASS	POA	1 X MTH	1 X MTH	1 X TERM
	PRE MODERATION	1 X MTH	1 X MTH	1 X TERM
	POST MODERATION	1 X MTH	1 X MTH	1 X TERM
	MARKSHEETS	QUARTERLY	QUARTERLY	1 X TERM
	SAMS ENTRY	QUARTERLY	QUARTERLY	1 X TERM
DM	DEPARTMENTAL MEETINGS	2 X TERM		
SMT	SMT MEETING	MONTHLY	MONTHLY	MONTHLY
PC	CONVERSATIONS	2 X TERM	2 X TERM	2 X TERM
CV	CLASS VISIT	1 X TERM	1 X TERM	1 X TERM
SM	STAFF MEETING			1 X TERM
	SUBMISSION OF REPORTS TO DP :-			
	LESSON PLANS		2 X MTH	
	ATP/TRACKER		2 X MTH	
	ASSESSMENTS		1 X MTH	
	CONVERSATIONS		2 X TERM	

Fig. 7.8. Curriculum Management Plan developed by a HOD at Mano I5

CURRICULUM MANAGEMENT SCHEDULE

WEEK	TEACHERS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	RESCHEDULE

Fig. 7.9. Curriculum Management Schedule developed by a HOD at Mano I5

Figure 7.8 and Figure 7.9 were adapted based on the HOD tool for management of the curriculum that was referred to in Chapter 1. What can also be gathered when evaluating these two documents is that it is clear that this HOD had adapted the tools to suit the school context and then adopted its use. The concept of adaptation before adoption was raised in section 7.2.2. with Figure 7.4 (Chart 1). It is noted that one of the aspects evaluated in the curriculum management plan in Figure 7.8. is that of checking the ATP and CPT (referred to as tracker in Figure 7.8). This is evidence that the use of the CPT and its implementation is given recognition within this particular secondary school. Figure 7.9 is very similar to the HOD monitoring tool from Chapter 1 but has been refined to accommodate a rescheduled monitoring should the need arise in the event of disruptions or contextual factors that prevent monitoring on a set day.

Figure 7.10 depicts the class visit monitoring tool which was also an important aspect to guiding teachers and to allowing for teacher development. The concept of classroom visits originally stems from IQMS (Integrated Quality Management System). IQMS is discussed in the Literature Review in Chapter 2

██████████ SECONDARY SCHOOL
CLASS VISIT MONITORING TOOL

NAME OF EDUCATOR:			GRADE:		
SUBJECT:			DATE:		

Focus: Learners			Focus: Instruction			Focus : Learning Environment and Culture		
Aspects	Y	N	Aspects	Y	N	Aspects	Y	N
Note taking			Lesson plan available			Classroom neat and order		
Participation in guided practice			Adherence to ATP			Visual aid displayed		
Participation in discussion			Differentiated presentation			Classroom routines and procedures displayed		
Independently producing a product			Learner centred method			Positive behaviour enforced		
Writing activities			Guided practice and visual aids used			Time is used effectively and efficiently		
Discipline and orderliness			Assessing learning questions asked			Teacher circulates around the classroom		
In school uniform			Class activity available and covering cognitive levels			Respectful teacher and learner relationship		
Keeping class time			Lesson design , clear introduction, body and end			Learners share ideas comfortably		
Student engagement			Marking of classwork done in time			The teacher is in control		
Learners ask questions of clarity			Feedback learners given verbal feedback			Period register is used effectively		

What's working?	What needs work?	Agreed action to improve:

 Educator's Signature

 Departmental Head Signature

 Deputy Principal Signature

Fig. 7.10. Class Visit Monitoring Tool

For the purposes of this study, the class visit monitoring tool will not be discussed in detail, however, looking at what was working, what was not working and the agreed action to improve implies that there is reflective practice taking place and that there could be some professional conversations taking place in order to establish what needs to improve. Those tools that had been used by the HOD for IQMS purposes have been modified to accommodate discussion around curriculum coverage and utilisation of CPT. This would suggest that this HOD has found ways to align the documents and find synergy between them instead of doing duplicative work and be overburdened with duplicated administrative work.

The tools indicated in Figure 7.11a and 7.11b focused on monitoring learner written work by evaluating where teachers were in terms of the ATP or the CPT. It appears that the HOD views the ATP and CPT as being the same. The focus was also on checking the extent of curriculum coverage and allowed for discussions on what catch-up plans would need to be in place in order to ensure curriculum coverage.

[REDACTED] SECONDARY SCHOOL					
TOOL FOR MONITORING LEARNERS WRITTEN WORK					
NAME OF EDUCATOR					
GRADE					
SUBJECT					
DATE					
No. of periods/week		Hours	Total no Learners in grade	Target % for this year	
ATP/TRACKER			Lesson Preparation		
Ahead	On par	Behind	Available	Not available	
Topics / sections covered			Outstanding topics		
As per ATP			1		
Not as ATP			2		
			3		
% of Curriculum (if behind)					
How is lost time to be covered?					
Are the number of formal tasks in line with POA					
If not what is the catch – up plan?					
Signature Educator			Signature Departmental Head		
Signature - Deputy Principal					

Fig. 7.11a. Tool for Monitoring Learners' Written Work

[REDACTED] SECONDARY SCHOOL
TOOL FOR MONITORING LEARNERS WRITTEN WORK

NAME OF EDUCATOR			
GRADE			
SUBJECT			
DATE			

	NAMES OF LEARNERS SAMPLED	COMMENTS
1		
2		
3		
4		
5		

	ASPECT	YES	NO
1	Books are neat and covered		
2	Relevant details on cover		
3	Learner's work is dated		
4	Home work/classwork indicated		
5	Evidence of supervision by educator		
6	Content covered as per ATP		
7	Evidence of follow up		

What's working?

What needs work?

Agreed action to improve:

 Signature Educator

 Signature Departmental Head

 Signature - Deputy Principal

Fig. 7.11b. Tool for Monitoring Learners' Written Work

This was reminiscent of what was indicated in Figure 7.4 (Chart 1) in which another HOD had workshopped teachers on what took place at a PILO run workshop where one of the aspects that came up was to make up for time lost in the classroom. In addition some of the aspects in Figure 7.11b are similar to the August Survey 2016 questionnaire tool used by PILO to evaluate learners written work. Again there was evidence of reflective practice in which the HOD wanted to know what was working, what was not working and what actions would be taken to improve. Aligning the theoretical framework to these tools that have been developed as a result of the influence by PILO, the responses that would be gained from “*what’s working*” would result in obtaining the enabling factors or driving forces, “*what’s not working*” would assist in uncovering challenges and “*agreed actions to improve*” refer to both activities as per Rogers (2014) theory of change as well as driving forces or enabling factors described by Lewin (1947).

The monitoring of assessment tasks as indicated in Figure 7.12 was not a strong focus point for this study, however, it was influenced by PILO workshops, especially in what was discussed during the Jika iMfundo Module 5 Dry Run workshop indicated in Figure 7.3, under the sections that discussed assessments. Again reflective practice was strongly focused upon. Figure 7.13 focuses on professional conversations. This was an important enabling factor that promoted CPT utilisation. It allowed for teachers and HODs to converse about professional matters that enhanced or hindered their professional practice, which includes teacher usage of the CPT. This tool was developed in support of the suggestions made during the workshop as it was depicted in Figure 7.7 (Chart 4) in which one-on-one meetings were emphasised and the need to be appropriately recorded in minutes. This document produced in Figure 7.13, allowed for proper recording of those conversations and ensures that teachers' voices are heard. It allowed for collaborative efforts to be made to solve issues being faced and caters for growth in individuals.

██████████ SECONDARY SCHOOL
TOOL TO MONITOR EDUCATOR'S ASSESSMENT TASKS

NAME OF EDUCATOR			
GRADE			
SUBJECT			
DATE			

	ASPECT	YES	NO
1	Program of assessment		
2	Task/activity		
3	Memorandum/rubric		
4	Pre moderation		
5	Post moderation		
6	Statistical analysis		
7	Diagnostic analysis		
8	Corrective work		
9	Remedial work		
10	Learner portfolio		
11	Mark lists		
12	Recording to SAMS		

What's working?

What needs work?

Agreed action to improve:

Signature Educator

Signature Departmental Head

Signature - Deputy Principal

Fig. 7.12. Monitoring Tool for Teacher Assessment Tasks

[REDACTED] SECONDARY SCHOOL

CONVERSATIONS

NAME OF EDUCATOR	
GRADE	
SUBJECT	
DATE	

ASPECT	COMMENT
Daily Planner	
Availability Of Resources	
Report On Moderation	
Co-Curricular Activities	
Extra Curricular Activities	
Report Back On Workshops Attended	
Challenges	
General	

What's working?

What needs work?

Agreed action to improve:

 Signature Educator

 Signature Departmental Head

 Signature - Deputy Principal

Fig. 7.13. Document developed to record Professional Conversations

Based on the above findings, analysing HOD documents used, showed that these HODs have taken ownership of the tools and are working with teachers in their respective schools to ensure usage of the CPT for the purpose it is intended, not just for compliance as it was evident mainly in the secondary data. The attitude of the HOD at this school was not that of having more paperwork, rather it stemmed from the idea that thorough good management techniques desired change will be achieved which will influence teachers to work towards change. An enabling factor that can be gathered from this is that positive attitudes are a driving force that will enable change. These are in line with the claims by Bobis et al. (2016), where in Chapter 2 it was discussed, that self-efficacy promotes organisational skills and that confidence and positive attitudes allow for viewing change in a more positive light, where teachers are willing to reflect on areas for improvement.

7.3. Conclusion

This chapter presented findings drawn from the data obtained through analysing documents provided by HODs in three schools at ILembe district, regarding utilisation of CPT and other curriculum tools. The analysis of the data led to the enabling factors and challenges affecting the CPT utilisation by teachers. It was evident that the numerous tools developed by HODs were an indication that there were HODs who were taking the onus upon themselves to adapt tools and to take active roles in the monitoring of the curriculum. After analysing the data, it was evident that all the stakeholders were aware of the challenges hindering the utilisation of the CPT. Initiatives had been taken to minimise the challenges to promote enabling factors. An enabling factor, that was mostly evident from the analysed data, was that of positive beliefs and attitudes among the HODs and the willingness to take ownership of the utilisation of tools. After evaluating all the findings from Chapter 5, Chapter 6 and this chapter, synthesis of the themes generated will allow for conclusive findings as to the utilisation of the CPT, along with other aspects, that will serve to answer the research questions. These concluding findings will be presented in Chapter 8.

CHAPTER 8

CONCLUSION, RECOMMENDATIONS, LIMITATIONS OF THE STUDY AND IMPLICATIONS FOR FUTURE RESEARCH

8.1. Introduction

The previous chapter discussed the document analysis of primary data collected in 2019 and found the enabling factors and challenges that stemmed from interrogating this primary data. Data presented was collected from three HODs at ILembe district. This concluding chapter aims to synthesise the results from Chapter 5, Chapter 6 and Chapter 7. The content to be explored in this chapter include the conclusion made after analysis of secondary and primary data analysis, recommendations that could be of value to the relevant stakeholders, limitations of the study and lastly implications of this study for future research.

8.2. Discussion and Conclusion

The three objectives of this study were to uncover the following:

1. To what extent mathematics teachers have been using the curriculum planner and tracker.
 - To find out the challenges that hinder mathematics teachers from using the curriculum tracker.
 - To find out the enabling factors that enhance the use of the curriculum trackers by the mathematics teachers.
2. To explore the influence of the Curriculum Planner and Tracker in curriculum coverage.
3. To find out the extent to which mathematics teachers and HODs have taken ownership of the PILO activities.

Chapter 5 gathered results from a discussion on secondary data collected from 2015 to 2016 from three schools in the Pinetown district, Chapter 6 explored secondary data from 2017 from two schools in Pinetown district and primary data collected in 2018 from all six schools in this study from both Pinetown and ILembe districts. Lastly, primary data was collected in 2019 using documents provided by HODs. In interrogating the analysis of these three chapters, common threads were found. These commonalities that emerged from the three chapters could provide a clear picture on the conclusions that answered the research questions.

8.2.1. Enabling Factors associated with the utilisation of the Curriculum Planner and Tracker (CPT)

The theoretical framework adopted in this study, as discussed in Chapter 3, used an integrated change theory which is a hybrid resulting from the modification of the works of Lewin (1947) and Rogers (2014). The pipeline model, proposed by Rogers (2014) that had been adapted for use in this study, viewed the CPT as the input device for enacting change, the activities are those actions engaged in by teachers and HODs that corresponded to either becoming driving forces or restraining forces that affected change. The concept of driving forces and restraining forces are formulated by the works of Lewin (1947) in Field Theory. The driving forces corresponded to the enabling factors that are those factors which allowed teachers to utilise the CPT, while the restraining forces corresponded to the challenges that prevented the utilisation or usage of the CPT. It is those forces or factors that resulted in the unfreezing of current behaviours, allowed movement to change and then resulted in refreezing towards a newly established equilibrium which ensured that change is maintained. This 3-Step-Model, of unfreezing, movement to change and refreezing, was designed by Lewin (1947) and aimed to change the status quo of current habits towards new habits that become the new normal. Using this hybrid theory of change from Lewin (1947) and Rogers (2014), the output as a result of all inputs was the change that took place, the outcome was the refreezing into the current status quo and lastly the impact would be whether or not the input (the CPT) had been effective or not in accomplishing its purpose.

In analysing secondary and primary data, there were some enabling factors which fostered the utilisation of the CPT. Informed from data in Chapter 5 and Chapter 6, Zuzu P1, which is a Quintile 1 school, initially had no usage of the CPT. However, in secondary data from 2017 (IR 2017) there appeared to be some usage of the CPT in which the enabling factor for utilisation lay in the use of the CPT as a guide and being useful with providing activities. In primary data for 2018, it appeared that that was no longer the case and as of 2018 there was no utilisation of the CPT for various reasons which is explored in the challenges. At Umta P2, a Quintile 2 school, both secondary and primary data within Chapter 5 and Chapter 6 indicated poor usage of the CPT. There were no enabling factors although it was alluded to that there was some usage of the CPT. However, there was no evidence through documentation that this really was the case, therefore the claims could not be verified. It was merely self-reporting. Glen P5, a Quintile 5 school, indicated better usage of the CPT. The enabling factors, from secondary data in Chapter 5, that catered for this were the professional conversations guided

by the HOD and Team Teaching where teachers worked together to complete the curriculum. Primary data for Glen P5 indicated further enabling factors in which the CPT provided a breakdown of the activities to use and supported a wide range of textbooks or LTSMs. The factors were drawn from both teachers and HOD.

Chapter 6 presented primary data for both Pinetown district and ILembe district. For ILembe district, Stan I4, a Quintile 4 school, indicated a similar enabling factor to that mentioned by Glen P5 in which the CPT caters for a many LTSMs. However, there were no further enabling factors. Grout I3, a Quintile 3 school, indicated no enabling factors and hence no usage of the CPT. The most positive response came from Mano I5, a Quintile 5 school, in which the enabling factors were drawn from primary data in 2018 and 2019, within Chapter 6 and Chapter 7. The enabling factors were: a) the comprehensive nature of the CPT, b) the incorporation of reflections, c) workshops to train teachers and HODs on the CPT and lastly, d) the self-regulation and motivation of the teacher to use the CPT. Data collected in 2019 from HODs at ILembe district raised a number of enabling factors that could ensure the adoption of CPT. The data showed collaboration between all the stakeholders, i.e. unions, subject advisors as representatives of Department of Education, PILO and HODs. These findings showed that at ILembe district all stakeholders attempted to work together to ensure that the implementation of the CPT is successful. This collaboration of stakeholders was also suggested by Mkhwanazi et al. (2018) in order for the CPT to be fully utilised.

Furthermore, there was evidence that HODs had taken ownership of the utilisation of tools and were ensuring that teachers were well capacitated to use the CPT for the purposes it was intended i.e. curriculum coverage. This was evident through a) timeous feedback given to teachers after HOD attended workshops, b) adapting and modification of material to suit the context of the school as it was shown in the material developed by HOD at Grout I3 and Mano I5. Moreover, in the workshop conducted, challenges were not ignored but were used as a driving force to enable change.

8.2.2 Challenges associated with the utilisation of the Curriculum Planner and Tracker (CPT)

The restraining forces or challenges that prevented the complete utilisation of the CPT were common in most of the schools. Secondary and primary data presented in Chapter 5, Chapter 6 and Chapter 7 indicate common challenges experienced by all six schools that participated

in the study in varying degrees. All participants raised challenges associated with contextual issues faced in schools, such as disruptions due to internal systems for which teachers and HODs state the CPT did not cater for. Since teachers felt in the design of CPT the realities of the schools were not taken into account and therefore, felt that the pacing of the CPT became unrealistic. This was due to the belief that the CPT is prescriptive and does not cater to an individual's needs. Other challenges are issues such as language barriers, class sizes, high absenteeism of both learners and teachers, poor learner attitude and commitment which results in having to reteach content and then be at risk of lagging behind. Zuzu P1 and Umta P2 experienced problems with being exposed to very limited training, especially in cases where there had been a change of teachers. As a result, the teachers and HOD had poor knowledge on making use of the CPT. The lack of training in the use of the CPT resulted in negative attitudes towards change. Secondly, the lack of knowledge resulted in teachers failing to see the synergy between CPT and the Annual Teaching Plan (ATP). They instead viewed them as competitive tools where they needed to choose one over the other. Furthermore, teachers found that the CPT duplicated exercises and added additional administrative work. As a result there was a general feeling towards ignoring the CPT altogether and to continue with the ATP. This was evident in some comments such as: *Let them take it away and keep the ATP. This tracker is too much and we are no longer using it.*"

Another challenge expressed by both teachers and HODs was that of poor reflective practice in which reflections are not completed, either due to time or the feeling of being critiqued. At many schools, such as Glen P5, Grout I3 and Mano I5, the late delivery or insufficient copies of the CPT seemed to be the challenge that prevented CPT utilisation. Teachers echoed that the late delivery of CPT means that in the middle of the term, one needed to go back and check how the content was supposed to be sequenced when delivering the lesson when they had already covered those topics. This led to them ignoring it altogether. The insufficient copies seemed to encroach on the funds of the school since it meant that the school needed to incur costs of making additional copies for teachers. Electronic copies were a problem since some teachers or schools did not have relevant resources to use them. Generally, the findings revealed a lack of synergy between the ATP and the CPT. This resulted in most schools preferring to make use of the ATP alone. Mkhwanazi et al. (2018) also echoed these findings about lack of synergy.

8.2.3. Curriculum Planner and Tracker (CPT) Influences on Curriculum Coverage

Due to the many challenges that outweigh the enabling factors, the CPT is not viewed as having an immense impact or influence on curriculum coverage. In most of the schools, apart from Mano I5, there were comments raised about the impact of CPT towards curriculum coverage. Although schools did not attribute this to CPT, data from Umta P2, Grout I3 and Mano I5, revealed that they did have additional classes for learners which played a large role in ensuring curriculum coverage. At Mano I5, teachers are self-regulated and saw value in the CPT. They enjoyed the comprehensive nature of the CPT over the broad topics presented in the ATP.

8.2.4. Teacher and HOD Ownership of the PILO Activities

After looking at secondary data and primary data, it appears that the teachers and HOD in the Ilembe districts are gradually taking up the ownership of the PILO tools and have shown the greatest interest in making use of the CPT, as it was mostly depicted in Chapter 7. This contrasts with schools in Pinetown district where only Glen P5 showed usage even though it seemed as though it was for compliance purposes rather than embracing the change. HODs in Ilembe district took ownership of the PILO activities by ensuring that report backs from meetings took place. They conducted workshops with their teachers on what the CPT is about, the challenges and strategies to address the challenges. These HODs also made use of the influence of the CPT and monitoring tools to develop modified tools that suited the context of their school. This is an indication of self-regulation and motivation that enabled an HOD or teacher to make use of the PILO activities.

8.3. Recommendations

Due to the many challenges encountered at the various schools, some recommendations can be offered to assist in countering these challenges. Drawing from secondary and primary data, one of the largest challenges is the poor knowledge on the usage of the CPT, which is often due to change of teachers or HODs. A recommendation is to engage in continuous teacher and HOD development regarding this issue. Ensuring that workshops take place regularly (on a termly basis) could contribute to better utilisation of the CPT, not only with HODs but also with the teachers for whom programmes such as the Jika iMfundo CPT is meant. Schools that are unable to work well with the CPT should collaborate with schools that are making good use of the CPT. The collaboration of teachers allows for the sharing of skills, knowledge and expertise and can strengthen practices of all teachers involved. This collaboration between teachers can

build Professional Learning Communities (PLCs) that can better the functioning of school systems. All these claims are supported in literature by scholars such as Botha (2012), Jita and Mokhele (2014) and Guðný (2014). Collaborative efforts can assist not only in providing teachers with the requisite expertise but also in eliminating or reducing the backlogs in curriculum coverage, as evidenced in schools such as Glen P5 and Mano I5. Greater support with contextual issues and regular monitoring by HODs should take place at lower Quintile schools, especially since they lack resources.

The data analysis from this study indicates the poorest utilisation of the CPT at lower Quintile schools. One of the beliefs and attitudes surrounding the teaching of mathematics is that as a mathematics teacher you should know it all. The reality is that a teacher is also a lifelong learner. Teachers should always be engaging with others, engaging is personal reflection and making efforts to conduct research that could strengthen their skills (Cordingley, 2015). There is a sense that as a mathematics teacher, it is beneath you to ask for help or to collaborate with others. Yet teaching as a team and working together is proven to strengthen the whole body of teachers. No human being is perfect and likewise no mathematics teacher is perfect either. Working together in a collaborative environment and developing PLCs enables teachers to bridge the gap in learners by working on strengthening their weaknesses and sharing their expertise with other colleagues.

Other challenges included the late delivery of the CPT, having to work with electronic CPTs and lack of synergy between the CPT and ATP. Issues with late arrival of the CPT and other tools that are sent to schools, on a term by term basis, could be circumvented by having one complete comprehensive document that can be carried through for the whole year. These documents should be sent to schools well in advance, at the beginning of the first term or alternatively, at the end of the previous school year. In this way it would be less cumbersome for teachers and HODs to be scrambling around looking through multiple documentation. The compiling of the CPT should be in conjunction with the needs of the ATP as recent changes in the ATP are not being implemented in the CPT. There appears to be an inconsistency between information in the ATP and information in the CPT, leaving teachers confused as to which one to follow. When the CPT is being finalized, the ATP should be incorporated so that only one concise document is to be used. Doing this would prevent the unnecessary duplication of having to fill both the ATP and CPT which results in frustration. Another challenge encountered was having the CPT in an electronic form, PILO needs to take cognisance of the

fact that schools that are poorly resourced cannot afford to be printing out CPT material and other tools provided within the Jika iMfundo programme. Perhaps revisiting the CPT design and condensing the material to take the least number of pages would be of assistance, if individual copies for each teacher is not available.

Lastly, the development of teachers in a way that enables them to give of their time to the service of others is recommended. Schools such as Umta P2, Grout I3 and Mano I5 have teachers who come earlier, stay later or come on weekends or holidays in order to ensure that the work gets done and that learners are provided with ample opportunities to learn. Developing teachers who are selfless, self-regulated, motivated and confident will build good classroom practice and in turn succeed in fulfilling the aim of the Jika iMfundo CPT, by ensuring curriculum coverage, irrespective of the challenges they may face.

8.4. Limitations of the Study

The implementation of the CPT has now been extended to six districts of the twelve districts in the province of Kwa-Zulu Natal, therefore by conducting research in only two districts, provides information on a small scale. Furthermore, only three schools were chosen in each district, while each district has hundreds of schools. Although the aim of this study was to generalise, however, using a larger number of districts or schools would have provided a better understanding around the utilisation of the CPT. However, with such limitations being acknowledged, it does not mean the findings are insignificant. On the contrary, the findings can clearly depict a picture of the varying degree of the utilisation of the CPT, from different schools. Furthermore, the findings revealed that regardless of the context of the schools, there are common challenges that exist which hinder the utilisation and those that enable the utilisation of the CPT.

8.5. Implications for Future Research

This study could pave the way towards readdressing the way future researchers and policy makers look at designing the curriculum for the South African context and aid in curriculum reform. Taking cognisance of the findings that have resulted from this study, professional development organisations, Department of Basic Education and other stakeholders can look into the issues faced by teachers in the classroom by considering the varying school contexts and challenges that exist, before designing programmes that intend to assist teachers. Many changes in the education sector take place without teacher input according to Smit (2001). A

recommendation is to involve teachers in issues that pertain to them and to give teachers a voice in matters that affect them. This study could benefit other research initiatives (studies) that also addresses issues pertaining to gaps in teacher knowledge, confidence and beliefs about the teaching of mathematics. Programmes to develop teachers should be aimed at assisting novice teachers and those new to the teaching profession. Many seasoned teachers find professional development content training to be a waste of their time and seasoned teachers should be treated the same way as high flying learners are treated, in that they be engaged in tasks and activities that are meaningful to them. It is the newly qualified teacher that requires intense training and workshops to harness their skills. As mentioned in the limitations and based on the findings, there is a need for a large scale study, possibly through surveys, to explore the utilisation of the CPT to a larger extent.

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APPENDICES

Appendix A – Ethical Clearance Letter



26 July 2018

Ms Yeshvira Brijlall 211502418
School of Education
Education Campus

Dear Ms Brijlall

Protocol Reference Number : HSS/0756/018M (Linked to HSS/0256/017)

Project title: Exploring Grade 9 Mathematics teachers' usage of the curriculum planner and tracker in secondary schools in the iLembe and Pinetown districts

Full Approval – Expedited Application

In response to your application received 21 June 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shamila Naidoo (Deputy Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Dr Zanele Ndlovu
cc Academic Leader Research: Dr SB Khoza
cc School Administrators: Ms Tyzer Khumalo

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Website: www.ukzn.ac.za



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

Appendix B – Sample Gatekeeper Letter

Application to do a Research in one of the Schools

To: The Principal

Name of School: Stanger Manor Secondary School

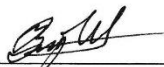
Year: 2018

Research Project:

Yeshvira Brijlall (First year Masters Student) is conducting a study through the **School of Education, Mathematics Education at the University of KwaZulu-Natal** under the supervision of **Dr Zanele Ndlovu**. Proposed research looks at Secondary School Mathematics teachers' usage of the curriculum planner and tracker (Jika iMfundo) in two districts namely Pinetown and Ilembe. In particular, the study looks at the extent to which teachers and HODs are utilising these tools by Jika iMfundo.

Teachers and HODs are requested to assist in this research project. However, participation is completely voluntary. Participants will be requested to take part in the interview and also in answering the questionnaire. During the interview, participants will be audio recorded (for analysis purpose). The identities of the participants will be kept strictly confidential (fictitious names will be used), even the name of the school will not be disclosed. All data will be stored in a secure password protected server where authentication will be required to access such data.

Participants may revoke from the study at any time by advising the researcher of this intention. Participants may review and comment on any parts of the dissertation that represents this research before publication.



(Researcher's Signature)

7/05/2018

(Date)

DECLARATION

I, T.M. GONDEN (NAME and SIGNATURE)

Principal on this day of 11th month MAY 2018, hereby grant permission to the researcher to go ahead with the research in the above-mentioned School following the terms of reference noted in this request letter.

SCHOOL STAMP:



Appendix C – Sample Participant Consent Letter



INFORMED CONSENT LETTER TO PARTICIPANTS.

Research Project: **Exploring Grade 9 Mathematics teachers' usage of the curriculum planner and tracker in secondary schools in Pinetown and Ilembe districts.**

My name is Miss Yeshvira Brijall. I am a Masters student in the School of Education at the University of KwaZulu–Natal in the discipline of Mathematics Education.

I am interested in exploring mathematics teachers' usage of the curriculum planner and tracker in secondary schools in the Pinetown and Ilembe districts. To gather information, I am interested in asking you some questions.

Please note that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
- The interview may last for about 30 minutes and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Data will be stored in secure storage and destroyed after 5 years.
- You have a choice to participate, not participate or stop participating in the research. You will not be penalized for taking such an action.
- The research aims at knowing the challenges and enabling factors that affect you and the teaching mathematics community in using the curriculum tracker and planner in secondary schools in your district.
- Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Willing	Not willing
Audio equipment	✓	
Photographic equipment		✗
Video equipment		✗

I can be contacted at:

E-mail: yeshvira@gmail.com

Landline: 032 551 2023

Work: 032 943 3082

Cell: 079 7729 118

My supervisor is Dr. Zanele Ndlovu who is a lecturer at the School of Education, Edgewood campus of the University of KwaZulu-Natal.

She can be contacted at:

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Thank you for your contribution to this research.

DECLARATION

I, L. NAIDOO..... (full names
of participant) hereby confirm that I understand the contents of this document and the nature
of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT


.....

DATE

14/05/2018.....

Appendix D – Semi-Structured Interview 2018

INTERVIEW SCHEDULE (Semi-Structured)

Semi-Structured Interview and therefore it may not strictly abide by these questions alone.

Confirmation of Responses to SR, 2015 / Getting New Data on 2015

School Review 2015 (SR, 2015)

Your school **was** / **was not** amongst those reviewed in 2015. In light of this, kindly elaborate on the following since you participated in Jika iMfundo with Grade 8 and 9 mathematics.

1. JIT Workshops

1.1 How many JIT Workshops have you or other mathematics teachers participated in regarding the usage of the curriculum tracker since 2016?

1.2 How have these workshops assisted you in planning your teaching and preparing your daily lessons?

2. Tracker Usage and Enabling Factors

Tracker Usage at Senior Phase in 2015

2.1 What is the purpose of the tracker in your own understanding?

2.2 To what extent were trackers used by maths teachers in Grades 8 and 9 in 2015?

	To	Some	Very little	Not at all
All the time	Extent			

2.3 Explain reasons for your answer above in view of the intervention project having been running in KZN from 2015 and given the various JIT Workshops.

2.4 If you were using the tracker all the time, then provide enabling factors that motivated you to use the tracker all the time.

3. Challenges

3.1 What challenges (*if any*) are you experiencing with using the curriculum tracker?

Provide evidence as much as possible to substantiate your response.

3.2 How did you address those challenges

3.3 In what way is the tracker different or similar to the Annual Teaching Plan (ATP) that you have been using in the past? Provide evidence to support your response.

3.4 What are your comments on the pacing of work and the activities in the tracker?

3.5 How is the pacing affecting curriculum mastery by learners?

3.6 Do you have any suggestions on modifying the tracker to address your challenges while improving your ability to cover the curriculum as stipulated in CAPS?

4. Curriculum Coverage

4.1 How has the usage of the tracker influenced curriculum coverage in mathematics? For evidence of this use the 2016 Term 2 tracker versus the 2017 Term 2 tracker to validate the response and check any relationship.

4.2 Do you have any suggestions on modifying the tracker to address your challenges while improving your ability to cover the curriculum as stipulated in CAPS?

5. PILO Activities

5.1 What activities have you adopted from PILO to incorporate in your teaching that you were not using before and why?

5.2 What is your opinion on using the PILO instruments to other non-Jika iMfundo subjects or have any of your colleagues revised and adapted the PILO instruments in other subjects?

6. Ownership of PILO tools

6.1 To what extent are the HOD using the PILO tools to either track the curriculum or to have professional conversations with teachers?

All the time	To Extent	Some	Very little	Not at all

6.2 Explain reasons for your answer above in view of the intervention project having been running in KZN from 2015 and given the various JIT Workshops.

6.3 How have these tools assisted in promoting professional relationships in the mathematics department?

6.4 Is there anything else you want to say about anything that is changing because of Jika iMfundo, and where you need more support from Jika iMfundo?

Self-Evaluation 2016 (SE, 2016)

In the Self-Evaluation Survey for 2016, the school classified itself as On the question related to the usage of the tracker routinely.

1. Was this classification accurate in as far as mathematics was concerned?

Yes	No

2. Is it possible to use the 2017/2018 Term 1 Grade 8/9 Mathematics Tracker to corroborate this?

3. If not possible then what can you provide as evidence for the continued usage of the tracker in 2017 by mathematics teachers?

4. Is there any assistance or support that you received from PILO regarding the usage of the PILO tools and the training that you missed out on in 2015?

5. If **yes**, then what type of support was given and when?

6. If **no**, what support would you like to have from PILO or the district?

7. How often do you meet with your HoD to discuss curriculum coverage and deliberate on learning and teaching matters?

8. Are these meeting scheduled in advance or ad hoc?

August Survey 2016 (AS, 2016)

In light of the data in the August Survey of 2016, is it possible for you to reflect on the work for Term 2 in 2018 as a way of checking curriculum coverage in grade 9.

1. LTSM's

1.1 Did you give your learners materials from other LTSMs, or those that you made your self instead of the activities in the tracker?

Yes	No

1.2 If yes – how often did they use such resources?

Once a week	Twice week,	Several times a	In all lessons
		week	

2. Tracker Usage

	Up to date for 8 weeks	Up to date for 6 – 7 weeks	Up to date for 4-5 weeks	Up to date for less than 4 weeks	Tracker not filled in at all
To what extent was the tracker used in Term 2 2017?					
Make Comments to substantiate the response above:					

3. Activities Covered

	100% exercises done	75% - 99% learner exercises done	50% - 74% learner exercises completed	25% - 49% learner exercises completed	Less than 25% learner exercises completed
To what extent have learner exercises from the tracker been completed in Term 2 2017? <i>(Provide an estimation that can be verified later)</i>					
Comments:					

4.1. Curriculum Coverage

	100%	75% - 99%	50% - 74%	25% - 49%	Less than 25%
a) How much of the curriculum of 2017 do you think you have covered?					
b) What are the 3 biggest challenges you have faced this year in getting through the curriculum?					
c) Has the tracker helped you plan and monitor your coverage of the curriculum? Please explain your answer.					

4.2 Is there a Curriculum Supervision Plan used in your department to monitor curriculum coverage?

4.3 How often do you meet with your HoD to discuss your teaching, assessment and other challenges in the program?

4.4 Do you reflect on your lesson successes and failures? And if yes, how is this information helpful in planning future lessons?

5. Learner book Analysis

This will be done **before** the interview to confirm how much curriculum has been covered in Term 2 of 2018 as a means of checking the influence of sustained use of the tracker on curriculum coverage.

School Review 2016 (SR, 2016)

1. For the Senior Phase Mathematics Teacher

1.1 Did you manage to complete grade 8/9 mathematics curriculum as stipulated by CAPS in 2016?

1.2 If yes, then what can you provide us with supporting evidence to verify this?

1.3 If no, can you provide reasons that compelled you not to complete CAPS?

1.4 In your assessment, have you covered more mathematics CAPS than in previous years?

Appendix E – Letter from Editor

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Declaration of Editing of Master's Dissertation : Exploring Grade9 Mathematics teachers' usage of the Curriculum Planner and Tracker in Ilembe and Pinetown districts.

I hereby declare that I carried out language editing of the above by Yeshvira Brijlall, student number 211502418.

I am a professional writer and editor with many years of experience. I specialise in Social Sciences and Humanities ' editing – but am adept at editing in many different subject areas.

Yours sincerely



Carolyn Turnbull-Jackson (D.Ed)

September 2019

Appendix F –Turn-it-in Report

9/13/2019

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