

An investigation into the promotion of productive learning
dispositions in government policies and teacher assessment
in Grade R and Grade 1

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DECLARATION

I declare that this Research Project represents my original work. It is being submitted for the degree of Master of Mathematics Education at Rhodes University, Grahamstown. It has not been submitted for any degree or examination at any other university.

Signature of candidate

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DEDICATION

This work is dedicated to my family. My husband Fred, who has stood by me throughout this process, showing an unfailing faith in my ability to undertake this project, even before the commitment was made to do so. To my boys, Jude and Dylan, who keep my spirits buoyed with their insatiable enthusiasm and energy for all the things in their lives, and who inspire me to understand more about the fascinating world of learning, and 'learning to learn'. And to Eli – thank you for keeping me motivated!

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LIST OF ACRONYMS

ANAs:	Annual National Assessments
CAPS:	Curriculum and Assessment Policy Statements
DBE:	Department of Basic Education
ECD:	Early Childhood Development
FET:	Further Education and Training
FP:	Foundation Phase
GIZ:	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Federal Enterprise for International Cooperation)
NCS:	National Curriculum Statements
NEEDU:	National Education Evaluation and Development Unit
NICLE:	Numeracy Inquiry Community of Leader Educators
OBE:	Outcomes Based Education
OECD:	Organisation for Economic Co-operation and Development
PISA:	Program for International Student Assessment
RNCS:	Revised National Curriculum Statements
SANC:	South African Numeracy Chair
TIMMS:	Trends in International Mathematics and Science Study
UNICEF:	United Nations Children's Fund

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ABSTRACT

The impetus for this study came from the increasing acknowledgement of learning dispositions as a central, yet largely underexplored area of numeracy learning, in both international education literature and in the current work conducted by the South African Numeracy Chair, based at Rhodes University. This coupled with my own personal interest in the crucial transitional phase between Grade R (the year before formal schooling) and Grade 1 and the role of developing progressively strengthened learning dispositions, particularly in relation to numeracy learning, to enable this transition. This, together with the lack of research around what constitutes a quality Grade R programme, especially in South Africa, inspired an investigation into the promotion of key productive learning dispositions within current government policy and in teacher assessment practices across Grade R and Grade 1 in six local schools.

I designed a qualitative research study underpinned by a socio-cultural theoretical perspective that foregrounds learning. Within this broad theoretical perspective I drew on two key analytic frameworks that cohere with this socio cultural view that prioritises learning dispositions (ways of being, habits of mind). In particular the work of Kilpatrick et al. (2001) and Carr & Claxton (2010), in defining essential elements of key productive learning dispositions, were combined to enable the development of an indicator matrix used for the analysis of current government policy and teacher assessment practices in the Grade R and Grade 1. Additionally empirical data from the study enabled extension and adaptation of the indicator matrix derived from key literature.

The research contributes an analysis of various curriculum and policy documents across Grade R and 1 in terms of the inclusion and promotion of learning dispositions. The presences of certain promoted dispositions are compared with international literature and frameworks and certain absences or under represented dispositions are noted. The empirical data derived from Gr R and Gr 1 teacher questionnaires and exemplar reports across 6 schools are analysed and related back to policy. Similarities and differences across teachers in different grades and teachers in different schools are discussed. The findings point towards several avenues of research and also provide an emergent dispositional discourse from empirical data, policy analysis and literature that could enable engagement

between various stakeholders around the notion of learning dispositions as a central feature of schooling in the Grade R to Grade 1 transition. It is argued from the data that the inclusion of exemplar reports, in teacher assessment policy guides, which indicate possible ways to communicate dispositional priorities to both parents and learners, would assist teachers in achieving greater coherence between dispositions promoted in the classroom and those assessed and reported on.

CHAPTER 1

INTRODUCTION OF THE STUDY AND CONTEXTUAL BACKGROUND

“Education is the most powerful weapon which you can use to change the world” – Nelson Mandela

1.1. INTRODUCTION

It is with distress, and sometimes a feeling of hopelessness, that educators in South Africa face what many have termed an “educational crisis” (Bloch, 2007; Fleisch, 2008). A glance at the latest matric results published in newspapers across the country indicates to an extent the crisis. Over the past two years, educators have faced textbook delivery failures, legal battles to ensure Minimum Norms and Standards for Infrastructure, as well as growing debate and resulting conflict around the Annual National Assessments (ANAs) – including questions around validity and reliability (McCarthy & Oliphant, 2013). Many educators are grappling with the Curriculum and Assessment Policy Statements document, as the third curriculum revision they have witnessed in their careers:

“there have been several curriculum changes made since 1994. It started with Outcomes Based Education (OBE) through Curriculum 2005...this was reviewed and changes made: The Revised National Curriculum Statements (RNCS) in general simplified the outcomes statements giving more emphasis to basic skills, content knowledge and grade progression...and finally the Curriculum and Assessment Policy Statements (CAPS) replaced the RNCS”

(zenexfoundation, 2013, p. 1).

To put this crisis, and the myriad of stresses associated with it, into an international perspective, a look at the Trends in International Mathematics and Science Study (TIMSS) is useful. In this study, South Africa is ranked as one of the lowest performing countries in Primary School Mathematics (Reddy, 2006). This crisis in performance is echoed in recent Annual National Assessment results. For example, of the 6 million primary-school leavers who participated in 2011, “Grade 3 learners achieved an average of only 35% for literacy

and 28% for numeracy.” (zenexfoundation, 2013, p. 1). Improvement has been seen in 2012 and 2013, as the below table indicates, extracted from the *Report on the Annual National Assessment of 2013* (DBE, 2013, p. 31):

Table 4.2: National average percentage marks for Mathematics in 2012 and 2013

GRADE	MATHEMATICS 2012	MATHEMATICS 2013
1	68	60
2	57	59
3	41	53

The *Annual National Assessments: Diagnostic Report and 2014 Framework for Improvement* offers the following summary of key findings in specific relation to children’s general performance in Mathematics in the Foundation phase for 2013:

- Inability to complete numeric patterns and counting in given intervals.
- Inability to write number names and symbols for 2 and 3 digit numbers and lack of understanding of place values.
- Inability to compare and order whole numbers from biggest to smallest and smallest to biggest.
- Inability to recognise fractions in diagrams and fraction names, and comparing unitary fractions from smallest to biggest.
- Difficulty to identify 2D and 3D shapes.
- Inability to read and interpret the information on pictographs and bar graphs.
- Lack of competency to add, subtract, multiply and divide activities involving word problems.

(DBE, 2013, p. 9)

Children are performing below average, and at a very early stage of their schooling (McCarthy & Oliphant, 2013).

The National Education Evaluation and Development Unit (NEEDU) report of 2012 states: “It is widely known that South African schools perform below expectations. But much less is known about why it should be so.” (NEEDU, 2012, p. 6). This is especially true in the early years, where children in their second or third year of formal schooling are already floundering. The afore-mentioned challenges faced recently by teachers and children in South Africa, such as rapid curriculum changes, indicate some of the reasons behind poor performance (Reddy, 2006). Many now conclude that the time has come to examine the critical Foundation Phase (Grade R to Grade 3), in order to address any possible educational

shortcomings early on. An example of a large scale and provincial intervention study “moving towards more ‘scripted’ and standardized approaches to coverage and pacing” (Atweh, Bose, Graven, Subramanian, & Venkat, 2014, p. 39) is the South African provincial level Gauteng Primary Literacy and Mathematics Strategy (GPLMS) which provides scripted lesson plans to over 800 primary schools (Atweh et al., 2014).

This focus on Foundation Phase indicates a shift from the historical practice of focusing on learners in the Further Education and Training (FET) Phase of schooling, in preparation for the National Senior Certificate exams (commonly referred to as Matric). It is becoming increasingly noted that Grade 12 is too late, as “the education achievement gap begins in the Foundation Phase and continues unbroken” (Fleisch, 2008, p. 30). Numerous research also supports that the earlier the intervention, the less likely children are to face challenges later on (e.g. Wright et al., 2006).

1.2: CONTEXT OF THE STUDY

In this respect strong cases have been made for the inclusion of pre-primary programmes at national level. A 2011 report released by the Organisation for Economic Co-operation and Development – Program for Student Assessment (OECD – PISA in Focus) – investigated whether children who participated in pre-primary education performed better later in school. One of the findings was that “fifteen-year-old students who attended pre-primary education performed better on PISA than those who did not, even after accounting for socio-economic backgrounds” (OECD, PISA in Focus, No. 1, 2011, p. 1). The report also notes that all children benefit equally from this early years exposure, which is especially pertinent in South Africa as our education system strives to provide quality education to one of the most diverse nations in the world. The German Federal Enterprise for International Cooperation (GIZ) report on Numeracy for Low Income Countries (Atweh et al., 2014) emphasises that the importance of the early years “on children’s cognitive, emotional, language and social development is well-established” (p. 8), and goes on to situate this importance in terms of both numeracy development as well as the effects on children from poorer communities:

“There is significant evidence that children who attended pre-school benefit through numeracy skills, thus bridging the gap between less and more affluent groups.” (Atweh et al., 2014, p. 8).

The report re-iterates the significance of this pre-school exposure, both to children’s cognitive (numeracy) development, as well as the potential for this experience to help close the performance gap between children from different socio-economic groups. They write:

“Early years experiences are critical for developing numeracy with young children. In particular, quality preschool experiences assist the development of numeracy in the early years, lay good foundations for future development and help narrow the gap between students from low-income backgrounds and the rest of the population. Educational planning for developing numeracy in the context of low-income countries should involve the provision of quality pre-school education particularly for the most disadvantaged students.”

(Atweh et al., 2014, p. 9)

This is a pertinent recommendation in light of South Africa’s current struggle against the poverty cycle, in which the legacy of Apartheid is still felt by many. Another significant research finding regards the growing body of research which recognises that access to early years’ education programmes “help to create a foundation for life-long learning” (OECD, PISA in Focus, No. 1, 2011, p. 4) as well as, especially important in South Africa, “improving social mobility from generation to generation” (p.4).

Other researchers have examined the effect that preschool has, not only on later accomplishments, but also on the more immediate issue of ‘school readiness’. During their 2005 study, authors Umek, Kranjc, Fekonja and Bajc examined just this, and found that, in particular, “preschool enrolment has a positive effect on school readiness for children whose parents have a low level of education” (Umek, Kranjc, Fekonja, & Bajc, 2008, p. 569). Again, these findings are significant in South Africa where levels of adult illiteracy remain high.

In 2009, the South African Government prepared a 'Green Paper' concerned with "improving strategic planning in the country" (DBE, 2012, p. 2). The first of twelve national priorities, or outcomes, is "Improved quality of basic education" (DBE, 2012, p. 2)

In order to address the challenges of improving learning outcomes across schooling and drawing on established research that shows "quality early childhood development (ECD) has the ability to improve learning outcomes throughout primary and secondary schooling" (p. 29), ECD has become a government priority in recent years. As a response to this acknowledgement *Priority Goal 11*, regarding improving access to ECD, was implemented, and was envisioned to be completed by 2014. It was however emphasised that along with this goal, "special emphasis needs to be placed on ensuring that Grade R is of an acceptable quality" (p. 29).

Excell and Linington (2011) similarly stress the importance of 'quality' of these programmes, not just access. They caution that the introduction of a compulsory preschool year does not necessarily ensure that adequate teaching and learning will take place: "If early intervention is to have beneficial consequences for children's learning and development, it should be of a high quality" (Excell & Linington, 2011, p. 4). What constitutes 'high quality' for a preschool setting is however often contested, and is different for different people within different settings, contexts, and within different cultural communities. Research conducted by Van der Berg et al. (2013, in Spaull, N, forthcoming) echoes the concerns around quality outlined by Excell & Linington (2011). Their research has begun to investigate the quality of existing Grade R programmes in South Africa, and they argues from this that: "the impact of Grade R in South Africa is small and there is virtually no measurable impact for the poorest three quintiles, while there is some impact for the higher quintile schools...quality thus needs attention (Van der Berg et al., 2013, p. 3, in Spaull, forthcoming).

On the other hand it should be noted however that universal access to Grade R does have the *potential* to achieve a narrowing of the performance gap between different socio-economic groups, as discussed earlier through the OECD and GIZ reports respectively.

In response to the current 'crisis' and in acknowledgement of the significance of preschool education in later academic success, the South African Government recently embarked on a

national campaign to establish, in the year before Grade 1 (i.e. for learners aged 5 turning 6), a year of compulsory schooling called 'Grade R'.

Although it is still early days, the introduction of the Grade R initiative is aimed at improving the intellectual capabilities of children across a spectrum of disciplines. Details of these plans can be found in the policy document *Action Plan to 2014 – Towards the Realisation of Schooling 2025* (DBE, 2012). This document outlines 27 goals and objectives for improving basic education for all learners from Grade R to Grade 12. A priority goal of these is to “improve the access of children to quality Early Childhood Development (ECD) below Grade 1” (DBE, 2012, pg. 25).

In table 1 below I provide a summary of this Priority Goal (11) of the *Action Plan to 2014: Towards the Realisation of Schooling 2025* (DBE, 2014), in terms of the Problem Statement, Response, and Monitoring of Progress:

<i>Problem Statement (p.79-80)</i>
* Local and international studies show that good schooling before Grade 1 made it easier for children to learn in primary school * Not all South African children were enrolled in a pre-primary setting * Importance of ensuring good standards in Grade R setting, so that children are adequately prepared for challenges of Grade 1 and beyond * 2009 UNICEF reports indicated concerns around quality – “preconditions for quality teaching and learning uneven across the system” (p. 80). * UNICEF findings included: larger class sizes compared to other grades; lower salaries for teachers; ‘practitioner’ status; lack of resources
<i>Response (p.80-83)</i>
* Grade R should be offered at schools, not separate centres * There is a need for teacher’s assistants posts * Need for ‘capacity-building’ directed at teachers, and improvement of qualifications * Provision of effective teachers’ guides, as well as high-quality readers and workbooks to children. * Publicly funded places in schools with Grade R should be increased, and schools without Grade R should introduce it¹
<i>Monitoring of Progress (p. 83-84):</i>
* The Annual Survey of Schools will track how many Grade 1 learners have attended pre-primary * Milestone anticipated for 2014: “a new system for periodic and sample based monitoring of cognitive development amongst Grade R learners is implemented for the first time as part of efforts to ensure that Grade R prepares learners adequately for Grade 1” (p.84).

Table 1: Design and Implementation of Priority Goal 11

(DBE, Action Plan to 2014, 2012, pp. 79-84)

* ¹ roll-out took place according to provincial priority list, however, there was incomplete ‘take-up’ in relation to these lists – please refer to Addendum A for a summary of the current status of the Grade R roll-out in the Grahamstown district. All schools involved in this study have an established Grade R.

In this report it is also stated that the target set by Government is to ensure that by 2015, all children who enrol in Grade 1 will have completed Grade R training at the end of 2014. This goal has however not yet been fully realised, although good progress has been made. In eleven years, from 2001 to 2012, the number of Grade R places nationwide has increased significantly both in the public and independent sectors (Van der Berg et al., 2013, in Spaull, forthcoming). This increase more than tripled the numbers as they went from 242000 available Grade R places to 768000 places; resulting in a situation in 2009 where 78% of 5 year-olds nationally were enrolled in a pre-Grade 1 programme of some sort (Van der Berg et al., 2013, p.3, in Spaull, forthcoming).

1.3: RATIONALE

I have been involved with Early Childhood Development for the past eight years, having worked as a Grade 00 and Grade R teacher in a local private school. In my experience, particularly in the Grade R classroom, there was a certain disconnect between the views of the Grade 1 teachers and those of the pre-primary teachers as to what constitutes quality Grade R education. The Grade 1, 2 and 3 teachers, as well as school management, often commented that they felt children leaving the Grade R class were not fully prepared for the challenges of more formal schooling. The Grade R teachers, on the other hand, argued even while they emphasised 'informal learning' and 'learning through play', the foundations laid in this phase were in fact preparing children to face these challenges, both inside and outside the classroom. The central area of disagreement seemed to lie in the children's formal skills training, rather than in the development of their intellectual capabilities or emotional development. Thus, although the pre-primary was an established part of the Junior School, the two were often viewed as separate schools, with different underlying educational philosophies driving teacher practice.

During these years, I have also been involved in extending my own knowledge base through participation in the National Diploma in Early Childhood Development, Bachelors of Education, and Honours programmes offered by Rhodes University. During my final year of Honours, I took Mathematics Education as an elective. It was during this time, and my subsequent involvement with the South African Numeracy Chair Project at Rhodes, that I

began to think more deeply about the disparity between the different approaches to Early Childhood Numeracy and Literacy Development and practices within the Foundation Phase that I had experienced. A common underlying thread of the discussions around Mathematical Proficiency was the focus on 'how' children engage with mathematics. Of specific interest to me was the notion of "productive disposition" - the fifth strand of Mathematical Proficiency, following 'Procedural Fluency', 'Conceptual Understanding', 'Strategic Competence', and 'Adaptive Reasoning' - as developed by Kilpatrick, Swafford and Findell in their 2001 work: *Adding it up: Helping Children Learn Mathematics*.

This fifth strand, or learning 'disposition', is seen as equally important to the development of mathematics proficiency because if students "believe that mathematics is understandable, not arbitrary; that, with diligent effort it can be learned and used; and that they are capable of figuring it out," (p. 131) then the other four strands will develop, and vice versa. In other words, "a productive disposition develops when the other strands do and helps each of them develop" (p.131). This strand is highlighted as being equally important in the early years, where this study is situated, especially in regards to good mathematics teaching because children:

"enter school eager to learn and with positive attitudes towards mathematics. It is critical that they encounter good mathematical teaching in the early grades. Otherwise, those positive attitudes may turn sour as they come to see themselves as poor learners and mathematics as nonsensical, arbitrary, and impossible to learn except by rote memorisation. Such views, once adopted, can be extremely difficult to change."

(Kilpatrick, Swafford, & Findell, 2001, p. 132)

While the work of Kilpatrick et al. (2001) and their notion of a productive disposition is focused on mathematical learning it could be usefully adapted, extended and applied for the integrated learning context of early childhood education where the promotion of literacy, numeracy and life skills are mostly integrated in activities.

Kilpatrick et al.'s (2001) strands of Mathematical Proficiency apply to school learners of all ages. However while they discuss all five strands of mathematical proficiency as equally important throughout schooling, they do not provide a progression framework for any of the strands, leaving the notion of productive dispositions as a fundamental yet very general characteristic of a proficient learner. While Graven & Stott (2012) have explored the notion of progression in relation to the strands of procedural fluency, Carr & Claxton (2010) explore the notion of progression within learning dispositions. Where Kilpatrick et al. (2001) are focused on Mathematical Proficiency throughout schooling; Carr & Claxton's (2010) work is situated in Early Childhood Development, and spans the various learning domains. Both foreground the development of key productive learning dispositions. Since for the purposes of this research, the notion of progression across these dispositions is fundamental to understanding the transition from Grade R to Grade 1, combining Carr & Claxton's (2010) work with that of Kilpatrick et al. (2001) on learning dispositions becomes important.

I engage further with Carr & Claxton's (2010) conceptualisation of the progressive development of learning dispositions in chapter 3.

Understanding the broader socio-political context within which schooling and learning occurs is important for education studies. In this respect, it was important for me to investigate the notion of the promotion of productive learning dispositions in South African policy documentation and in established Grade R classrooms, coupled with Grade 1 classrooms, with a particular focus on the presence or visibility of this in assessment practices. That is, how productive learning dispositions are prioritised or articulated in policy, in teacher's understandings and in the report writing/assessment practices of these teachers. Also, a look at how the promotion/assessment thereof is communicated in the reports. For example, are the comments elaborate and detailed, or are they brief? Are learner's dispositional progressions and/or achievements noted through standard checklists? Is there a rating scale for non-cognitive skills and attitudes?

In this study I have begun with an investigation of the extent of coherence between the policy and the practices of Grade R and Grade 1 teachers across a sample of six local schools. In so doing, I have investigated the data gathered and analysed the extent of a dispositional progressive framework, and in my findings point to what might be possible in terms of

augmenting assessment practices both between the two grades as well as between the policy and practice. Additionally I point to possibilities for further research. This could enable increased congruence and the production of a language of dispositional description that could enable Grade R and Grade 1 teachers to communicate about this aspect of their work. Thus investigating a possible framework for capturing the promotion of learning dispositions could be useful for those working in this crucial transitional phase.

The overall aim of this research therefore has been to illuminate and investigate teacher assessment practices, visible in report writing, and what they say about the promotion of learning dispositions in questionnaires. Examples of observable promoted learning dispositions for Gr 0 and or Gr 1 learners could include promoting the habit of: sitting quietly, listening and following teacher instructions (see Graven & Metzuyanim, 2014) or promoting active sense making through discussion with other learners etc. Exploring possible similarities and differences between promoted dispositions across the grades, as well as between stipulated policy and observed assessment practices, will be of interest as these could point to congruence and or dissonance between the prioritisation of learning dispositions across these grades, and across policy and practice.

Since Gr R has only been recently introduced as a departmental initiative across schools there is an absence of local research focusing on the transition of this year to Grade 1. As mentioned earlier in the *Action Plan to 2014* document, there remain rising concerns over the 'quality' of this Grade R instruction. An investigation into the assessment practices across these two grades will feed into discussions around the congruence of quality across the grades. Furthermore while much international research points to the power of pre-school years in enabling strong learning trajectories and improved learner progression through schooling (Aunio & Niemivirta, 2010; Burger, 2010); there is little international research that focuses on the similarities and differences of teaching practices across these grades. While there is an absence of rigorous research, there have however been multiple investigative stories about the problems with quality in Grade R and the widespread practice of Grade R as a 'watered down' Grade 1 at the expense of a focus on learning through play (Harris, 2012). Interestingly, the CAPS document for Grade R (2012) states

“A traditional, formal classroom-based learning programme that is tightly structured and ‘basics-bound’ should be avoided, as it does not optimise numeracy acquisition for the Grade R learner. Grade R should not be a ‘watered down’ Grade 1 class. It has its own unique characteristics based on how children in this age group make sense of their world and acquire the knowledge, skills, values and attitudes that will allow them to maximise the opportunities afforded in the formal learning years” (p. 16).

As Harris (2012) articulates in her article *Preschool should be child’s play*, “It is not enough to put children within preschool walls. What goes on inside them matters greatly” (p. 41).

1.4: RESEARCH GOAL AND QUESTIONS

The goal of this research study is to investigate how and to what extent the notion of key productive learning dispositions is included / promoted in current Foundation Phase Government Policies and documents. A secondary research goal is to examine teachers’ understanding of productive learning dispositions in the classroom as well as their articulation of their practices through an investigation into their report writing and their comments around learning dispositions and their related assessment practices. In particular interest in this study is the extent of congruence and/or dissonance between the policy documentation and the implementation thereof.

A closer examination of the implications of incorporating ‘quality’ Grade R into schools nationwide, and a desire to contribute to the research around this crucial transitional phase shaped the research questions and subsequently framed this research project. The questions are outlined below:

- 1:** What productive learning dispositions are promoted in current curriculum policy documents and assessment criteria in Grade R and Grade 1?
- 2:** What are the similarities and differences in dispositions promoted across the curriculum and those promoted in assessment guidelines and support documents across these grades?

This question is addressed primarily through the document analysis of current Government Policies.

2: What are the stated views of teachers in Grade R and Grade 1 around productive learning dispositions and the promotion thereof in these grades?

This question is addressed primarily through the analysis of teacher responses provided on questionnaires.

3: How, if at all, are learning dispositions reported on/communicated to parents in Grade R and Grade 1? What is the extent of congruence and /or dissonance in these assessment practices: between the two grades; between the various schools; and between the policy and the practice?

This question is addressed primarily through analysis of exemplar reports gathered from teachers as well as through the documentary analysis of Government Assessment Guidelines.

1.5: SIGNIFICANCE OF MY STUDY

My research consists of firstly, a documentary analysis of current curriculum documents and complimentary assessment protocols/instruments. This analysis will be the first of its kind in South Africa in that it will focus specifically on the promotion of learning dispositions in Grade R and Grade 1. Current curriculum documents to be examined include the Numeracy Curriculum Assessment Policy Statements for Grade R and Grade 1 (2012), and complimentary Assessment policies for Grade R and Grade 1 (DBE, 2011), as well as other departmentally produced documentary artefacts used by the teachers in ways that influence teachers' assessment practices. This includes the Numeracy Handbook for Foundation Phase teachers (DBE, 2012) and the ANA Diagnostic Report of 2013 (DBE, 2013).

Following detailed documentary analysis and in order to shed light on to which, if any, of the learning dispositions mentioned in policy are translated into teachers' stated assessment practices and communications to parents, I conducted an investigation into the reporting

structures used by an opportunity sample of Grade R and Grade 1 teachers in my area. This investigation was conducted through the analysis of completed teacher questionnaires and through collection of teachers' exemplar learner reports.

Through my analysis in chapter five, my study contributes to the growing debate surrounding the issue of 'quality' education for the 21st Century where 'learning to learn' has been identified as a key skill for this new era (Carr & Claxton, 2010) with a particular focus on what it means for early childhood development. This research also contributes to the milestone described in the *Action Plan to 2014: towards the monitoring of cognitive development amongst Grade R learners, ensuring adequate preparation for Grade 1* (DBE, 2012). Insights from this investigation contribute to finding ways to engage with tensions that may exist amongst policy, teachers and parents in terms of differing expectations of what constitutes appropriate learning dispositions requiring promotion in these grades. In addition to this, the study contributes to understanding the significance of the promotion of productive dispositions in the early years, especially in how it relates to assessment practices. Additionally drawing from literature insights into practice I engage with the usability of theories and analytic frameworks for investigating the promotion of learning dispositions in policy and assessment practices.

Finally, this study points to implications for creating a more coherent language of description and transition between the Grade R and the Grade 1 classrooms - strengthening and supporting the newly introduced Curriculum and Assessment Policy Statements followed by these schools. The study also aims to provide insights that can speak back to policy. Since the rollout of Grade R classrooms is a relatively new departmental initiative, reviews of this policy in terms of the enacted curriculum are likely to follow and it is intended that this research should feed into such reviews.

CHAPTER 2

BROAD THEORETICAL PERSPECTIVE

2.1: INTRODUCTION

In this chapter, I present the theoretical perspective that informs and provides structure for this particular investigation, as it relates not only to education in a broad sense, but to dispositions in general and Numeracy/Foundation Phase learning in particular.

2.2: THEORETICAL PERSPECTIVE

“In an era of increased emphasis on students’ scores on standardised achievement tests, the challenge facing those who seek educational reform is to transform teaching practice so that it reflects a greater appreciation of learning” (Mahn & John-Steiner, 2002, p. 57). From the country’s liberation in 1994, till present-day, educationalists, researchers and policy developers have sought to ‘reform’ education, in an effort to incite ‘social transformation’ by “ensuring that the educational imbalances of the past are redressed, and that equal educational opportunities are provided for all sections of the population” (DBE, Curriculum Assessment Policy Statements, 2012, p. 5). It is in light of this need for ‘reform’, and my focus on ‘learning to learn’ that this study will be guided by a socio-cultural perspective of teaching and learning.

Although traditionally learning has been viewed as an activity which focuses on the individual’s ‘acquirement’ of knowledge, skills and attitudes, many have questioned this stance. Much research now maintains that learning is “fundamentally to be viewed as a social process that takes place in the interaction between people” (Illeris, 2011, p. 11). Lave and Wenger (1991) argue that learning, in its many forms, is not in fact a case of ‘acquisition’ by the learner, nor is it situated solely in the mind of the individual. They maintain rather that learning is situated in the process of co-participation, and the availability to the learners of the opportunity to participate. Wenger (1998) also discusses the relevance and importance of reflecting on learning, as we

“wish to cause learning, to take charge of it, direct it, accelerate it...Therefore our perspectives on learning matter...It is our conception of learning that needs urgent attention when we choose to meddle with it” (p. 9).

This idea of a focused reflection on learning appeals to me, as a teacher by profession, who wishes to ‘cause learning’ and as a researcher, who wants to ‘take charge of it, direct it, and accelerate it’ through this study.

The National Research Council (1999) has focused on exploring a need to ‘shift’ from the outdated methods of ‘drill and practice’ routines experienced by many learners, to a more holistic examination of “students’ understanding and application of knowledge” (as cited in Mahn & John-Steiner, 2002, p.57). This shift is further explored by Mercer (2002) as he discusses the roles of teaching and learning in the classroom, and in particular, these roles in relation to the importance of adopting a socio-cultural approach: “the quality of education cannot be explained in terms of ‘learning’ or ‘teaching’ as separate processes, but rather in the interactive process of ‘teaching-and-learning’” (Mercer, 2002, p. 152).

Many now argue that, although learner capability is an important aspect of teaching and learning, it is the social interactions which take place within a group, and the availability of resources, which contribute to a ‘whole’ learning experience. Key resources foregrounded in this study include those of productive learning dispositions, or ‘habits of mind’ (Katz, 1988). Carr (2007) describes a view of learning derived from Vygotsky’s (1978) notion of ‘mediated action’ (cited in Carr, 2007, pg. 5), as the relationship “between the learner and the environment” (Carr, 2007, p. 5).

A main premise of Wenger’s (1998) work is that “learning, in its essence, is a fundamentally social phenomenon, reflecting our own deeply social nature as human beings capable of knowing” (Wenger, 1998, p.3). He goes on to highlight that learning is not a separate, isolated activity: it is not something that people can ‘start’ doing once they ‘stop’ some other activity – it is something which happens all of the time, in and out of formal learning arenas. For Wenger (1998) and Lave & Wenger (1991) learning and identity are inseparable and learning involves changing ways of being. This view is re-iterated by many, including Mercer (2002) who argues that the socio-cultural perspective on intellectual development in particular “asserts that we are essentially social, communicative creatures who gain much of

what we know from others and whose thoughts and actions are shaped by our interactions” (p. 153). This resonates with my own perspective on learning and my experience of teaching in preschool, as well as the social, interactive nature of the school as a whole and the Foundation Phase specifically. This view also coheres with the literature on dispositions that I will be drawing on.

A secondary consideration when conducting research in local schools is that of ‘responsibility’. As mentioned earlier in this document, South African educators are facing a tumultuous time as they grapple with a myriad of challenges, both inside and outside the classroom. As a result, it is my experience that teachers often felt scrutinised and it is easy for the public to lay blame at the teachers’ feet for low levels of performance amongst learners. In this respect, adopting a socio-cultural approach to this research allows for:

“an applied researcher who is concerned with assessing and improving the quality of education, [this] perspective helps avoid any tendency to attribute problems or solutions to the separate actions of teachers or learners, or to account for events without reference to the historical, cultural and institutional frameworks in which they take place” (Mercer, 2002, p. 152).

By acknowledging through a socio-cultural lens the larger situation in which a teacher and her learners are entrenched, issues of accountability are dispersed, and South Africa’s turbulent historical and current political situations are considered.

As indicated in chapter 1, my research focus leads me to combine Carr & Claxton’s (2010) work on key learning dispositions with Kilpatrick et al.’s (2001) work on productive dispositions. Carr & Claxton (2010) draw their influence from Wenger’s ideas and locate their work within a socio-cultural frame. A pertinent question asked by Claxton (2002) is “what kind of world are today’s children going to inhabit; and what skills and qualities will they need to thrive therein?” (p. 1). Looking at the child’s place in the world, and by considering the “development of a mind to learn” (p. 2), ties the notion of socio-cultural practice to the discussion of the concept of an individual’s disposition: although focused on the individuals’ learning trajectories, this perspective acknowledges that this learning occurs *within* a wider social context.

Seminal work by Lerman (2000) within Mathematics Education Research in particular calls for the need to acknowledge what he terms “The Social Turn” which has come about as a result of “the emergence...of theories that see meaning, thinking, and reasoning as products of social activity” (2000, p. 23). Also recent work of Gresalfi & Cobb (2006) and Gresalfi (2009) highlights the importance of researching mathematical learning dispositions when working with a perspective of learning that sees learning and identity as inseparable (Lave & Wenger, 1991; Wenger, 1998). This line of research has explored the complex reflexive relationship between who students *are* (or perceive themselves to be) and what they *do* in learning situations. Thus Gresalfi (2009, pg. 329) drawing on her earlier work with Cobb writes that

“learning is a process of developing dispositions; that is, ways of being in the world that involve ideas about, perspectives on, and engagement with information that can be seen both in moments of interaction and in more enduring patterns over time”

(Gresalfi, 2009; as cited in Graven & Heyd-Metzuyanim, 2014, p. 4).

Drawing largely on socio-cultural perspectives, Claxton (2012) in a recent publication entitled “*The virtues of a good education*”, argues for the importance of ‘virtues’ or dispositions in our rhetoric of teaching and learning. He advocates that the time has come to examine education, specifically in relation to its aims and values because, as he explains, “education is essentially a moral enterprise” (p. 2). This is ever important in today’s society, as we “live in times of escalating uncertainty, complexity, ambiguity, choice and individual responsibility” (p. 5), in which we often fail to offer strong guidance to the children within our community.

Socio-cultural influences are brought to the fore as he argues that, within the moralistic system of a school, and amongst numerous value judgements made daily by teachers within these schools, where you “end up is largely by experience” (Claxton, *The virtues of good education*, 2012, p. 3). The experiences in school communities he then describes as “to be a school student is to undergo a protracted social apprenticeship” (p. 3); just as the tailors in Lave’s earlier research studies.

This is the theoretical perspective on learning and the development of dispositions that guide this study and my analysis of the data gathered. As indicated above, this broad theoretical perspective coheres well with the literature that provides the conceptual framework and the analytical tools for my data analysis. I discuss these in the following chapter.

CHAPTER 3

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

3.1: INTRODUCTION

Adapting a socio-cultural perspective Carr & Claxton (2010) explore the identification of key learning dispositions. This work is expanded through Carr's (2007) work on "expanded learning strategies [plus] motivation [equals] learning dispositions" (pg. 9); drawing influence from Katz (1993) in discussing the influence of motivation within a social or situated learning setting. Carr & Claxton (2010) reiterate the need for "shifting" perspectives of education to one which is concerned with the 'aptitude' and the 'attitude' of the children, which involves "capabilities and dispositions" (p.9). It is their view that education, which encourages an environment of "learning to learn", must acknowledge the importance of developing key productive learning dispositions as well as the development of learning skills. They maintain that the development of dispositions is separate from the individual, in that it is a possible kind of learning that does not depend on "conscious rationality" (p. 11).

3.2: LEARNING DISPOSITIONS AND MATHEMATICAL PROFICIENCY

In Kilpatrick, Swafford and Findell's seminal report on mathematical proficiency (2001), they identify and discuss five essential interrelated strands of mathematical proficiency, namely:

1. Conceptual Understanding
2. Procedural Fluency
3. Strategic Competency
4. Adaptive Reasoning
5. Productive Disposition

and emphasising their intertwined nature through the use of the metaphor of five rope strands that together enable the strength of the rope. This is represented by the following diagram (2001, p. 117):

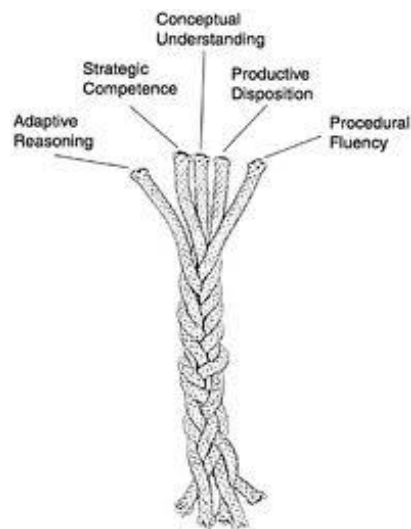


Figure 1: Kilpatrick et al. Strands of Mathematical Proficiency

Each of the strands is described as follows:

Conceptual understanding refers to an integrated and functional grasp of mathematical ideas (2001, p. 118)

Procedural fluency refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently (2001, p. 121).

Strategic competence refers to the ability to formulate mathematical problems, represent them, and solve them (2001, p. 124).

Adaptive reasoning refers to the capacity to think logically about the relationships among concepts and situations (2001, p. 129).

Productive disposition refers to the tendency to see sense in mathematics, to perceive it as both useful and worthwhile, to believe that steady effort in learning mathematics pays off, and to see oneself as an effective learner and doer of mathematics (2001, p. 131).

The interrelatedness of each strand is here brought to the fore and emphasised in the rope metaphor. Each strand supports the development of others and as such, each relies on the other for development. This framework thus emphasises that it is important to acknowledge the fundamental role that productive dispositions play in mathematical proficiency. They

highlight that in order to achieve the other four strands, a learner must view themselves as capable, believe in steady effort and see mathematics as understandable (Kilpatrick, Swafford, & Findell, 2001) – a key feature of a productive disposition.

Kilpatrick et al. (2001) put forth the following requirements to enable productive learning disposition development. Learners must have: frequent opportunities to make sense of maths; recognition of perseverance; and experience the rewards of sense-making. They describe children who are considered to have developed a productive disposition as seeing themselves as: “effective learners and doers of mathematics” (p.131). They also see mathematics as a “worthwhile” and useful activity (relative to their lives); they “see sense in mathematics”; and they acknowledge that “steady effort” (perseverance) pays off (p. 131). These attitudes come about through the learner’s experiences and development within the other four strands. For example: if a child achieves strategic competence in a specific topic, she will feel successful and that she is capable of solving mathematical problems. Conversely though, if a child is struggling to make sense of the mathematics, she may feel less capable, and less inclined to persevere. If the concept is too abstract, she may also feel that engaging fully with the topic is not worthwhile, as it holds little relevance to her life. The long-term effects of this could mean that she disengages with mathematics and her confidence is jeopardised. Such a disposition can take hold and persevere throughout her other and future learning experiences, beyond mathematics. Graven and Buytenhuis (2012) show how one learner’s sense of failure in mathematics extended to her identification of herself as a failure across all learning areas.

The concepts of disposition are reiterated in the current South African curriculum documents which view deep conceptual understanding as crucial. In fact, Kilpatrick et al.’s (2001) work is directly referred to in the Numeracy Handbook for Foundation Phase Teachers: Grades R-3 (DBE, 2012). It appears on page 11 as follows:

The strands of Mathematical Proficiency

Mathematical Proficiency is a term used by the authors of *Adding it up: helping children learn mathematics* (NRC, 2001) to describe:

“what it is to be successful in mathematics”

Being mathematically proficient (numerate) means:

- **Understanding** what you are doing (conceptual understanding);
- Being able to **apply** what you have learnt (strategic competence);
- Being able to **reason** about what you have done (adaptive reasoning);
- Recognising that you need to **engage** (productive disposition) with a problem in order to solve it; and of course
- Being able to **calculate/compute** (procedural fluency) with confidence.

(DBE, 2012, p. 11)

Each of the strands are discussed in more detail throughout the remainder of the second unit of the ‘handbook’. Practical examples of children exhibiting each of the strands is also given, and at the end of the unit, the following summary is offered for teachers in order to help them understand the significance of employing this notion:

Awareness of the strands of mathematical proficiency helps teachers in two ways:

- They remind teachers that teaching mathematics is much more than the teaching of methods or procedures only. Teaching mathematics involves helping children to **understand**, to **apply** and to **reason** about and with the mathematics that they learn.
- They allow teachers to answer the question: “Am I doing the right thing?” If the children in your class are **willing** and **able** (i.e. engaging) to **apply** their mathematical knowledge with **understanding** to solve non-routine problems and **justify** their solution method(s) they are becoming numerate/mathematically proficient.

(DBE, 2012, p. 15)

In the same document, the van Hiele levels of geometric reasoning and a related teaching sequence are also included (pg. 15-18). Although not significant to this particular study’s focus on productive learning dispositions, the inclusion of these levels is important as they attempt to conceptualise a *progression* through the facilitation of ‘levels’ of understanding.

Little other evidence of this progression exists elsewhere in documents, and as mentioned earlier, was not a focus of Kilpatrick et al.'s (2001) work.

In addition to the Numeracy Handbook, each curriculum document for the different grades and different subjects outlines the same 'General Aims of the South African Curriculum' (DBE, 2012), one of which is that children "acquire and apply knowledge and skills in ways that are meaningful to their own lives" (2012, p. 4). This aim can be closely linked to Kilpatrick et al.'s (2001) discussion around productive dispositions, which includes children perceiving mathematics as "both useful and worthwhile" (2001, p. 131). A specific aim outlined in the Mathematics CAPS document for Foundation Phase reiterates this element of promoting productive dispositions, and emphasises the need to develop in the learner an "appreciation of the beauty and elegance of Mathematics" (2012, p. 9). A second element of Kilpatrick et al.'s (2001) work, that of "seeing oneself as an effective learner and doer of mathematics" (p. 131) is echoed / mirrored in the Mathematics Specific Aim of developing "confidence and competence" (DBE, 2012, p.9).

Elements of Carr & Claxton's (2002) notions of learning dispositions, (although not explicitly referenced, as in the case of Kilpatrick et al.) can also be found within the CAPS document. So for example, the principles on which the South African Curriculum is based includes one of "active and critical learning" (DBE, 2012, p. 5), which correlates with Carr & Claxton's (2010) notion of 'reciprocity'. This 'reciprocity' or the confidence and "inclination to give opinions and contribute ideas" (p. 15) is again fore-grounded in the Aims as learners are encouraged to "work effectively with others and as individuals" and "communicate effectively" (DBE, 2012. pg. 9). A second key learning disposition emphasised by Carr & Claxton (2002) is that of 'playfulness' which refers to "mindfulness, imagination and experimentation" (p. 14). This key learning disposition can be seen in both the General Aims of the policy (i.e. to "identify and solve problems and make decisions using critical and creative thinking" (2012, pg. 5)) as well as in the Mathematics Specific Aims (i.e. to develop in the learner "a spirit of curiosity and love for Mathematics" (2012, p. 9)). Further examples within documents and other written policies will be examined in further detail in chapter 5 that focuses on policy analysis.

3.3: RESEARCHING DISPOSITIONS

Although there has been much research on mathematics learning in terms of developing understanding of mathematical concepts and developing various competences, research into mathematical learning dispositions is relatively new although research into mathematics attitudes of learners was popular in the seventies (e.g. Fennema & Sherman, 1976). Graven et al. (2013) argue that within this newer band of research, relatively little is being done in the realm of mathematical learning dispositions. While Kilpatrick et al. (2001) note it as a key strand of mathematical proficiency, they have not researched ways in which teachers teach or assess for the development of this strand. Although researchers such as Katz (1988, 1993) have spent many years researching the importance of the development of dispositions in the early years, her focus is on education and learning in general, and not specific to mathematics education. There is needless to say a gap in this field of research.

Within the SANC project at Rhodes University, there is ongoing research around mathematical proficiency and the significance of disposition therein (Graven, 2012; Graven & Heyd-Metzuyamnim, 2014). The SANC project however focuses on the transition from the Foundation Phase to the Intermediate Phase, i.e. from Grade 3 to Grade 4. There has been no work to date conducted in the lower grades, particularly in Grade R and Grade 1. Considering Grade R is still to be implemented across all schools nationwide, there is an even greater dearth in theoretical and academic understanding of the processes and practices in Grade R, in specific relation to productive dispositions, and even more so in our uniquely South African context.

It has been established by Graven et al. (2013) that although research is being done in terms of developing productive learning dispositions, there are very limited assessment instruments available at present which practically and usefully assess dispositions, and the progression thereof, in the early years. Graven and her team, drawing on instruments adapted from internationally designed assessments, developed and piloted an assessment instrument focused on learning dispositions in 2012. This instrument, although proving to have potential in addressing “what learners see as a productive disposition for mathematics?” was developed with older children in mind. Even in this older age range (9-11 years), they found children struggled to articulate themselves – this problem would be

exacerbated by the pre-literate nature of Grade R learners, who do not yet possess the skills to read or write, and will not be able to fill in or participate in a questionnaire-type survey. For this reason, this research study has focused on what teachers say/think/do in regards to promoting learning dispositions, as opposed to trying to access learner's understandings thereof.

Claxton (2012) emphasises the need to “deliberately, systematically and demonstrably” (p. 4) implement virtues and characteristics deemed essential to student success throughout school, and in life, to our teaching and learning repertoire. The need for this implementation, and the focus towards ‘virtues’ or ‘dispositions’ are based on the premise that “ability is not fixed, it is elastic, and your environment either stretches it or not” (p. 3). Claxton (2012) argues, much the same as Kilpatrick et al. (2001), that if teachers approach the concept of ability as fixed, children believe this themselves, and as a result, do not look for ways to ‘stretch it’.

Dweck (2006) further discusses the notion of ‘fixed’ ability versus the belief that ability can ‘grow’: “Believing that your qualities are carved in stone – the *fixed mindset* – creates an urgency to prove yourself over and over” (p. 6) whereas a “*growth mindset* is based on the belief that your basic qualities are things you can cultivate through your efforts.” (p. 7). She expands on this concept as follows: “Although people may differ in every which way...everyone can change and grow through application and experience” (p. 7).

In recent work, Dweck (2008) also discusses the notion of ‘fixed mindset’ and ‘growth mindset’ in terms of mathematical specific development amongst learners:

“there is a growing body of evidence that students mindsets play a key role in their math and science achievement. Students who believe that intelligence or math or science ability is simply a fixed trait (a fixed mindset) are at a significant disadvantage compared to students who believe their abilities can be developed (a growth mindset)” (p. 1).

The result is then that the “social and economic, as well as personal costs (of the belief in fixed ability) are incalculable and unforgivable” (Claxton, The virtues of good education, 2012, p. 3).

Once children develop the notion that academic failure is attributed to a lack of ability, rather than a lack of understanding / hard work etc. this notion inevitably permeates throughout their schooling lives and beyond (Claxton, 2012). Furthermore, when confronted with increasingly difficult work, learners will struggle if they have been “systematically deprived of opportunities to learn how to be resilient and resourceful by well-intentioned teachers who have spoon-fed, coaxed and cajoled them into their results” (Claxton, The virtues of good education, 2012, p. 3).

Carr and Claxton (2010) in their work with early years learning, and pre-school children, investigate the notion of learning dispositions and identify three key dispositions relevant to what they term ‘learning power’. Because there is, as yet, no definite agreement regarding essential dispositions, many researchers have devised lists of their own (Carr & Claxton, 2010). Examples of possibilities include: to think; to persist; to know how to learn; confidence; curiosity; intentionality; self-control; relatedness; courage; playfulness; perseverance; confidence and responsibility. Katz (1993, cited in Carr & Claxton, 2010) reminds all that in order for any list to be productive and useful, it must be manageable, and “strike an optimal balance between generality and specificity (Carr & Claxton, 2010, p. 13). Taking all of this into account, Carr and Claxton focus on the following three key learning dispositions:

RESILIENCE: “the inclination to take on learning challenges where the outcome is uncertain, to persist with learning despite temporary confusion or frustration, and to recover from setbacks or failures and rededicate oneself to the learning task” (p. 14).

PLAYFULNESS: Being playful, as described by Carr & Claxton (2010) does not necessarily point to ‘silliness’ or a lack of serious and meaningful intent. Rather it refers to a child who is “ready, willing and able” (p. 14) to understand, interpret or create various strategies with which to approach learning situations. The result is a child who is able to use creativity of thought when tackling new problems and concepts.

RECIPROCITY: Carr & Claxton (2010) in their discussion of reciprocity identify that one of the most valuable learning and teaching resources available to young children in particular is that of ‘other people’. The exchange of ideas and understanding, and the ability to articulate thinking processes are vital in developing a capable learner. For the authors, reciprocity is “both expressive and receptive and verbal and non-verbal” (2010, p. 15). Three key contributors to the development of reciprocity include “a willingness and ability for joint attention, participation, and taking account of the opinions and needs of others” (2010, p. 15).

Because teaching and learning, with reference to productive dispositions, does not take place in a vacuum, it is important to consider how the above key dispositions may be present in policy and encouraged by teachers within the classroom and included in their assessment practices (of which report writing is a key part).

Carr & Claxton (2010), unlike Kilpatrick et al. (2001) in their proficiency framework that is applicable across all grades, attempt to conceptualise a progression framework within the realm of dispositions. The following tables outline their suggestions, first on the notions of ‘sophistication and robustness’ of learning dispositions, and secondly on the progression of children from being ready, to being willing, to being able:

<u>Learning dispositions</u> Dimensions of strength	<u>Resilience</u>	<u>Playfulness</u>	<u>Reciprocity</u>
<u>Sophistication</u>	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.
<u>Robustness</u>	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.

Table 2.1: Learning Disposition Grid – Carr & Claxton, 2010, pg. 30

In earlier work, Carr (2007) developed five 'domains' of learning disposition, which include:

- taking an interest
- being involved
- persisting with difficulty or uncertainty
- communicating with others
- taking responsibility

These domains are analysed as three parts (in table 2.2. below): Being ready, being willing and being able:

“being ready is about seeing the self as a participating learner, being willing is recognising that this place is (or is not) a place for learning, and being able is having the ability and funds of knowledge that contribute to being ready and being willing” (Carr, 2007, p. 23).

The graduation through these parts constitutes a framework of progression and a starting point for assessment of learning dispositions. The table below summarises indicators for these three progressive parts across the five domains:

<u>DOMAIN OF LEARNING DISPOSITIONS</u>	<u>BEING READY</u>	<u>BEING WILLING</u>	<u>BEING ABLE</u>
	Children are developing:	Children are developing:	Children are developing:
taking an interest	interests; expectations that people, places and things can be interesting; a view of self as interested and interesting.	a preparedness to recognise, select or construct interests in this place, to make connections between artefacts, activities and social identities across places.	abilities and funds of relevant knowledge that support their interests.
being involved	readiness to be involved, pay attention, for a sustained length of time; a view of self as someone who gets involved.	informed judgements about the safety and trustworthiness of the local environment.	strategies for getting involved and remaining focused.
persisting with difficulty or uncertainty	enthusiasm for persisting with difficulty or uncertainty; assumptions about the risk and the role of making a mistake in learning; a view of self as someone who persists with difficulty or uncertainty.	sensitivity to places and occasions in which it is worthwhile to tackle difficulty or uncertainty and to resist the routine.	problem-solving and problem-finding knowledge and skills; experience of making mistakes as part of solving a problem.
communicating with others	the inclination to communicate with others in one or more of '100 languages' (Edwards, Gandini and Forman, 1993), to express ideas and feelings; a view of self as a communicator.	responses to a climate in which children have their say and are listened to.	facility with one or more languages, widely defined; familiarity with a range of context-specific 'genres'; script knowledge for familiar events.
taking responsibility	a habit of taking responsibility in a range of ways, to take another point of view, to recognise justice and to resist injustice; a view of self and others with rights and responsibilities.	recognition or construction of opportunities to take responsibility.	experience of responsibility, making decisions, being consulted; an understanding of fairness and justice; strategies for taking responsibility.

Table 2.2: Learning dispositions: the three parts, from Carr, 2007, pg. 24-25

Because Kilpatrick et al. (2001) do not engage with a progression within their framework while Carr & Claxton (2010) and Carr (2007) do, I have drawn on both frameworks in order to create the following key dispositional indicator matrix to guide my research analysis.

3.4: INDICATOR MATRIX

Drawing on a range of indicators suggested by research, in particular those of Carr (2007); Claxton (1990); Carr & Claxton (2010); and Kilpatrick et al. (2001), as well as other indicators from my empirical data; an indicator matrix for identifying and analysing the promotion of learning dispositions in policies, teacher's understandings and report writing is outlined below.

The indicator framework developed for the analysis of the presence or absence of statements related to key productive learning dispositions across the data collected is taken from the work of both Carr & Claxton (2010) and that of Kilpatrick et al. (2001). The following diagram illustrates the key contributions of the various qualities, or habits, identified by these authors, and the connections between them:

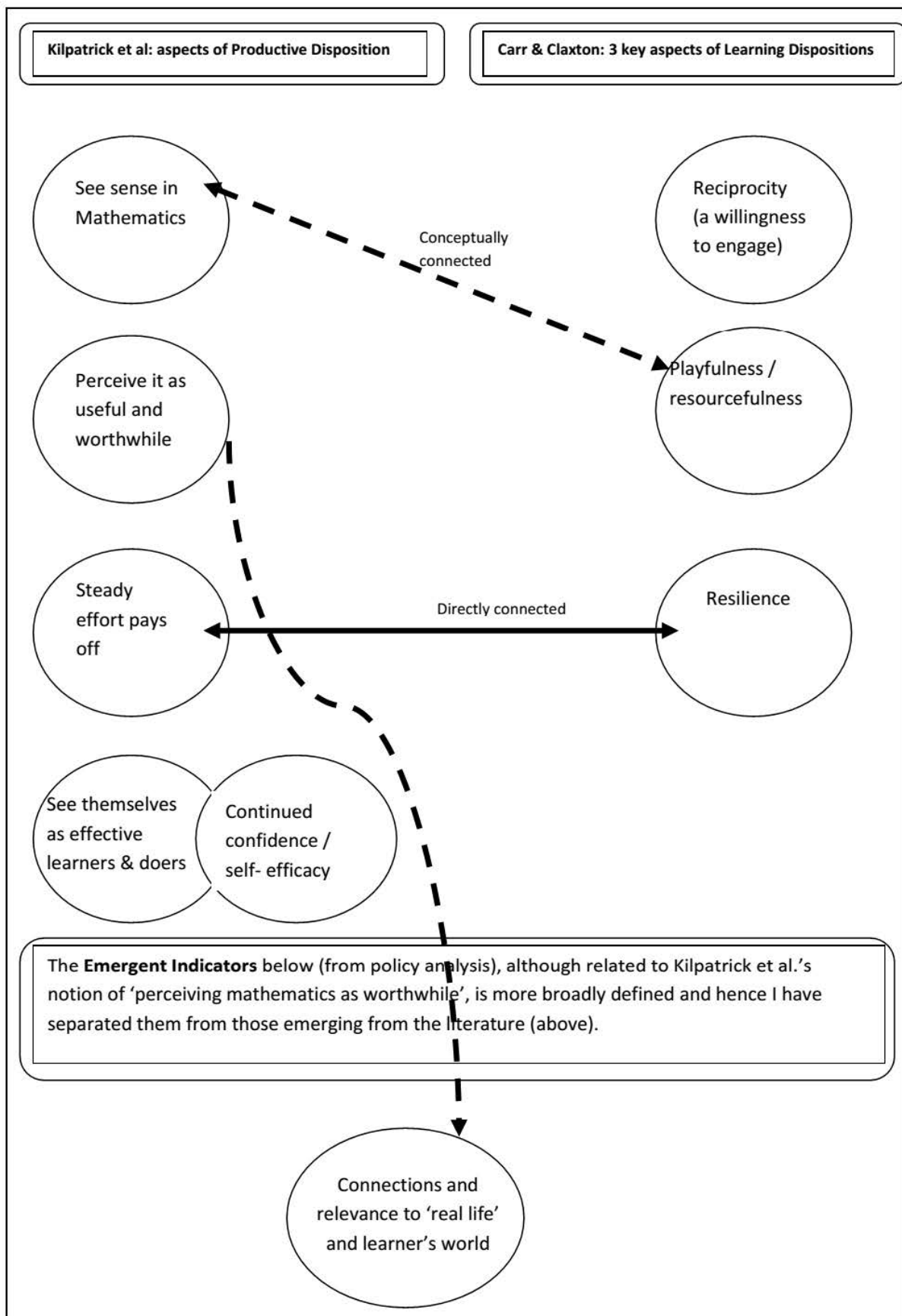


Figure 2: Emergent Indicators in development of matrix

From the combination of indicators from the literature reviewed, the following indicators have thus emerged as critical and comprehensive, and are used in the policy analysis of chapter 5 and data analysis in chapters 6 and 7:

- Reciprocity (Carr & Claxton, 2010)
- Playfulness / resourcefulness (Carr & Claxton, 2010)
- Resilience(Carr & Claxton, 2010; Kilpatrick et al., 2001))
- Confidence / self-efficacy (Kilpatrick et al., 2001 – also mentioned but not foregrounded in Carr & Claxton’s work)
- Connections to learner’s world / see mathematics as worthwhile (emergent from policy ; Kilpatrick et al., 2001)

3.5: RESEARCHING ASSESSMENT PRACTICES

“Assessment is arguably the most powerful tool in education...it can be used as a powerful source of leverage to bring about change” (Broadfoot, 1996, p. 21; as cited in Carr, 2007, p. 1x)

Gibbs (1999) describes assessment as “the most powerful lever teachers have to influence the way students respond to courses and behave as learners” (p. 41). In light of the Action Plan 2014 goal regarding improving learning outcomes, as well as the motivation to encourage the promotion of learning dispositions in the Foundation Phase, it is important to acknowledge the importance of the role of assessment in this reform within our education system. It should be remembered that “major goals and outcomes of learning [should not be] the collection of skills and knowledge but the successful participation in socially organised activity and the development of students’ identities as learners” (Greeno, 1997; as cited in Cowie & Carr, 2009; p. 109).

Cowie & Carr (2009) describe assessment in the early years’ setting as a “tool for social thinking and action” (p. 105) and argue that they can provide a space for “participants to come to share and value similar goals” (p. 106). In terms of opening up a conversation between the Grade R and Grade 1 teachers and policy developers around the encouragement/prioritisation of productive learning dispositions, the development of assessment practices, which allow for the sharing of common goals and objectives, is essential. Carr & Claxton (2010) also argue that assessment, especially that which is documented (such as reports) makes “learning visible in ways that can provide opportunities for negotiations” (p. 108). In terms of empowering learners to take more responsibility for their own learning, and therefore highlighting to them the importance of developing and maintaining certain habits (such as ‘steady effort’ and ‘resilience’), it is important to note the possible effect assessment may have on the formation of learner identities. As Gipps notes “assessment plays a key role in identity formation, in particular because of its public nature” (Gipps, 2002, as cited in Cowie & Carr, 2009, p. 109) and “documented assessments can also contribute to children’s appreciation of what is valued and what they have accomplished” (p.113).

Thus when investigating the promotion of productive learning dispositions, it is paramount to look too at the assessment thereof. Promoting particular learning dispositions within policy, curriculum, and classroom practice will have little effect if the same priorities and notions are not articulated to parents, families, stakeholders and the broader community – through comprehensive communication (e.g. through report writing). Without this, misinterpretations of what constitutes ‘quality’ education, especially in the early years, could permeate the educational landscape. Cowie & Carr (2009) elaborate:

“When one of the aims for early childhood education and, we would argue, education for life-long learning (Carr & Claxton, 2002) is learning dispositions and participation repertoires, then assessment that itself encourages the learners’ desire to learn by documenting interest, involvement, persistence, communication and responsibility will contribute to the emergence of a disposition towards ‘learning goals’ rather than ‘performance goals’ (Ames, 1992; Smiley & Dweck, 1994). Assessments that call on reference levels or standards that children or families have not understood or legitimated are likely to shift this orientation towards *performance* goals: an interest in ‘being right’, not being discovered to be unable, a reluctance to risk making an error.”

(Cowie & Carr, 2009, p. 115)

Such performance goals without accompanied dispositional engagement would, in essence, be detrimental to the effective promotion of key productive learning dispositions.

Carr & Claxton (2010) themselves discuss the importance of assessing learning dispositions. They offer three reasons around why it is essential to track and assess learning dispositions amongst learners, especially in the early years, as this is the period during which the “foundations of learning are being laid” (2010, p. 16). Firstly, they argue that in order to help children in their development of productive learning dispositions, there needs to be a method that allows researchers, teachers and other stakeholders to ‘relate’ to the dispositions. Without formalised ways of tracking this development, it becomes “all too easy...to be captured by the traditional goals of achievement and to lose sight of the more slippery, but even more important, development of dispositions” (2010, p. 16).

Secondly, they advocate for the assessment of a learner's progress in this domain as it will undoubtedly contribute to the evaluation of the efficacy of the educational programme, and in particular, the 'dispositional milieu' (2010, p. 16). They argue that without this systemised method of tracking a child's development of productive dispositions, it becomes difficult for teachers to determine just how much of their promotion thereof is being translated into actual measurable development of dispositions.

Thirdly, Carr & Claxton (2010) develop further the notion presented earlier by Cowie & Carr (2009) – that documented assessments add to a child's understanding of what is valued by the teacher in the classroom – by adding that what is assessed is valued also by teachers and families. This again relates to preventing teachers and learners from slipping back into traditional goals of achievement, by focusing attention on achieving the promotion of productive learning dispositions in practice (Carr & Claxton, 2010).

Finally, Carr & Claxton (2010) discuss the need to be able to provide what they term 'hard data' on the success of promoting a dispositional milieu in the face of scepticism – through the production of formal, documented assessments (in terms of this study, this hard data is presented in the form of termly reports). "If it is to be effective, the rhetoric of learning to learn has to be backed with convincing evidence" (Carr & Claxton, 2010, p. 17).

Claxton (2012) discusses some of the challenges currently experienced by teachers and policy-makers when attempting to systematically implement a culture of disposition promotion in teaching and assessment practices. He discusses how teachers often feel bewildered by these new approaches and programmes implemented to encourage disposition promotion. He further highlights the fact that not many parents immediately understand the need for their children to develop these attributes.

Claxton (2012) also discusses, in terms of assessment, that it is "more difficult to demonstrate growth in a young person's kindness, or their ability to concentrate, than it is to give them a score on sums or reading" (p.5). In order to combat at least some of these challenges, he suggests that virtues, and dispositions, agreed to be essential in instilling and promoting learning amongst children, have to be explicitly expressed and explained to children – so that they can "think about them, not just obey them, and can easily relate them to their own experience." (p. 5).

In specific relation to Mathematics teaching and learning, and what role assessment plays therein, authors Suurtmann, Koch and Arden (2010) discuss the current shift in mathematics education towards social perspectives on learning, such as the work of Kilpatrick et al. (2001) and that of Carr & Claxton (2010), “that value mathematical inquiry as a way to engage learners with mathematical ideas and deepen their understanding of and connections between mathematical concepts” (2010, p. 400). The relationship between this shift and assessment is highlighted in the need to develop assessment which goes beyond ‘traditional’ methods of placing importance on how well a learner uses or recites a memorised concept, and should now include a reflection on and assessment of ‘understanding’ (Suurtmann, Koch, & Arden, 2010). In essence, in order to respond to shifting perspectives within teaching and learning mathematics, assessments need to “focus on important mathematical concepts, present a comprehensive view of mathematics, include the full range of mathematical activity and reflect the important role of problem solving” (Suurtmann, Koch & Arden, 2010, p. 401).

In the next chapter I expand on the methodology used in order to conduct this research study, and discuss issues around research design, sampling of data, data gathering techniques, and validity and ethics.

CHAPTER 4

RESEARCH METHODOLOGY

4.1: RESEARCH DESIGN AND METHOD

When this research study was first conceptualised, it was my intention to conduct teacher practice observations in a selected Grade R and Grade 1 class of a local school. While initial informal indications for participation were positive (and hence my research proposal focused on a case study school) unfortunately, when approached to request access to the school, the Head of Department and Principal declined. The motivation behind their refusal to participate involved the following range of aspects:

- * The Grade 1 teacher was in her first year of teaching Grade 1, and they felt that the added pressure of having an external observer present in the classroom would not be conducive to her professional growth trajectory, and may impact on the relationship she was building with the children.
- * Secondly, the Grade R teacher had accommodated another Masters student in her classroom during the first term of the year. This unfortunately created a host of discipline issues amongst the learners as the presence of the researcher appeared to disrupt their routine. The school did not want to risk experiencing these challenges again.
- * Overall, the timing was inappropriate, and the school's dedication to providing quality education to their learners took precedence over the opportunity to contribute to this research.

As a result of the above, and my sense that other schools with whom I had less of a relationship with would similarly decline, and on the advice of my supervisor, I redesigned my study as outlined below.

Due to the intended purpose of this study, as well as the socio-cultural framework used, a qualitative interpretive methodology was chosen. In order to minimise disruption and pressure on teachers, my investigation focused on Grade R and Grade 1 teachers of six local schools, and included questionnaires designed around issues of learning dispositions and

their understandings thereof, coupled with the collection of exemplar learner reports. The teachers were asked to supply either a strong learner's report and a weak learner's report, or a strong, middle and weak learner's report.

The unit of analysis for this aspect of my research is teacher's responses to questions coupled with teacher report writing practices, in order to ascertain what is prioritised in terms of promoting productive learning dispositions (in the form of learners' reports), as well as how these perceptions are translated into their assessment practices, through report writing.

In order to analyse thoroughly the policy context in which this work unfolds, my first research question focused on document analysis of all relevant Curriculum documents as well as all supplementary assessment strategies. This contextual analysis provides the essential backdrop against which teacher data must be interpreted and enables answering the question of the extent of congruence between policy and stated practices in relation to learning dispositions in these grades.

4.2: SAMPLING

The South African Numeracy Chair (SANC) project at Rhodes has worked over the past few years to improve the quality of teaching and learning of mathematics. As part of this overarching goal, the project has established a teacher support network called the Numeracy Inquiry Community of Leader Educators (NICLE). From their website: "NICLE is based on a partnership between in-service teachers, staff in the Chair and key partners of the Chair. Together this community will meet regularly and work together to address each of the objectives of the chair from a classroom practice based perspective." (SANC, 2013).

The participating teachers within this NICLE community were from local schools, several of which had a Grade R class attached to their school. The teachers in NICLE range from Grade R to Grade 6 teachers, although the majority are Grade 3 and 4 teachers. Several of these teachers were approached by myself during a NICLE session and invited to obtain permission from their schools to participate in regard to my new research design, i.e. the filling out of questionnaires and granting of access to exemplar learner reports. Several teachers

indicated a willingness to approach their Grade R and Grade 1 colleagues to gauge interest. Following this, I invited schools and teachers to participate. See Appendix C for a copy of the permission letter, as well as the questionnaire.

Thus through the relationship already built between these schools and SANC through the NICLE project, I found five schools who were willing to participate. [Seven NICLE schools were contacted, however, one declined and one failed to respond to communication]. One of the teachers from the sample schools is involved in the NICLE project as a regular participant. The other teachers had colleagues involved, and principals who knew the project and the facilitators at SANC.

The sixth school is a local private school not involved in the NICLE project. However, the school was approached in order to provide a wider scope of sample, and as I have a good relationship with the school. The teachers and schools in this study are thus an opportunity sample. My range of schools includes:

School A:	Quintile 2 ²
School B:	Quintile 4
School C:	Quintile 3
School D:	Quintile 5
School E:	Quintile 5
School F:	Quintile 4

“Quintile 1 is the group of schools in each province catering for the poorest 20% of learners. Quintile 2 schools cater for the next poorest 20% of schools, and so on. Quintile 5 schools are those schools that cater for the least poor 20% of learners. Poorer quintiles have higher targets than the less poor quintiles” (DBE, 2004, p. 8)

² The quintile system is “a mechanism for redistribution related to non-personnel funding, laid out in the *National Norms and Standards for School Funding* (DBE, 1998), and categorises schools into one of five quintiles based on their level of poverty” (zenexfoundation, 2013, p. 1).

As Descombe (2007) points out, as a social researcher, it is almost impossible to collect relevant data from everyone in a category, so the alternative is to collect evidence from a “portion of the whole” (p. 13). The six schools above were chosen as they provide a ‘probability sample’ in that they are a “representative cross-section of people or events in the whole population being studied” (p.13). The cross-section is afforded by including schools from Quintiles 2 to 5; with different Languages of Learning and Teaching; and represents both the Government and the Independent Sectors. There are no Quintile 1 (the poorest) schools represented within the NICLE project.

The teachers themselves are also from different backgrounds, with different levels of qualification and experience. The final criteria in selecting these six schools was the fact that all of these schools have established Grade R classrooms and have offered this grade for at least one year – ensuring that any data gathered will not be affected by complications often encountered when first introducing a new programme.

The analysis tools selected, as discussed in chapter 3 above, were derived from the relevant literature reviewed (expanded with emergent data) and use a combination of tabled representation of data, coupled with discussions around significant aspects uncovered.

4.3: DATA GATHERING TECHNIQUES

As indicated at the start of this chapter, the use of questionnaires and teacher exemplar reports (document gathering) was primarily as a result of difficulties with accessing teacher practices via observation as initially proposed, and as a result of my own sensitivity to indications of time pressures that teachers were under at the time of data collection. (I.e. in the third term, the schools participate in the ANAs).

My qualitative research design therefore included three key data gathering techniques. I discuss each of these as well as the rationale for them below.

Documents

In order to respond to my first, and third, research questions, a document analysis was necessary of ‘official’ curriculum policy and other departmentally produced documents.

The documentary analysis portion of this study includes government policy relating to curriculum and assessment practices, as well as documents collected from the schools themselves, in the form of completed exemplar learner reports for both grades.

In response to my research question 1, government policies were analysed using an indicator matrix developed from the review of key literature. One additional category of indicators was added as it emerged from the policy analysis.

Government documents provide useful research data as they are authoritative, objective and factual (Denscombe, 2007). They are easy to access, as they are freely available online, are cost effective, offer permanence of data and also offer “authenticity, credibility and representativeness” (Denscombe, 2007, p. 232).

Developing an analytical tool derived from relevant literature and using this to conduct content analysis of the documents is important as it “has the potential to disclose many ‘hidden’ aspects of what is being communicated through the written text” and “reveals 1. What the text establishes as relevant; 2. The priorities portrayed through the text; 3. The values conveyed in the text; 4. How ideas are related” (Denscombe, 2007, pp. 237-238).

In response to my research question 3, exemplar learner reports were analysed using a second indicator matrix. This report analysis was supplemented by the analysis of teacher responses to Question 4 of the questionnaire, which directly related to the teachers’ report writing practices.

Teachers’ exemplar reports:

A second key aspect of my data collection was gathering exemplar Grade R and Grade 1 learner reports. These documents were key documents in establishing triangulation of data analysis, as these, although not departmentally produced and are of a different nature to the documents analysed in chapter 5, are considered legal documents in the schooling system. Their importance in the teaching and learning process, as well as their relevance to this research study, relates to the researching of assessment policies and practices. The analysis of these documents contributes to the comparison of teacher stated views on the promotion of key productive learning dispositions, to that of official policy documentation.

Questionnaires:

In order to address the second research question, in regards to teacher's stated views around key productive dispositions, data to be analysed was derived from questionnaires distributed amongst the Grade R and Grade 1 teachers of the six sample schools. A copy of this questionnaire can be found in Appendix C. This method of data collection was chosen at first because of the simplicity of distribution – the six schools, although located nearby, are in different towns and so organising personal interviews would be very time-consuming and possibly costly. Distributing questionnaires was the most efficient way of gathering information from the teachers (Denscombe, 2007).

These questionnaires were designed to collect information which could later be used as data for analysis, and consisted of five written questions around teacher's understanding of learning dispositions, and their assessment thereof. This design helped to gather the required information by asking those involved at the ground level direct questions. These are all features of correctly implemented questionnaires (Denscombe, 2007).

As the focus of this study is to extract instances of promotion of productive learning dispositions, aspects of curriculum, teacher practice and assessment which are not always obviously highlighted or referred to explicitly, the process of extracting what is 'hidden', and establishing which elements are prioritised is especially useful and relevant.

Careful consideration and analysis of all the data collected, with a look at significant details, will allow for thick, rich interpretations. Arising from these interpretations are the narrative 'vignettes', included in chapter 6.

4.4: VALIDITY AND ETHICS

In order to ensure approved procedures and appropriate ethical considerations regarding a case study, especially one situated in the Early Years' setting, the requirements stipulated by the University were followed.

Participants from the selected schools were contacted jointly by myself and my supervisor to gauge willingness to participate in the research. Initial contact was established mostly

through e-mail, and correspondence included a brief summary of the intentions of the research, my involvement with the SANC project, as well as the details of the data required from participating schools. Along with this brief summary were the questionnaires, and a request for the copies of reports (Appendix C).

All confidentiality and anonymity protocols have been observed, and data has been kept secure throughout the research process by ensuring that, as far as is possible, the data has not been handled by any third parties during transportation. In this report I have not named the participating schools, in accordance with securing the privacy of the respondents and of the learners. I have also not described the location or any other revealing details about the schools, again to ensure privacy, and also because the focus of this research study is not on comparisons of schools, but rather a comparison across grades and between policy and practice.

In accordance with Denscombe's (2007) guidelines for data protection, the following aspects have been carefully considered and adhered to:

- * Collect and process data in a fair and lawful manner
- * Use data only for the purposes originally specified
- * Collect only the data that is actually needed
- * Keep data no longer than is necessary
- * Keep data secure
- * No distribution of data
- * Restriction of access to data
- * Keep data anonymous

In terms of my ethical responsibilities in regard to my research I endeavour to share my research report and findings with all those involved once completed.

In regards to validity, as Maxwell (1992) argues, the key issue in debate around the legitimacy of qualitative research is one of validity, it is important to address this issue in terms of this particular research study. Cohen, Manion & Morrison (2005, p 105) declare that:

“Validity is an important key to effective research...Whilst earlier versions of validity were based on the view that it was essentially a demonstration that a particular instrument in fact measures what it purports to measure. More recently validity has taken many forms. For example, in qualitative data validity might be addressed through the honesty, depth, richness and scope of the data achieved, the participants approached, the extent of triangulation and the disinterestedness or objectivity of the researcher.”

In this respect, I used both questionnaires and exemplar learner reports to note similarities and differences between different sources and methods of information. Additionally I collected information from a range of individuals and settings (from six schools, ranging in quintile categorisation, from in and around Grahamstown, and from both Grade R and Grade 1 teachers), using a variety of methods (questionnaires, exemplar learner reports, government policy) to seek corroboration of the information gathered.

Finally, to ensure the accuracy of conclusions drawn from this qualitative research study, an awareness of possible ‘distortions’ in data analysis is necessary. These ‘distortions’ could come about as a result of my own conceptions and values, as well as the effect that the presence of a researcher may have with those involved in the research, an issue referred to as ‘reactivity’ (Maxwell, 2003). Merriam (2002) too stresses the importance of identifying and monitoring the potential of “bias and subjectivity” (p. 5) in the social sciences research field.

Merriam (1998) also holds the view that ensuring reliability in the social sciences as humans, and their myriad of behaviour, is never static. In this study however, the categories used for the analysis of policy documentation in chapter 5 and the analysis of teacher responses and exemplar learner reports in chapter 6 were discovered through applying literature inspired indicator categories to the data, and developing emergent indicator categories arising from the data. Hence, as Adler in Graven (2002) argues, it is unreasonable to expect others to discover these same categories and therefore argues that it should be established instead how recognisable these categories are to others, in order to ascertain reliability.

As a result, my supervisor has been consulted in terms of the ‘recognisability’ of my categories in relation to the data collected from the six schools, as well as key government

policy documents, if viewed according to the indicator categories (literature and emergent), are recognisable to others.

CHAPTER 5

DOCUMENT ANALYSIS

5.1: INTRODUCTION

For the analysis of policy, teacher responses and reports gathered, I have developed a coding framework derived from the work of both Carr & Claxton (2010), as well as Kilpatrick et al. (2001) as discussed in chapter 3. From Carr & Claxton (2010), the three key categories of indicators (i.e. *'resilience'*, *'playfulness / resourcefulness'* and *'reciprocity'*) will be examined, explored and utilised. From Kilpatrick et al. (2001), the notion of *'perseverance'* is subsumed within *'resilience'*. Other indicators from Kilpatrick et al. (2001) not incorporated in Carr & Claxton's (2010) key indicator categories include *'confidence / self-efficacy'* and *'connections to learner's world / see mathematics as worthwhile'*. More around these particular indicators of key productive learning dispositions is discussed in detail in the literature review (see chapter 3). For the purposes of this research, the indicators for productive dispositions of Kilpatrick et al. (2001) as well as those of Carr & Claxton's (2010) key learning dispositions have been synthesised to develop an analysis framework consisting of five primary categories of indicators of dispositions. These are: (i) *'reciprocity'*; (ii) *'playfulness / resourcefulness'*; (iii) *'resilience'*, (iv) *'confidence / self-efficacy'* and (v) *'connections to learner's world / see mathematics as worthwhile'*. This framework has been used for the analysis of the different data collected in order to identify congruence and/or dissonance, both between the two grades, as well as between policy and practice, in terms of the promotion of learning dispositions.

In this chapter I focus on the documentary analysis of key policy documents which provide the broader context for teacher practices in these grades. I analyse three key documents, namely:

- Curriculum and Policy Assessment Statements (CAPS) for Foundation Phase Numeracy (divided into four sections)
- Numeracy Handbook for Foundation Phase Teachers
- ANA: 2013 Diagnostic Report and 2014 Framework for Improvement

What does government policy say regarding dispositions/learner identities?

5.2: CURRICULUM DOCUMENTATION

This first Government document to be analysed for the purposes of this study was the 2012 Curriculum and Assessment Policy Statements (CAPS) for Numeracy in the Foundation Phase. This document was released in 2012 to replace the previous curriculum known as the Revised National Curriculum Statements (RNCS), which replaced Curriculum 2005 (the first post apartheid curriculum).

5.2.1: Curriculum and Assessment Policy Statements (CAPS) for Foundation Phase: Numeracy

The current CAPS was designed and rolled out after studies showed that the radical swing from a performance curriculum to the competence curriculum (Graven, 2002b) envisioned by Curriculum 2005 had fallen short of expectations. (See Chisholm et al.'s (2000) review report). The Revised National Curriculum Statements, although successful in addressing several shortcomings, was not considered adequate for addressing the diversity and complexity of the education system in South Africa. Thus the CAPS were designed to provide further clarity amongst educators.

The CAPS Foundation Phase Numeracy document includes Grade R in its scope of the Foundation Phase, and is laid out according to four key sections:

- Section 1: National Curriculum and Assessment Policy Statement for Mathematics Foundation Phase (preamble)
- Section 2: Mathematics: Aims, Skills and Content
- Section 3: Content Areas Overview – Grades R-3
- Section 4: Assessment Guidelines

For the purposes of this part of the study, I have examined Sections 1, 2 and 3 here. Section 4 (Assessment Guidelines) is analysed later in this chapter.

Section 1: National Curriculum and Assessment Policy Statement for Mathematics Foundation Phase (preamble)

(DBE, Curriculum Assessment Policy Statements, 2012, pp. 3-8)

This section provides a preamble to the history of, overview of, aims of, and time allocation of the CAPS in general. Here I focus on what the section says around dispositions, and what dispositions are prioritised. In order to do this, I extracted all statements from the section that referred to or related to key productive learning dispositions, and connected these to the categories of indicators of my analytic framework described above. The table below provides an overview of the frequency of dispositional statements found in Section 1 of the CAPS document, and is laid out according to *dispositional category; statements related to the category; and frequency of statements*³:

DISPOSITIONAL CATEGORY	STATEMENTS	FREQUENCY
1: RECIPROCITY	* The National Curriculum Statement Grades R-12 is based on “<i>active and critical learning</i>” (p. 5). * The National Curriculum Statement Grades R-12 aims to produce learners that are able to: “<i>work effectively with others and as individuals</i>” and “<i>communicate effectively</i>” (p. 5).	2
2: PLAYFULNESS / RESOURCEFULNESS	* The National Curriculum Statement Grades R-12 is based on “<i>active and critical learning</i>” (p. 5). * The National Curriculum Statement Grades R-12 aims to produce learners that are able to: “<i>identify and solve problems and make decisions using critical and creative thinking</i>” as well as “<i>collect, analyse, organise and critically evaluate information</i>” (p. 5).	2
3: RESILIENCE		0
4: CONFIDENCE / SELF-EFFICACY		0
5: CONNECTIONS TO LEARNER’S WORLD / SEE MATHEMATICS AS WORTHWHILE	* This curriculum aims to ensure that “<i>children acquire and apply knowledge and skills in ways that are meaningful to their own lives</i>” (p. 4).	1

Table 3.1: Frequency of dispositional statements by category – CAPS Section 1

³ Emphasis has been added to specific words or terms within statements related to the categories

Discussion:

It is evident from this brief section / preamble to the CAPS that *'reciprocity'*, which includes being willing and able to communicate, is prioritised. This means that throughout schooling, throughout the different grades, and amongst the different subjects and learning areas, the ability to communicate ideas fluently and effectively is paramount. *'Playfulness / resourcefulness'*, or the ability to think and apply concepts creatively, is also prioritised across the wide spectrum of school learning in this section. *'Connections to learner's world / see mathematics as worthwhile'* is also mentioned here, in relation to making all learning "meaningful" to the children and their lives.

Noticeably absent are statements relating to developing *'resilience'* and *'confidence / self-efficacy'*. However, a conclusion about the importance or relevance of these particular dispositions cannot be made from such a small sample of policy, and these indicators do appear in later aspects (see Section 3).

Section 2: Mathematics: Aims, Skills and Content

(DBE, 2012, pp. 9-18)

Again, for this section of the CAPS document, I extracted all statements which referred to (or related to) key productive learning dispositions, as they fitted into the indicator categories of the framework developed earlier. This was done in order to analyse the learning dispositions promoted within the *Specific Aims* of Mathematics in the Foundation Phase. The frequency of these statements was recorded and all statements tabled.

For this section, Grade R is discussed as a separate sub-section (DBE, 2012, p. 15) in terms of the classroom environment and appropriate programme for this grade, to be developed by teachers. An important distinction is made here in the emphasis that Grade R: "should promote the holistic development of the child" (p.15). The document extrapolates on this notion of holistic development, and includes cognitive, language, perceptual-motor, and emotional and social development. Within these realms, it can be expected that attributes associated with productive learning dispositions are also encouraged and enhanced –

through opportunities to communicate, socialise, and modelling of positive habits of mind (inquiry). Although specific dispositions are not explicitly discussed or listed herein, the environment and practices described would fit the criteria of a classroom ready to incorporate and accommodate the promotion of productive learning dispositions.

The table below therefore is similar to the one above and contains the *dispositional category; statements related to the category; and frequency of statements*. It also distinguishes between statements intended for consideration across the Foundation Phase (Grades R-3), as well as those which are Grade R specific (i.e. statements were specific to the Grade R subsection).

DISPOSITIONAL CATEGORY	STATEMENTS	FREQUENCY
1: RECIPROCITY	Grade R-3 * "observing, representing and investigating patterns and qualitative relationships in physical and <i>social phenomena</i> and between mathematical objects themselves" (p. 9). * "do, talk and record mathematical thinking" (p. 12).	2
2: PLAYFULNESS / RESOURCEFULNESS	Grade R-3 * "observing, representing and <i>investigating patterns and qualitative relationships</i> in physical and social phenomena and between mathematical objects themselves" (p. 9). * "spirit of <i>curiosity</i> and love for mathematics" (p. 9). Grade R: * play-based, fun and <i>spontaneous</i>; approach = think about <i>alternative positions and ways of problem-solving</i> (p. 15).	3
3: RESILIENCE		0
4: CONFIDENCE / SELF-EFFICACY	Grade R-3 * develop in learner: "<i>confidence</i> and competence" (p. 9).	1
5: CONNECTIONS TO LEARNER'S WORLD / SEE MATHEMATICS AS WORTHWHILE	Grade R-3 * "observing, representing and investigating patterns and qualitative relationships in physical and <i>social phenomena</i> and between mathematical objects themselves" (p. 9). * "forges link between <i>child's preschool life and life outside school</i>" (p. 12).	2

Table 3.2: Frequency of dispositional statements by category – CAPS Section 2

Discussion:

In this section, as with section 1, *'reciprocity'* and *'playfulness / resourcefulness'* have the highest frequency of statements, with two and three statements in each respectively.

'Connections to learner's world / see mathematics as worthwhile' is also included in this section, as two references are made to not only the 'everyday life' of the children, but also to the patterns within social phenomena – that is, what is happening around the children, both in and outside of school.

Again, there is a noticeable absence in statements referring to *'resilience'*, and only one statement related to *'confidence / self-efficacy'*. This one statement is somewhat vague, in that it simply states that teachers should develop "confidence and competence" in the learner (p. 9).

Section 3: Content Areas Overview – Grades R-3

(DBE, 2012, pp. 15-285)

This section of the CAPS document outlines the specific content areas within Mathematics (i.e. Space and Shape), which are further broken down into different topics (i.e. two-dimensional shapes). Concepts and skills to be taught and learnt are specified within each topic, and clarifies what needs to be covered throughout the year. This section also aims to show progression across content areas throughout the Foundation Phase (Grade R-3) (DBE, 2012).

In the analysis of this section, again I adopt a quantitative approach. However, unlike the tables in the previous sections, due to the length of this section within the CAPS document, I do not provide all dispositional statements. Rather, I provide the total frequency of each categorised statement, according to the indicator framework developed earlier, and provide one example of each.

DISPOSITIONAL CATEGORY	EXAMPLE OF STATEMENT	TOTAL FREQUENCY OF STATEMENTS
1: RECIPROCITY	Grade R & 1: - <i>"Describe the position of one object in relation to another, e.g. on top of, in front of, behind, left, right, up, down, next to" (p. 29)</i>	Grade R: 14 Grade 1: 27
2: PLAYFULNESS / RESOURCEFULNESS	Grade R & 1: - <i>"Compare and order the length, height or width of two or more objects by placing them next to each other" (p. 27)</i>	Grade R: 9 Grade 1: 16
3: RESILIENCE	Grade R: - <i>"Teachers should...not simply assume that their learners cannot cope with bigger numbers" (p. 49)</i>	Grade R: 1
4: CONFIDENCE / SELF-EFFICACY		0
5: CONNECTIONS TO LEARNER'S WORLD / SEE MATHEMATICS AS WORTHWHILE	Grade R & 1: - <i>"Order regular events from their own lives" (p. 32)</i>	Grade R: 8 Grade 1: 14

Table 3.3: Frequency of dispositional statements by category – CAPS Section 3

Discussion:

1: RECIPROCITY:

'Reciprocity' can also be thought of as the ability to communicate effectively and efficiently, as well as the ability to understand another person's articulation of their ideas. This communication can be verbal or non-verbal, expressive or receptive. In light of this, the following key words were identified as relating to 'reciprocity': *discuss; describe; explain; report; use language; write.*

The frequency of these words was then counted across the content areas for the Grade R and Grade 1 respectively.

In the Grade R phase overview, these words (or variations thereof) occurred fourteen times across the numerous content areas and topics. In Grade 1, these words appeared twenty-seven times. This high frequency in both grades points to a prioritisation of communication ('reciprocity'), which coheres with the emphasis in the general as well as specific aims of the CAPS document. The phase overview is in line with the underlying principles of the document, and teachers are expected, through the implementation of this curriculum, to invest time and energy into achieving effective and efficient communication amongst learners. Because this particular disposition is included across the different learning areas, it

is implied that the development of this disposition should span a variety of activities, in a variety of contexts continuously.

Progression by the children in this particular disposition is also present in the jump from 14 instances to 27 instances from Grade R to Grade 1 respectively. This relates to children being increasingly able to communicate more frequently and with more alacrity. The progression can thus be noted through the increased demands on the children to use their communication skills; from reading, to reading and writing number symbols; from drawing patterns, to discussing the qualities of a pattern.

2: PLAYFULNESS / RESOURCEFULNESS:

As discussed earlier, *'playfulness / resourcefulness'* in terms of a productive disposition relates not only to the physical 'playing with' or manipulation of concrete objects (although important in the Early Years' setting), but also to the ability to use known concepts in a variety of contexts. This includes using techniques and skills taught and learnt in one context, or in a specific content area, in a variety of other contexts in a multitude of ways. A certain 'flexibility' of thought is implied here, as well as what is often referred to as 'critical and creative thinking'. The ability to compare attributes, make educated guesses drawing on previous experiences, and stretch a concept further than what is immediately obvious or required are also examples of this particular habit of mind. In light of this, the following terms can be used to describe *'playfulness / resourcefulness'*: *estimate; compare; extend; create own; interpret*.

In Grade R, these terms are mentioned nine times, and in Grade 1, we again see a significant jump in occurrences to sixteen frequencies. As with *'reciprocity'*, it can be determined from the analysis that this particular disposition is both prioritised, in line with the general and specific aims, as well as designed to encourage progression from one grade to the next. This progression is once again about the sophistication with which the children can utilise and express this particular 'habit'.

As well as the above terms relating to *'playfulness / resourcefulness'*, this document also makes reference to other elements which can be considered characteristics of this disposition. Under the content area 'Space and Shape', relating to the topic '3D Shapes',

Grade R learners are expected to “use 3D objects to construct composite objects” (p. 30). The ability to use objects in the construction of an individual composite or whole object is an expression of a child’s creativity of thought – this often manifests in the Art section of a pre-school as children use cardboard boxes glued together in a systematic way to represent a ‘machine’ of some sort of their own interpretation (explicit *‘playfulness / resourcefulness’*). The progression for this particular instance in Grade 1 is described as “observe and build given 3D objects using concrete materials” (p. 30). It is not clear in this particular instance just how much the ability to ‘play’ with a concept is allowed or indeed encouraged. Often, depending on the specific activity and materials selected by the teacher for the children to use in order to reach this milestone will determine the establishment or encouragement of *‘playfulness / resourcefulness’*, or dismissal and restriction thereof. I elaborate: A teacher who allows children to select a box/prism/example of a 3D objects from a wide selection, and provides a host of collected objects which can be used in non-specified, varied ways to construct a chosen final shape, may find that the children all come up with different ideas and ways of achieving the same desired outcome (*‘playfulness / resourcefulness’* of thinking, and creativity encouraged). Conversely, if all the children are given the same object to recreate, using a specified type of material, and guided in a step-by-step way to achieve the same final result, creativity is disregarded for a procedural ‘right or wrong’ approach. Unfortunately, this particular objective is ambiguous in its intended execution, and so cannot definitively be included in the realm of *‘playfulness / resourcefulness’* promotion.

A second instance of *‘playfulness / resourcefulness’* appearing outside of the above general terms appears under the content area ‘Measurement’, as an intended outcome of ‘length’, ‘mass’ and ‘capacity/volume’: in both grades it is encouraged that children measure objects using “non-standard measures” (p.33-34). By insisting the children experience measurement both informally and through the use of non-standard measures (i.e. hands, feet, paper-clips etc), policy-makers and teachers are exposing children to the notion that one singular object can be measured or quantified/described in a variety of ways, using a variety of tools. This exposure to a range of possibilities within a seemingly simple concept expands a child’s thinking to include the not-so-obvious elements within a concept – another fundamental principle in encouraging *‘playfulness / resourcefulness’* and creativity of thought.

3: RESILIENCE:

From page 39 onwards in Section 3, the document contains a section on “Content Clarification”. This section deals with the Grade R-3 overview once more, but this time it provides suggested sequencing of topics, suggested pacing, and clarification notes and teaching guidelines (p.39). Although a systematic analysis of this whole section is not in fact pertinent to this discussion, I have selected areas where dispositions in Grade R in particular are mentioned. Corresponding mention in the Grade 1-3 areas is highlighted if at all present.

On page 49, “Problem types for Grade R” is discussed. Within this section reference is made to *‘resilience’*, *‘playfulness / resourcefulness’* and *‘connections to learner’s world / see mathematics as worthwhile’*, but not *‘reciprocity’*. The exclusion of this disposition in this particular section though is not an indication that this habit is discouraged here, rather that it has been addressed in the general or specific aims, or in the content overview itself.

Connections to the Learner’s world is highlighted in much the same way it has been in previous sections of the document, by encouraging teachers to “involve objects that are present in the classroom” (p.49). *‘Playfulness / resourcefulness’* is articulated by encouraging teachers to “mix the problem types form day-to-day” (p.49). This serves two purposes – to expose the children to a variety of methods/contexts in which the same learnt concepts can be expressed and utilised, therefore avoiding over-reliance on learnt procedures and techniques of problem-solving; and secondly, to keep children interested and engaged with the concept while providing repeated opportunities to practice and establish specific skills.

‘Resilience’ makes a rare appearance in this section. On page 49, in relation to Grade R, teachers are encouraged to “not simply assume that their learners cannot cope with bigger numbers”. Teachers here are not directly encouraged to motivate children to ‘keep trying’ but there is some implication to push them beyond their comfort zone (i.e. extend them). So far, little reference has been made to what should be considered an important attribute within the mathematics learning environment. With the development of *‘resilience’* amongst children comes the empowerment necessary to change the education system in South Africa from the inside-out: children feeling empowered and confident within themselves and with their abilities, not only in mathematics, but in life in general, will be better prepared to take on the challenges of poverty, injustice and social tension (Atweh et al., 2014). A developed

'resilience' to the struggles of maths, and of life, will help guide our youth on to changing their fate, rather than accepting defeat at the first turn. And yet, mention here of this important quality is simply inferred. This said, however, the instruction to challenge children to explore mathematical thinking beyond what is the minimum curriculum requirement or beyond what the learners have demonstrated they can do, is important as it indirectly encourages the development of *'resilience'* and in turn, *'confidence / self-efficacy'* in themselves – a positive regardless of the scope or extent to which it is done.

4: CONFIDENCE / SELF-EFFICACY

The development of *'confidence / self-efficacy'* as a specific indicator is not observable in section 3 of the CAPS document as a direct intended outcome of learning and teaching. However, because of its synonymous relationship with the development of *'resilience'* amongst children, it cannot be claimed that this indicator, in its absence, is an overlooked in this particular policy document. Rather, it could be argued that it is present as a secondary intended outcome which arises through the development of other dispositional focused outcomes and activities.

5: CONNECTIONS TO LEARNER'S WORLD / SEE MATHEMATICS AS WORTHWHILE:

While all of number concepts, counting etc. at this level can be said to be directly relevant to or connected to the real world, here I focus on statements within this section of the document that foreground explicitly the connections to the world of the learner and/or those that relate to the emphasis of the usefulness of Mathematics beyond the classroom. *'connections to learner's world / see mathematics as worthwhile'* refers to children being encouraged and allowed to approach mathematical concepts, which get more and more abstract as they reach higher grades, in an everyday context, and efforts are made to relate what can sometimes be a confusing concept to practical, experienced and real-world representations of both the occurrence thereof as well as the usefulness and validity of the concept. An assumption here is that a child will be less inclined to utilise and fully assimilate an abstract concept if they are not explicitly shown the relevance of that concept to their survival and success in society as a whole.

This disposition is referred to a total of eight times in Grade R and fourteen times in Grade 1. Specific mention is made in the topic 'addition and subtraction' (p.22) of "solving problems in context", both in Grade R and Grade 1. This refers to word problems, and represents the need to embed these 'story sums' in the everyday knowledge and experiences of the children, so that children may not only relate to the story itself, but also so that the mathematical concepts are less threatening. Under 'geometric patterns', both grades articulate the use of 'physical objects' to copy, extend and describe simple patterns (p. 27). The use of physical objects in this respect allows children to manipulate tangible and familiar objects in order to represent the abstract concept of 'patterning'. By using these objects, the children are again introduced to a non-threatening activity which focuses on the expression and exploration of a fundamental mathematical skill. In Grade 1, articulation of the children's expression of this disposition is expressed by the expectation to explore geometric patterns "in nature; from modern everyday life; from our cultural heritage" (p. 27).

Finally, the content area 'Measurement: Time' contains a few examples of encouragement of this particular indicator, as it calls on children to, in Grade R: "Discuss things that happen during the day and things that happen at night; Sequence events that happen to them during the day; Order regular events from their own lives" (p. 32), and in Grade 1 to: "Order regular events from their own lives; place [own] birthdays on a calendar" (p.32). Although progression is not immediately evident, it can be assumed that the sophistication with which the children can in fact sequence the events in their lives will increase as they get older and develop their mathematical as well as literacy skills. Encouraging children to continuously rely on and make reference to their own personal lives contributes to establishing connections to their world, and provides a way of approaching mathematics that enables children to establish 'ownership' of this activity, making it personal, and so enabling easier retention of the concept.

The second document to be analysed in this chapter relates to the practical teaching elements. This document is important in that it supports the implementation of the foundational CAPS document – any curriculum cannot reach its full intended potential if the implementation thereof is skewed by teachers’ differing interpretations. Although it is not possible to achieve the exact same desired outcome in every classroom, in every school throughout our diverse nation, this handbook serves to supplement the guidelines and practical implications laid out in the CAPS document. It also speaks to the practical manifestations of how and when productive learning dispositions can or should be promoted.

5.2.2: Numeracy Handbook for Foundation Phase Teachers: Grade R-3

The overall aim of this document is to “enhance the pedagogic and didactic capacity of Foundation Phase teachers, to teach Mathematics more effectively” (DBE, 2012, p. i). The document is divided into two parts; the first part consists of different units which describe “what it means to be numerate and do mathematics in the modern world” (DBE, 2012, p. 1). This section deals with the foundational principles of all mathematical learning, across the five content areas, and across the grades. It also deals with “the discussion of critical factors that contribute to the development of numeracy” (DBE, 2012, p. 1). It is this section that will be analysed here.

The second part outlines the five content areas of CAPS, and describes the “key issues to be thought about when teaching the topics and suggestions for effective classroom practice” (DBE, 2012, p. 1).

Using the same method as used for the analysis of the first three sections of the CAPS document, the following table gives a summary of the different instances where the promotion of productive dispositions can be observed within Part 1:

DISPOSITIONAL CATEGORY	STATEMENTS	FREQUENCY
1: RECIPROCITY	* “encouraging children to <i>demonstrate their mental images</i> with concrete objects or use of drawings and sketches” * “giving children the opportunity to <i>explain their thinking</i> to their peers and teacher” * “encourage children to <i>present their mathematical thinking/understanding verbally and graphically</i>” * “involve children in a <i>variety of dialogues</i> that encourage them to reflect on their mathematical thinking” * “able to <i>reason about what you have done</i>” (P. 2). * crucial factor: “<i>discussion</i>” (P. 5). * teachers: “actively encourage children to reflect on what they are doing and thinking. Help children <i>verbalize observations</i> so they <i>can explain these to others and learn to interpret explanations of others</i>” (p. 8). * “need to <i>provide opportunity to make sense of and reflect on</i> procedures and practices” (p. 11). * “children must <i>reflect on</i> and think about how they solved a problem” (p. 12). * “need to encourage <i>reflection through discussion</i>” (p. 12). * guidelines for practice: “<i>discussion</i>” (p. 19).	11
2: PLAYFULNESS / RESOURCEFULNESS	* “apply what you know to solve <i>unfamiliar or non-routine problems</i>” (p. 2). * “need to understand the mathematics they learn in <i>flexible</i> and meaningful ways so that they can apply it with confidence to make sense of the world” (p. 4). * teachers: “create activities that <i>reveal underlying structures of numbers</i>, operations and mathematical relationships” (p. 8). * “ability to make sense of and use basic mathematical ideas in a <i>range of situations</i>” (p. 11). * “ability to relate and <i>use different mathematical ideas</i> in solving problems” (p. 11). * “children need to be exposed to <i>non-routine problems</i> in which they have to apply the knowledge and skills that they have developed” (p. 12). * “<i>use understanding of learnt mathematics</i> to solve meaningful problems” (p. 14).	7
3: RESILIENCE	* “need to understand the mathematics they learn in flexible and meaningful ways so that they <i>can apply it</i> with confidence to make sense of the world” (p. 4). * use understanding to solve problems knowing that “they <i>may have to struggle</i> and try a few different approaches” (p. 14). * “believe that with <i>some effort</i> they can solve the problem” (p. 14). * “to engage is to see mathematics as sensible, useful, and doable – <i>if you work at it</i> – and are <i>willing to do the work</i>” (p. 14).	4
4: CONFIDENCE / SELF-EFFICACY	* “need to understand the mathematics they learn in flexible and meaningful ways so that they can apply it <i>with confidence</i> to make sense of the world” (p. 4). * “believe that with some effort <i>they can solve the problem</i>” (p. 14).	2
5: CONNECTIONS TO LEARNER’S WORLD / SEE MATHEMATICS AS WORTHWHILE	* “start with <i>real problems</i> that present children with mathematics processes that are <i>embedded in meaningful contexts</i>” * “want children to experience Numeracy as a purposeful, <i>meaningful</i> and <i>sensible</i> activity” (p. 2). * “experience it is as <i>meaningful</i>, interesting and <i>worthwhile</i>” (p. 3). * “need to understand the mathematics they learn in flexible and <i>meaningful</i> ways so that they can apply it with confidence to <i>make sense of the world</i>” (p. 4). * crucial factor: “use of <i>meaningful problems</i>” (p. 5). * “through reasoning: develop understanding and come to see mathematics as <i>sensible</i> and doable” (p. 12). * “use understanding of learnt mathematics to <i>solve meaningful problems</i>” (p. 14). * guidelines for practice: “use of <i>meaningful problems</i> – make it <i>meaningful and relevant</i>” (p. 19).	8

Table 4: Frequency of dispositional statements by category in the Numeracy Handbook (part 1)

(DBE, 2012, pp. i-19)

Discussion:

1: RECIPROCITY

As in the CAPS document, '*reciprocity*' is a priority in context of teacher *practices*, extending the implications beyond a singular curriculum outline, and into the realm of the physical classroom environment. The implication of this prioritisation is that teachers are expected to encourage this particular disposition – the enacted curriculum is intended to align to the intended curriculum.

Significant examples of the promotion of '*reciprocity*' appear on page 5 and 19, as the document discusses 'crucial factors' of teaching numeracy in the Foundation Phase, and 'guidelines for practice', both of which contain 'discussion'. This discussion mentioned can be observed in the children's ability to:

(From Part 1): "demonstrate mental images", "explain their thinking", "present their mathematical understanding" and "reflect on their mathematical thinking" (p.i); to "reason about" what they have done (p.2); active encouragement by the teacher to "reflect on what they are doing and thinking" and "help children verbalize observations" which they can "explain to others and learn to interpret explanations of others" (p. 8); be given the opportunity to "make sense of and reflect on procedures and practices" (p. 11); they should "reflect on and think about" (p. 12) how they have solved a problem; develop understanding "through reasoning" (p 12); and finally, reflection should be encouraged through discussion (p. 12).

These many manifestations of 'discussion' as advocated in the 'crucial factors' and 'guidelines for practice' can be articulated by the children in a number of ways:

"with concrete objects or use of drawings and sketches", "to their peers and to their teacher", "verbally and graphically" and through "a variety of dialogues" (p.i).

2: PLAYFULNESS / RESOURCEFULNESS

As with *'reciprocity'*, *'playfulness / resourcefulness'* is again prioritised in this document, appearing in multiple instances throughout Part 1. Similar to the descriptions present in the CAPS document, *'playfulness / resourcefulness'* here is described as the ability of the children to:

Apply what they know to “solve unfamiliar or non-routine problems” (p. 2); “understand the mathematics they learn in flexible...ways” (p. 4); make sense of, use and relate basic mathematical ideas in a range of situations, and when solving problems (p. 11); and finally “use understanding of learnt mathematics to solve meaningful problems” (p. 14).

Teachers are encouraged to do the following in order to support and encourage these abilities, and so promote the production of *'playfulness / resourcefulness'*:

“create activities that reveal underlying structures of numbers, operations and mathematical relationships” (p. 8), and expose the children to “non-routine problems in which they have to apply the knowledge and skills that they have developed” (p. 12).

3: RESILIENCE

Although only four instances can be observed where this particular disposition is mentioned throughout the nineteen pages of this section, it is significant, in that it is mentioned. Again, as with CAPS document, *'resilience'* as a term is not directly referred to, but rather variations thereof or attributes which support the development of *'resilience'* are instead referred to as using their understanding while acknowledging that:

“they may have to struggle *and try a few different approaches*” and “believe with *some effort* they can solve the problem” (p. 14) (emphasis added).

Finally, the document describes the ability of being able to ‘engage’ as seeing mathematics as “sensible, useful and doable – if you *work at it* – and are *willing to do the work*” (p.14) (emphasis added).

This notion of ‘doing the work’, or putting in the effort is at the heart of ‘*resilience*’ – the end result, the success or failure of the child, is irrelevant here, but rather the ability to ‘engage’ and sustain that engagement regardless of the complexity of the activity. No mention is made here of practical ways in which teachers can encourage the development of this habit amongst learners.

4: CONFIDENCE / SELF-EFFICACY

Notably fewer frequencies of this particular dispositional category are observable within this document. The two references made to ‘*confidence / self-efficacy*’ here also overlap with frequencies relating to ‘*resilience*’. ‘*Confidence / self-efficacy*’ is directly related to or referred to on page 4 as: children “need to understand the mathematics they learn in meaningful ways *so that they can apply it with confidence*”; and on page 14 as: “believe that with some effort *they can solve the problem*” (emphasis added).

5: CONNECTIONS TO LEARNER’S WORLD / SEE MATHEMATICS AS WORTHWHILE

The promotion of connections to the learner’s world, or the importance of seeing mathematics as worthwhile, is also prioritised in this document. This is shown on the first page, where the practice of ‘embedding’ mathematical processes in meaningful contexts is mentioned, as well as in the section regarding ‘crucial factors’ – where the use of “meaningful problems” is advocated (p. 5). Finally, in the ‘guidelines for practice’ section, this indicator is again brought to the fore as the document calls on teachers to make mathematics “meaningful and relevant” (p.19). This is reiterated throughout the nineteen pages of Part 1, and is highlighted through stating children should:

“experience Numeracy as a purposeful, *meaningful* and *sensible* activity” (p. 2) (emphasis added); and experience it as “meaningful, interesting and worthwhile” (p. 3); the desire to encourage children to use mathematics to “*make sense* of their world” (p. 4) (emphasis added); and to use their understanding of learnt mathematics to “*solve meaningful problems*” (p.14) (emphasis added).

It can be argued from the above analysis of Part 1 of this teacher’s guide that the five productive learning dispositions are not only encouraged, but seen as fundamental in the

effective teaching and doing of mathematics across the content areas and topics. This is in line with the intended CAPS curriculum, and many instances of teacher practice guidelines are mentioned herein – although not detailed, a general idea is conveyed to the teachers around how to create an environment, and what sort of activities to conduct, in order to foster the development of these learning dispositions.

The CAPS document analysed in 5.2.1 above gives educators a template of outcomes that need to be reached by learners, and the Numeracy Handbook analysed in 5.2.2 serves to support the CAPS, by providing support to teachers on *how* to implement the outcomes. The ANA: 2013 Diagnostic Report and 2014 Framework for Improvement adds a third ‘leg’ to this teaching support structure, and is similarly analysed below.

5.2.3: Annual National Assessment: 2013 - Diagnostic Report and 2014 Framework for Improvement

This document, utilising the identification of problem areas and concepts, provides specific intervention strategies for educators in order to “inform all levels of the education system of specific areas of Language and Mathematics knowledge and skills which learners...found to be challenging” (p.6).

This document is significant in the teaching and learning of Mathematics as it is a) the most recent documentation involving school performance levels, and b) it is intended to be used in conjunction with the other two documents in the long-term efforts of improving mathematics teaching and learning in the Foundation Phase. Although Grade R is not represented in this document (Grade R children do not participate in the ANA’s), it remains a significant document as the recommendations arising from the results are considered across grades, content areas and topics, and the Grade 1 results could have implications for Grade R. However, as discussed in chapter 3, we should guard against Grade R becoming a ‘watered down’ Grade 1, as assessment strategies have the potential to push work down through the grades in order to attain higher results later on (e.g. introducing Grade 1 work earlier in order to spend two years covering content, instead of gradual progression through concepts and contexts).

The following table summarises the suggestions made to enhance the effective teaching and learning of mathematics, in relation to key productive disposition development, in 2013 in Grades 1-3:

DISPOSITIONAL CATEGORY	STATEMENTS	FREQUENCY
1: RECIPROCITY	* "allow learners to <i>explain</i> (in their own words) their solutions/methods i.e. how they got the answer, whether the procedure and answer are correct or incorrect" (p. 10). * work out the solution by "drawing a diagram or writing – <i>Problem solving should be an oral, practical and written activity</i>" (p. 11).	2
2: PLAYFULNESS / RESOURCEFULNESS	* "routine and <i>non-routine</i> word problems should feature in almost all Mathematics lessons" (p. 11). * - teacher should "demonstrate <i>a variety of techniques</i> to solve any one problem" (p. 11).	2
3: RESILIENCE	* explain their solutions "empowers them <i>to take responsibility for their learning</i> and builds confidence amongst them" (p. 10). * "expose learners to questions that are pitched <i>at different cognitive levels</i>" (p. 11).	2
4: CONFIDENCE / SELF-EFFICACY	* explain their solutions "empowers them to take responsibility for their learning and <i>builds confidence amongst them</i>" (p. 10).	1
5: CONNECTIONS TO LEARNER'S WORLD / SEE MATHEMATICS AS WORTHWHILE	* "most topics in Geometry and Data Handling can be taught <i>meaningfully</i> and practically by using <i>readily available resources</i> drawn from the <i>learner's environment</i>" (p. 10).	1

Table 5: Frequency of dispositional statements by category in ANA: 2013 Diagnostic Report

Discussion:

Again, it can be noted that the section of this document dealing with suggestions of how to enhance the effective teaching and learning of mathematics, the five indicator categories of learning dispositions are encouraged, and are offered as practical ways of addressing the most serious shortcomings in Foundation Phase Mathematics learning. The fact that this sample only spans two pages, yet yields multiple examples of productive disposition development is another indicator of the promotion within policy of these 'habits' in teaching and learning.

There is an even spread of frequency amongst the first three indicator categories, with two statements each, and again amongst the last two categories, with one statement each.

1: RECIPROCITY:

Two statements refer to '*reciprocity*' in this document, one relates to affording children the opportunity to "explain (in their own words) their solutions/methods" (p. 10); whereas the

second relates to the different forms of *'reciprocity'*. Both verbal and non-verbal methods of communicating are discussed in that "problem-solving should be an oral, practical and written activity" (p. 11).

2: PLAYFULNESS / RESOURCEFULNESS:

Again, two statements referring to this indicator category are present, specific mention is not made to the terms *'playfulness / resourcefulness'*, but rather the document encourages teachers to make use of "routine and non-routine problems" (p. 11) and to demonstrate "a variety of techniques to solve any one problem" (p. 11). This points to the importance of exposing learners to the availability of multiple techniques and methods which can be utilised when tackling mathematical concepts, a key way of encouraging *'playfulness / resourcefulness'*.

3: RESILIENCE

The two statements which relate to this indicator category first deal with taking "responsibility" (p. 10), and secondly with "different cognitive levels" (p. 11). As discussed earlier under section 3 of the CAPS document, this refers to teachers extending learners by exposing them to more difficult work, and not assuming that they can only handle the most basic work. And through the exposure to challenges (and through the learner's subsequent successes), *'resilience'* is developed.

4: CONFIDENCE / SELF-EFFICACY

The one statement related to this indicator category encourages the development of *'confidence / self-efficacy'* amongst learners through affording them the opportunity to explain their own solutions (p. 10). No further references or explanations around this indicator of key productive learning dispositions is present.

5: CONNECTIONS TO LEARNER'S WORLD / SEE MATHEMATICS AS WORTHWHILE

Although the one statement present in this document which refers to this indicator category speaks specifically to "Geometry and Data-Handling" and not all aspects of mathematical teaching and learning, it is nevertheless important in its encouragement of teachers to use

“readily available resources” (p. 10), with the presumed objective to apply abstract mathematical concepts to the real world.

5.3: ASSESSMENT POLICY DOCUMENTS

The first part of this chapter dealt with samples extracted from general policy documents pertinent to the teaching and learning of Mathematics, including the CAPS, The Foundation Phase Teacher’s Guide, and finally the ANA Diagnostic Report. The second part of the chapter will deal with the recommended Assessment Guidelines outlined by policy (CAPS). The purpose of analysing assessment practices and guidelines is twofold – firstly, to ascertain if the promotion of productive dispositions, established above as prioritised in general policy, is transferred to assessment. Secondly, to ascertain whether or not there is the expectation that teachers apply the recommendations of policy to implementing them in assessment techniques.

5.3.1: CAPS: Grade R/Grade 1 Assessment Guidelines

In this section, the Assessment Guidelines presented in the CAPS document will be examined. On page 244, the Grade R Assessment Guidelines are provided (DBE, Curriculum Assessment Policy Statements, 2012). The purpose of these guidelines is to help teachers to “understand and thereby assist the learner’s development in order to improve the process of learning and teaching” (p.244). This sentiment is echoed in the Grade 1-3 guidelines: “records of learner performance should also be used to verify the progress made...in the teaching and learning process” (p.487).

As is discussed earlier in chapter 3, the purposes of assessment are multiple, and assessment plays a significant role in the success of schooling. Coupled with the assertion that productive learning dispositions are paramount in the success of teaching and learning, it is here pertinent to note that very little to almost no mention is made of the development of learning dispositions in this particular section on assessment.

Analysis of this document was conducted in the same way as the documents above, and statements relating to indicator categories were tabled and tallied accordingly. For the

purposes of this analysis, the following two tables (table 6.1 and table 6.2) provide an overview of the frequency of dispositional statements occurring in the Assessment Guidelines for Grade R and Grade 1 respectively. Full assessment guideline exemplars are included in Appendices C and D (Grade R and Grade 1 respectively).

DISPOSITIONAL CATEGORY	STATEMENTS		FREQUENCY
	TERM 1 (p. 266-267)	TERM 2 (p.268-269)	
1: RECIPROCITY	- <i>"explain own thinking in words and through drawings or concrete objects"</i>	- <i>"explain own thinking in words and through drawings or concrete objects"</i>	2
2: PLAYFULNESS / RESOURCEFULNESS	- <i>"estimate and rote count up to 5"</i> - <i>"create own patterns"</i> - <i>"compare which of two given collections of objects..."</i>	- <i>"estimate and rote count up to 7"</i> - <i>"create own patterns" p</i> - <i>"compare which of two given collections of objects..."</i>	6
3: RESILIENCE			0
4: CONFIDENCE / SELF-EFFICACY			0
5: CONNECTIONS TO LEARNER'S WORLD / SEE MATHEMATICS AS WORTHWHILE	- <i>"Recognise numbers in familiar context"</i> - <i>"order recurring events in own daily life"</i>	- <i>"Recognise numbers in familiar context"</i> - <i>"Recognise the different South African coins"</i>	4

Table 6.1: Frequency of dispositional statements per category in Assessment Guidelines – Grade R

Discussion:

From the table above, two aspects are noted. First, *'resilience'* and *'confidence / self-efficacy'* are noticeably absent. This correlates with the CAPS document analysed earlier in that there is little to no reference made to these dispositional indicators. Secondly, it is interesting to note that although *'playfulness / resourcefulness'* and *'connections to learner's world / see mathematics as worthwhile'* have high frequencies with six and four references represented respectively, *'reciprocity'* is also mentioned in both Term 1 and Term 2 (i.e. two references). These statements speak directly to the CAPS outcomes (section 3), and many words and phrases are taken directly from the CAPS outcomes. Thus examples such as "explain own thinking" are represented both here and as specific outcomes. This repetition of word and phrase shows a direct correlation between the two documents.

DISPOSITIONAL CATEGORY	STATEMENTS			FREQUENCY
	TERM 1	TERM 2		
	ASSESSMENT TASK 1	ASSESSMENT TASK 1	ASSESSMENT TASK 2	
1: RECIPROCITY	- “uses language to describe relative size of numbers” p. 491 - “explains own solutions to problems” p. 491 - “Describes when something happens using language” p. 491 - “describes the sorted collection” p. 491	- “explains own solutions to problems” p. 492	- “uses language to describe relative size of numbers” p. 493 - “explains own solutions to problems” p. 493 - “describes the sorted collection” p. 493	8
2: PLAYFULNESS / RESOURCEFULNESS	- “measures and compares mass” p. 491			1
3: RESILIENCE				0
4: CONFIDENCE / SELF-EFFICACY				0
5: CONNECTIONS TO LEARNERS WORLD / SEE MATHEMATICS AS WORTHWHILE	- “solves word problems in context” p. 491 - “collects and sorts everyday objects” p. 491	- “solves word problems in context” p. 492	- “solves word problems in context” p. 493 - “Recognises South African currency coins” p. 493 - “collects and sorts everyday objects” p. 493	6

Table 6.2: Frequency of dispositional statements by category in Assessment Guidelines – Grade 1

Discussion:

Again, as with the Grade R guidelines (in table 6.1 above), there is no reference to ‘resilience’ or ‘confidence / self-efficacy’. This correlates both to the earlier CAPS outcomes analysed, as well as showing some similarity between Grade R and Grade 1 in terms of the dispositional categories of statements. The language used too relates directly to the CAPS outcomes for Grade 1, with repetition of words and phrases such as “solves word problems in context” and “explains own solutions to problems”.

Frequency of instances under ‘reciprocity’ and ‘connections to learner’s world / see mathematics as worthwhile’ is higher in the Grade 1 Guidelines, with eight and six occurrences respectively, versus two and four in the Grade R Guidelines. This was a trend observed in the analysis of the CAPS outcomes, and points to an expectation of progression and sophistication of key productive learning dispositions from one grade to the next.

5.4: CONCLUDING REMARKS

Across the three documents analysed in this chapter, as well as across the various sections within these documents, the key indicators of dispositional categories most prevalent are: *'reciprocity'*; *'playfulness / resourcefulness'* and *'connections to learner's world / see mathematics as worthwhile'*. *Reciprocity* was consistently high in frequency, and the lowest instances of frequency were for the key indicators *'resilience'* and *'confidence / self-efficacy'*.

Across Grade R and Grade 1, there was no observable dissonance in respect of the prioritisation and promotion of key productive learning dispositions as outlined by the indicator categories. In instances where one particular indicator had a high frequency of statements in Grade R specific documentation, the same occurred in Grade 1, and the same for those indicators with lower frequencies.

Notable as well, in terms of the two different grades, is the presence (especially in Section 3 of the CAPS document) of progression from Grade R to Grade 1 in terms of the expected level of sophistication of key productive learning disposition development.

CHAPTER 6

TEACHER RESPONSES AND REPORT ANALYSIS

6.1: INTRODUCTION

This chapter is divided into three key sections relevant to my questionnaire distributed amongst six schools. The first section (6.2) deals with firstly, the development process that led to my indicator matrix and secondly, an analysis of Questions 1, 2 and 3 of the questionnaire using said matrix. The second section (6.3) deals largely with the analysis of Question 4 of the questionnaire, as it addresses the formal reporting of dispositions, and analysis of the complimentary exemplar learner reports. This section speaks back to my research question 3:

“How, if at all, are learning dispositions reported on/communicated to parents in Grade R and Grade 1? Is there evidence of congruence and /or dissonance in these assessment practices: between the two grades; between the various schools; and between the policy and the practice?”

The final section (6.4), which also speaks to research question 3, gives a richer, more holistic illumination of the selected teachers and their stated practices and understandings of dispositions through the form of narrative vignettes. This final section supplements the first two sections of this chapter that analysed data across all schools, and all questions. The vignettes give the reader greater insight into the thinking and doing of how teachers in the Foundation Phase are currently grappling with this ‘dispositional milieu’.

SECTION 1:

6.2: INDICATOR MATRIX AND ANALYSIS OF RESPONSES (QUESTIONS 1, 2, 3)

6.2.1: HOW THE INDICATOR MATRIX EMERGED

Based on the reading of the two key literature sources, namely Carr & Claxton (2010), and Kilpatrick et al. (2001) four key indicators or categories relating to the promotion of productive learning dispositions emerged (also discussed in chapter 3). These are as follows:

'Reciprocity': is "the confidence and *inclination* to give opinions and contribute ideas, through any or several of a range of *communicative and expressive* means" (DBE, 2012, p. 15) (emphasis added). This category relates to the act of communicating and engaging *with others*.

'Resourcefulness / playfulness / sense-making': "ready, willing and able to perceive or construct variations on learning situations and thus to be more creative in interpreting and reacting to problems" (Carr & Claxton, 2010, p. 14) and, according to Kilpatrick et al.: "Mathematically proficient people believe that mathematics should make sense" (2001, p. 133).

'Resilience': is the "inclination to take on learning challenges where the outcome is uncertain" (Carr & Claxton, Tracking the Development of Learning Dispositions, 2010, p. 14) as well as the "belief that steady effort in learning mathematics pays off" (Kilpatrick, Swafford, & Findell, 2001, p. 131). This indicator has two manifestations; firstly, it refers to *'resilience'* and persistence in the face of difficulty, and secondly, it refers to hard work and continuing to engage, even when interest is lost (maintain engagement in activities).

'Confidence': Kilpatrick et al., in the section on teaching for mathematical proficiency, argue that "to make steady progress toward proficiency, students need continued confidence that they can meet the challenges of school mathematics" (2001, p. 339). This *'confidence'* can also be described as: "the capacity to believe in one's own ability to accomplish things and contribute positively to society" (Hohmann & Weikart, 2002, p. 46).

These four categories, plus others which emerged from the data, were used in the previous section to analyse policy documents around Grade R and Grade 1 in South African schools.

These four categories worked well for that analysis, and much of the data uncovered correlated with these. These same categories were then used to analyse teacher responses, as well as the samples of written learner reports provided. While much of the data applied, and could be categorised within these four key categories, it was found that some relevant data was left uncategorised. Upon conducting a grounded analysis across all the teacher response data gathered, four new categories emerged. The teachers involved in the study contributed ideas that pointed to the importance of additional categories, repeatedly and across the different schools, around which learning dispositions and/or classroom strategies and behaviours are prioritised in their classroom. The four emergent categories are as follows:

'Independence': Also referred to as 'autonomy' or 'initiative', which relates to having a sense of agency and control over their own learning, and is the ability to "take care of one's own needs" (Hohmann & Weikart, 2002, p. 383) .

'Love and passion for learning': A sense of excitement for learning and enthusiasm for the learning process.

'Affective elements': These are the elements which relate to 'being a good classroom citizen'. Examples of *'affective elements'* include: kind, caring, respectful, tolerant, empathetic, trusting, friendly and patient.

'Classroom compliance': This relates to children being compliant to classroom rules, and discipline within the classroom; examples which include 'follows rules', 'routine', 'discipline', 'listening skills' and being 'good'.

Even in expanded form here under the eight indicator categories (see below) discussed by Claxton (2012), subsumed in Carr & Claxton's (2010) three indicator categories, the emergent indicators of *'independence'*; *'love and passion for learning'*; *'affective elements'* and *'classroom compliance'* are not included:

- Curiosity: "Curious people have an abiding sense of inquisitiveness. They wonder how things come to be, how they work, whether they might be otherwise. They live in a wonder-full world, not a world of dead certainties and cut-and-dried rules. They

know how to ask good, pertinent, penetrating questions. They have a healthy scepticism about what they are told.” (p. 6).

- Courage: “the capacity to be up for a challenge, to be willing to take a risk and see what happens, not always playing it safe and sticking to things they know they can do. Courageous learners have the determination to stick with things that are hard. They bounce back from frustration; they don’t stay floored for long.” (p. 6).
- Exploration: “is the active counterpart of curiosity. Inquisitive people enjoy the process of finding things out, of researching. They like reading, but they also enjoy just looking at things, letting details and patterns emerge. They can let themselves get immersed in a book or a game; absorption in learning is often a pleasure. They can concentrate. They like sifting and evaluating ‘evidence’, not just reading or surfing the net uncritically, and their exploration usually breeds more questions. Explorers are also good at finding, making or capitalising on resources (tools, sources of information, people) that will support their investigations.” (p. 6).
- Experimentation: “is the virtue of the practical inventor, actively trying things out to see if they work. Experimenters like tinkering, tuning and looking for small improvements. They don’t have to have a grand, ostensibly foolproof scheme before they try something out; they are at home with trial and error. They spend a good deal of time just playing with materials — paint, cogs, computer graphics — to see what they will do, uncovering new ‘affordances.’ They are happy practising, they enjoy drafting and redrafting, looking at what they’ve produced — a garden bed, an essay, a melody— and thinking about how they could build on and improve their own products and performances.” (p. 6).
- Imagination: “is the virtue of fantasy, of using the inner world as a test-bed for ideas and as a theatre of possibilities. Good imaginers have the virtue of dreaminess: they know when and how to make use of reverie, how to let ideas come to them. They have a mixture of healthy respect and sceptical appraisal toward their own hunches and intuitions. They use mental rehearsal to develop their skills and readiness for

tricky situations. They like finding links and making connections inside their own minds. They use imagery and metaphor in their thinking.” (p. 6).

- Discipline: “being able to think carefully, rigorously and methodically, as well as to take an imaginative leap. Reason isn’t the be-all and end-all of learning by any means, but the ability to follow a rigorous train of thought, and to spot the holes in someone else’s argument, as well as your own, is invaluable. Disciplined learners can create plans and forms of structure and organisation which support the painstaking ‘crafting’ of things that usually needs to follow the ‘brainwave.’” (p. 6).
- Sociability: “Effective learners know who to talk to (and who not), and when to talk (and when to keep silent) about their own learning. And they are good members of groups: they know how to listen, how to take turns, what kinds of contribution are helpful. They have the knack of being able to give their views and hold their own in debate, and at the same time stay open-minded to and respectful of others’ views: of giving feedback and suggestions skilfully and receiving them graciously. They are generous in sharing information, ideas and useful ways of thinking and exploring: and they are keen to pick up useful perspectives and strategies from others.” (p. 7).
- Mindfulness: “in the sense of being disposed to reflection and contemplation, taking time to mull things over, take stock and consider alternative strategies. Not paralysed by self-consciousness but capable of self-awareness, reflective learners can take a step back every so often and question their own priorities and assumptions. Thinking about your own thinking isn’t always useful but it is needed at strategic moments. Mindfulness means giving yourself the time to go deeper, to see what conclusions you may have leapt to, and let a bigger picture emerge.” (p. 7).

Thus from taking the four literature inspired categories alongside the four emergent categories, the following eight categories emerged as an analytic framework for indicators for my data gathered from teachers. The following table outlines each of these indicator categories, as well as examples of indicators – statements, phrases and words used by teachers that were taken as indicators of the dispositions of the categories:

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE		CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
Definition: “the confidence and <u>inclination</u> to give opinions and contribute ideas, through any or several of a range of <i>communicative and expressive means</i> ” (Carr & Claxton, Tracking the Development of Learning Dispositions, 2002, p. 15) (emphasis added). This category relates to the act of communicating and engaging <u>with others</u> .	Definition: “ready, willing and able to perceive or construct variations on learning situations and thus to be more creative in interpreting and reacting to problems” (Carr & Claxton, Tracking the Development of Learning Dispositions, 2002, p. 14) and, according to Kilpatrick et al.: “Mathematically proficient people believe that mathematics should make sense” (2001, p. 133)	Definition: “inclination to take on learning challenges where the outcome is uncertain” (Carr & Claxton, Tracking the Development of Learning Dispositions, 2002, p. 14). Has two distinct manifestations: *Resilience and persistence in the face of difficulty *Hard work *Continuing to engage even when interest is lost; maintain engagement * Belief that steady effort pays off (Kilpatrick et al., 2001)	Definition: Kilpatrick et al. believe that “to make steady progress toward proficiency, students need continued confidence that they can meet the challenges of school mathematics” (2001, p. 339). This confidence can also be described as: “the capacity to believe in one’s own ability to accomplish things and contribute positively to society” (Hohmann & Weikart, 2002, p. 46).	Definition: Also referred to as ‘autonomy’ or ‘initiative’ and is the ability to “take care of one’s own needs” (Hohmann & Weikart, 2002, p. 383) . Relates to having a sense of agency and control over their own learning.	Definition: A sense of excitement for learning and enthusiasm for the learning process.	Definition: These are the elements which relate to being a ‘good’ classroom citizen.	Definition: This relates to children being compliant to classroom rules, and discipline within the classroom.	

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE		CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
Examples of indicators: * Make suggestions to others * Communicate with others * Co-operation in groups * Engaging with others * asking questions * give input * participation and interaction <i>in discussions</i>	Examples of indicators: * willingness to engage in <i>activities</i> * curiosity * playfulness * tries new things * willing to venture * using trial and error * making sense * problem-solving * creativity * enquiring mind * discovering and exploring * participation and interaction <i>in activities</i>	Examples of indicators: * keep going when things get tough * willing to make mistakes * courage * bravery * willing to venture * accepts mistakes as part of learning	Examples of indicators: * persisting * choosing hard work * perseverance * concentrate for longer * be conscientious	Examples of indicators: * build confident learners * willing to venture * courage * bravery * feel secure * receive positive feedback * confidence * positive self-image *	Examples of indicators: * Responsibility * Individuality * Independence * Self-discipline	Examples of indicators: * have a love for learning * enthusiasm * highly motivated	Examples of indicators: * trust * friendliness * patience * tolerance * respect * kindness * empathy * listens to other learners' ideas * considerate * caring	Examples of indicators: * follows rules * listening skills * routine * discipline * well-behaved

Table 7: Eight Categories of Learning Dispositions with definitions and exemplar indicators

Once the process of reviewing the literature, developing an initial framework, applying it to the data gathered, re-assessing the categories according to the data and finally to developing a new, more encompassing framework tailored to the data was completed, a systematic statement by statement analysis, of teacher responses was conducted. Below is the analysis of teacher responses to Question 1, that asked:

Are there learning dispositions that you regard as important for developing in your Grade R/1 classroom? If so, please list these.

Responses are separated into Grade R and Grade 1 teacher responses, and separated by school. This separation was done because a purpose of this research project is to determine the similarities and differences between Grade R and Grade 1, as well as across various schools. In some instances, the responses given did not correlate with any of the categories because they were either irrelevant to the question or too vague to assign to a category. Instances of this nature include references, for example, to “knowledge acquisition from learner” or “must include in the evaluation i.e. assessment”. Therefore another category has been added for the purposes of ensuring the accounting for every single statement, called ‘unrelated’.

The reader will recall from the methodology discussion that due to the requirements of maintaining complete anonymity amongst respondents in the close-knit educational community and it’s surrounds, coupled with the limited number of primary schools in the area, the type of each school involved in this project has been kept confidential (i.e. private, Model C, township etc). However, for the purposes of distinguishing between the individual schools, the relevant quintile (indicating relative wealth of schools) to which each school belongs has been noted. This information of quintile is included here, not to show a comparison between the quintiles, but rather to provide some background contextual information. It is interesting however to note much similarity in understandings of disposition across teachers and schools irrespective of the quintile or language of instruction of the school.

6.2.2: ANALYSIS OF RESPONSES – QUESTION 1

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
Questionnaire: School A; Grade R (QAR)								
* "Let learners make suggestion" interaction "	* "Playfulness" * "Intellectually i.e. I want to do this who can help me and how can we do it" * "Habit of mind i.e. making sense of mind and acting"	* "Courage"	* "Build confident learners" * "courage" * "positive feedback when learners were doing task"			* "trust"		* "Developing good learning" * "mind development" * "Knowledge acquisition from learner" * "must include in the evaluation i.e. assessment"
2	3	1	3	0	0	1	0	4
Questionnaire: School A; Grade 1 (QA1)								
	* "being playful" * "using trial and error" * "Trying something new" * "curious"	* "Making mistakes" * "keeping going when things get tough" * "being brave" * "persisting" * "Choosing hard work"	* "being brave"					
0	4	5	1	0	0	0	0	0

Table 8.1: Analysis of teacher responses to QUESTION 1 – SCHOOL A (quintile 2)

The above table shows a similar spread of teacher statements across the four literature inspired categories. For each of the four, there is at least one statement made by both the Grade R and the Grade 1 teachers. This indicates that the two teachers, although answering the questionnaire independently both appear to prioritise similar dispositions. The same, or similar terms are often used by both of the teachers. For example, the Grade R teacher mentions “playfulness” as a priority, and the Grade 1 teacher echoes this in her response around children “being playful”. Under the category of *‘resilience’*, the Grade R teacher offers “courage” and the Grade 1 teacher offers the notion of “being brave”, which could be taken to mean the same thing.

An observable difference noted, however, is under the category of *‘reciprocity’*. The Grade R teacher lists “let learners make suggestions” and “interaction” as important elements of classroom practice for developing dispositions, whereas the Grade 1 teacher does not offer any comments relating to this category of *‘reciprocity’*.

Of interest too are the absences, by both teachers, which can speak as much as the presences. Few responses from both the teachers at School A to Question 1 fall into the latter four emergent categories. Although these emergent categories are relevant to the other schools involved in the study (as they emerged from the data from the other schools), they are not strongly represented here. That does not mean that they are completely absent though, and the Grade R teacher does make reference to the importance of *‘affective elements’*, naming “trust” as a priority in her classroom.

The priorities for the Grade R teacher could be considered to fall into the categories related to *‘resourcefulness / playfulness / sense-making’* and *‘confidence’*, as these two categories each have three responses. There is congruence with the Grade 1 teacher in this regard, as for her too, *‘resourcefulness / playfulness / sense-making’* takes priority with four responses offered. However, a slight difference can be noted under the category of *‘resilience’*, in which the Grade 1 teacher offers five responses (the most of all her categorised responses) whereas the Grade R teacher offers one response – possibly indicating a difference in prioritisation of developing resilience.

Four responses were unrelated to the categories, as teachers provided statements that were not directly relevant to the questions and focus of this study. This is natural when conducting research of this nature.

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
Questionnaire: School B; Grade R (QBR)								
* "co-operation" * "courage"	* "enthusiasm" * "a willingness to have a go/take a chance" * "curiosity" * "problem-solving" * "creativity"	* perseverance	* "feel secure" * "courage"	* "independence" * "responsibility"		* "friendliness" * "patience" * "tolerance" * "respect" * "kindness"		
2	5	1	2	2	0	5	0	0
Questionnaire: School B; Grade 1 (QB1)								
* "co-operation" * "communication" * "asking questions"	* "creativity" * "curiosity"	* "willing to venture" * "perseverance"	* "willing to venture"	* "individuality"		* "tolerance" * "empathy"		
3	2	2	1	1	0	2	0	0

Table 8.2: Analysis of teacher responses to QUESTION 1 – SCHOOL B (quintile 4)

From the above table summarising responses from the Grade R and Grade 1 teachers from School B, a similar spread across the first four literature inspired categories is evident, again presenting at least one response in each of the categories. The same or similar terms are used between the two teachers, notably: under '*reciprocity*', both teachers list "co-operation"; under '*resourcefulness / playfulness / sense-making*', the terms "curiosity" and "creativity" are offered by both teachers; and "perseverance" is listed by both teachers as a priority under '*resilience*'.

Examination of the second set of four categories, (i.e. the emergent ones), reveals a similar spread of both presences and absences across the two teachers. Both of the teachers had responses relating to '*independence*', namely "responsibility" and "individuality"; as well as responses relating to '*affective elements*'. In this category, both teachers used the same term "tolerance". Neither of the teachers however mentioned dispositions relating to '*love and passion for learning*' or '*classroom compliance*'. All of the statements offered by these two teachers were relevant and able to be categorised.

Overall, it appears that the Grade R teacher prioritises '*resourcefulness / playfulness / sense-making*' and '*affective elements*' over the other six categories, because with five responses each out of a total of 17 statements, these two categories take precedence. The Grade 1 teacher however prioritises the category of '*reciprocity*', with a total of three out of her total of 11 statements falling under this category.

Although a slight difference between prioritisation can be noted amongst the teacher statements, the data suggest that with an even spread across the categories, and with repetition of phrases, these teachers hold similar views and approaches to learning dispositions.

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
Questionnaire: School C; Grade R (QCR)								
							* "Routine/Discipline & Class rules – Most of the learners that come to Gr R has not attended any crèche or play-school and whereas I have to start with Gr R curriculum, I have to start with discipline/routine and class rules."	* "Language barrier – As most learners are not being taught in their mother tongue (which is very important in the FP) it makes T&L very difficult, especially in the first term. It also slows the T&L process."
0	0	0	0	0	0	0	1	1
Questionnaire: School C; Grade 1 (QC1)								
							* Routine * Discipline * Class rules * Sit in groups	
0	0	0	0	0	0	0	4	0

Table 8.3: Analysis of teacher responses to QUESTION 1 – SCHOOL C (quintile 3)

Notable amongst the responses of the two teachers from School C is the absence of statements across the first seven categories, both those inspired by the literature and those which emerged from the data analysis, except for the eighth category relating to '*classroom compliance*'. This particular category relates mostly to elements within the classroom which allow the teacher to maintain 'control' over the behavioural practices of the children. It is observable from the categorisation of the responses of these two teachers that maintaining this 'control' over learner behaviour in their classrooms through the introduction, implementation and maintenance of rules is prioritised. Mention is made of both "routine" and "discipline" by both the teachers.

As a result of the prioritisation of '*classroom compliance*', it can be assumed that the behaviour of the children in these two classrooms is closely monitored, and as a result, comments made about children's progress and participation in classroom activities in subsequent parents meetings / reports could centre around the child's behaviour in relation to specific classroom rules, i.e. following the rules well (the child is good); or not complying to the rules (the child is bad / misbehaved).

When analysing the reports offered by the Grade R and Grade 1 teachers of this school, it was noted that compliance to the rules was in fact strongly communicated through the comments section. Further discussion around the correlation between teacher statements / responses and the practice of writing report comments can be found later in this chapter, in Section 2.

Upon analysis of this particular school's responses, it seemed plausible, because of the distinct similarities between responses, that the two teachers may have discussed the questions before filling them in, or may even have worked together when completing the separate questionnaires. This highlighted a possible limitation to this study, in that once a questionnaire is distributed to schools, I was then removed from the situation, and cannot monitor how the respondents participate (collaboratively or independently). This limitation and the implications thereof are discussed under the section 'Limitations of the Study', which appears later in this project.

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
Questionnaire: School D; Grade R (QDR)								
	* "enthusiasm" * "intensely curious"	* "concentrate for longer" * "persevere" * "be conscientious"	* "show some pride in their work"	* "show some pride in their work"	* "have a love for learning"			
0	2	3	1	1	1	0	0	0
Questionnaire: School D; Grade 1 (QD1)								
* "ask questions"	* "enquiring minds" * "curiosity"	* "perseverance" * "persistence"	* "confidence"	* "responsibility"				
1	2	2	1	1	0	0	0	0

Table 8.4: Analysis of teacher responses to QUESTION 1 – SCHOOL D (quintile 5)

From the above table it is evident (as in the case of Schools A and B) that there is a fairly even spread of statements across the four categories derived from the works of Carr and Claxton (2010) and Kilpatrick et al. (2001). Each category has at least one statement from each of the teachers, with the exception of the first category '*reciprocity*'. In this category, the Grade 1 teacher mentions the importance of children asking questions, however the Grade R teacher makes no reference to this particular disposition. This is a notable absence, and is found in one other school, namely School A, in which the Grade 1 teacher omits statements in this category. Similarities between the two teachers though can be noted in the other literature inspired categories, in particular, they make use of the same term "persevere" under '*resilience*' and remark that being, in Grade R, "intensely curious" and in Grade 1 showing "curiosity", are important dispositions in the category '*resourcefulness / playfulness / sense-making*'.

In terms of the four emergent categories, these two teachers both make reference to '*independence*'. The Grade 1 teacher lists "responsibility" as a priority and the Grade R teacher mentions the importance of children showing "some pride in their work". Interesting to note amongst these categories is that the Grade R teacher of this school is the only teacher so far to contribute anything to the category '*love and passion for learning*', in her statement that children should "have a love for learning".

No statements were made relating to the other two emergent categories, '*affective elements*' and '*classroom compliance*', and no statements were uncategorised.

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
Questionnaire: School E; Grade R & 1 (QER&1) – two teachers worked collaboratively to fill in one questionnaire								
* “co-operate with peers”	* “discovering and exploring”		* “positive self- image in children”	* “self-discipline” * “responsibility”				* “physical, concrete before the abstract”
1	1	0	1	2	0	0	0	1

Table 8.5: Analysis of teacher responses to QUESTION 1 – SCHOOL E (quintile 5)

As mentioned briefly earlier, and discussed further in chapter 7, one of the major limitations when conducting research via the distribution of questionnaires, is that it is not possible for me to control where and when the respondents answer, and with whom they discuss, the questions. Because of this distance between researcher and participant, implied intentions are not always directly communicated or understood. As a result, this particular pair of Grade R and Grade 1 teachers decided to fill in one questionnaire together, presumably considering that working collaboratively could enrich responses. Because of this, it is difficult to comment here about any possible dissonance between the two teacher's views, but it does point to what learning dispositions they jointly regarded as important.

From their joint responses, we see a three of the four literature inspired categories receive one response each, namely '*reciprocity*', '*resourcefulness / playfulness / sense-making*', and '*confidence*'. A notable absence is in the category of '*resilience*'.

Two statements related to the final four emergent categories, and both of these statements spoke to the disposition of '*independence*'. For example, the two teachers wrote of developing "self-discipline" and "responsibility" amongst learners as a priority.

One statement, "physical, concrete before the abstract" was allocated to the '*unrelated*' category. This statement appears to speak rather to the methods employed in the classrooms, rather than the development of learning dispositions.

RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
Questionnaire: School F; Grade R&1 (QFR) – Mixed Grade School								
* "interactive"	* "participate"						* "listening skills"	
* "participate"								
* "each child gets an opportunity to give some input"								
3	1	0	0	0	0	0	1	0

Table 8.6: Analysis of teacher responses to QUESTION 1 – SCHOOL F (quintile 4)

The final school to participate (School F), because of small learner numbers, is a multi-grade school in which Grade R and Grade 1 learners are combined into one class, therefore one teacher responded in relation to both of the grades. As a result, as in the case of School E above, comparison across the two grades was not possible.

It is evident that *'reciprocity'* is prioritised in this teacher's classroom, as this category elicited three responses out of her total of five responses. *'Resourcefulness / playfulness / sense-making'* was the only other literature inspired category which garnered a response, in the mention of "participation" as integral to the learning environment. The emergent categories have only one relevant response, that of "listening skills" which, in this context, relates to *"classroom compliance"*.

In the following tables (9.1 & 9.2), I present the frequencies of dispositional statements across the six schools and eleven teachers, in response to Question 1, that asked:

What productive learning dispositions are promoted in current curriculum policy documents and assessment criteria in Grade R and Grade 1? What are the similarities and differences in dispositions promoted across the curriculum and those promoted in assessment guidelines and support documents across these grades?

	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED	TOTAL
	Question 1: All Schools, All Grades (Summary)									
TOTAL RESPONSES	12	20	14	10	7	1	8	6	6	84
OF WHICH: Grade R	4	10	5	6	3	1	6	1	5	41
Grade 1	4	8	9	3	2	0	2	5	0	33
Both Grade R&1 ¹	4	2	0	1	2	0	0	1	1	11

Table 9.1: Compilation of all responses across schools and grades to Question 1

¹ Teachers from School E responded to questions together, and School F is a multi-grade class (i.e. one teacher for both Grade R and Grade 1).

	RECIPROCITY	RESOURCEFULNESS/ PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
SCHOOL A									
Grade R	2	3	1	3	0	0	1	0	4
Grade 1	0	4	5	1	0	0	0	0	0
TOTAL	2	7	6	4	0	0	1	0	4
SCHOOL B									
Grade R	2	5	1	2	2	0	5	0	0
Grade 1	3	2	2	1	1	0	2	0	0
TOTAL	5	7	3	3	3	0	7	0	0
SCHOOL C									
Grade R	0	0	0	0	0	0	0	1	1
Grade 1	0	0	0	0	0	0	0	4	0
TOTAL	0	0	0	0	0	0	0	5	1
SCHOOL D									
Grade R	0	2	3	1	1	1	0	0	0
Grade 1	1	2	2	1	1	0	0	0	0
TOTAL	1	4	5	2	2	1	0	0	0
SCHOOL E									
Grade R & 1	1	1	0	1	2	0	0	0	1
SCHOOL F									
Grade R & 1	3	1	0	0	0	0	0	1	0

Table 9.2: Compilation of all responses to Question 1, per school

The above tables illustrate all of the responses from the six participating schools across both Grade R and Grade 1 teachers. In order to determine which dispositions are prioritised, regardless of school and grade, I first look to the total responses for each category.

It is evident from the above table that *'resourcefulness / playfulness / sense-making'* is regarded as important across all schools and grades (except School C), with the highest total of 20 responses relating to this category. Of interest schools A and B both offered seven responses each out of twenty related to this category, i.e. contributing together 70% of the responses in this category.

The second highest frequency of responses was in the category *'resilience'*, which received a total of 14 responses. However, three schools (schools C, E and F) did not contribute statements related to this category, which means that only six of the eleven teachers participating prioritised this disposition in their responses to the questionnaire. Amongst the three schools which contributed statements to this category, schools A and D had the highest responses, with six and five respectively. Across all the schools, the Grade 1 teachers listed this disposition more frequently than their Grade R counterparts. This could be expected as a learner's *'resilience'*, both inside and outside of the classroom, naturally becomes more developed as the child grows and matures.

Finally, *'reciprocity'* received the third highest frequency of responses, with a total of twelve related statements. Although the total responses is not as high as that of *'resilience'*, the fact that only one school (School C) did not offer a statement related to this category implies that this disposition ranges across the different schools. In terms of the congruence / dissonance between the two grades, it is interesting to note here that there is an equally balanced spread across Grade R, Grade 1 and Combined Grade R and 1 responses, with four related statements each.

The school with the lowest number of categorised responses is School C. Of interest is that the two teachers in this school contributed responses in only one category related to compliance. The category of *'classroom compliance'* was then added as an emergent category from the data. These teachers also had some responses in the *'unrelated'* category, for example a statement referring to the "language barrier" of learners.

The dispositional category which received the smallest frequency of related responses across all teachers was that of *'love and passion for learning'*, with only one response from the Grade R teacher in School D. This emergent category is also largely absent from the literature relating to dispositions, even while some (e.g. Graven & Schafer, 2014) have taken issue with the absence of this disposition in terms of Kilpatrick et al.'s. (2001) work on mathematical learning and teaching proficiency. Of the four literature inspired categories the one with the least responses is that of *'confidence'* with ten statements across all six schools.

6.2.3: ANALYSIS OF RESPONSES – QUESTION 2

The following tables (10.1 & 10.2) are a representation of the frequencies of responses across schools and grades received for question 2 of the questionnaire, which asked:

“Do you monitor/ make notes about children’s learning dispositions during term time (in their books or in your recording schedules or anywhere else)? If so, how do you do this and what kind of comments might you make?”

Because this question has two parts to it, two tables are presented here. Table 10.1 addresses the first part of the question related to whether or not children’s learning dispositions are monitored, and if so, *how* (i.e. the methods used by teachers to record and monitor the development of learning dispositions amongst learners).

	ARE DISPOSITIONS MONITORED?	METHODS OF MONITORING DISPOSITIONS
SCHOOL A		
Grade R	Yes	<i>No method given</i>
Grade 1	Yes	Children's books Teacher's observation book
SCHOOL B		
Grade R	Yes	Visual perception cards Observation book
Grade 1	Yes	Books Projects
SCHOOL C		
Grade R	Yes	Recording schedules Anecdotal notes Informal (diary)
Grade 1	Yes	Anecdotal notes Recording schedules Informal assessment
SCHOOL D		
Grade R	Yes	Anecdotal notebook
Grade 1	Yes	Record book Notes Children's books
SCHOOL E		
Grade R & 1	Yes	Books Assessment worksheets
SCHOOL F		
Grade R & 1	Yes	Assessment sheets Notes

Table 10.1: Methods of monitoring learner dispositions across schools, both grades.

Notably table 10.1 shows that all teachers said that they did monitor learning dispositions. All teachers except one provided at least one method of monitoring dispositions (with 20 responses in total). Anecdotal notes, informal diaries and observation books received nine mentions (School A, Grade 1; School B, Grade R; School C, Grade R & 1; School D, Grade R & 1; School F), and recording schedules or recording books received three mentions (School C, Grade R & 1; School D, Grade 1). The remaining eight responses included '*children's books*' (4 responses); '*visual perception cards*' (1 response); '*projects*' (1 response); and '*assessment sheets*' (2 responses).

Anecdotal notes, informal diaries and observation books are grouped together in this discussion as they all follow the same format and principles, in that the method of assessment is informal and the process 'ad-hoc' – comments and notes are made as and when an opportunity arises within the classroom, or when a child performs in a note-worthy

manner. Recording schedules and recording books are grouped together in this discussion as these methods, unlike the afore-mentioned anecdotal processes, involve more rigid assessment strategies and rely more on planned assessment tasks, and often involve graded scales of performance according to specified outcomes.

Table 10.2 summarises teacher responses around monitoring children's dispositions during term time. This table speaks to the second part of question 2 of the questionnaire. Although all the teachers answered this question, not all of them responded to this second part relating to the kind of comments they make, resulting in some indicator categories receiving no relevant statements.

Grade	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE	UNRELATED
SCHOOL A									
R	"interaction with peer and teachers"		"their reaction"				"how they behave towards others"		"state of mind"
1									"reading disorder" "writing disorder" "mathematics disorder" Attention Deficit Hyperactivity disorder"
TOTAL	1	0	1	0	0	0	1	0	5
SCHOOL B									
R		"participation"	"effort" "perseverance"	"stoic"		"expressed pleasure" "highly motivated"			"success"
1	"shared ideas"						"kind and helpful"	"tidying up"	
TOTAL	1	1	2	1	0	2	1	1	1
SCHOOL C									
R								"behaviour problems"	"barriers"
1								"when a child disbehaves"	"can do, unsure, cannot do it"
TOTAL	0	0	0	0	0	0	0	2	2
SCHOOL D									
R									
1			"tried hard today"	"didn't seem confident"					
TOTAL	0	0	1	1	0	0	0	0	0
SCHOOL E									
R&1 ¹									
TOTAL	0	0	0	0	0	0	0	0	0
SCHOOL F									
R&1									
TOTAL	0	0	0	0	0	0	0	0	0

Table 10.2: Frequency of dispositional responses to Question 2 – ALL SCHOOLS

¹ These two teachers filled in one questionnaire, and School F has a multi-grade class of Grade R and Grade 1 learners (one teacher)

What is interesting to note from the above table that is that several teachers did not respond to this part of the question (see Schools E & F). As the question asked for examples, not a comprehensive list, quantifying teacher comments in various categories is not appropriate.

The absence of responses relating to certain categories though does perhaps point to these teachers' preference to discuss the *how* of monitoring rather than the *what*. Thus, while every teacher, except the Grade R teacher from School A, offered their methodology in regards to monitoring dispositions, by mentioning, for example, their anecdotal notebook, recording schedules and assessment lists, only four of the eleven teachers wrote about what kind of comments may be included, such as *"You shared your ideas in such a kind and helpful way"*, and *"Jess tried hard today when doing her problem-solving"*.

However, without interviewing the teachers, very little can be deduced from such a limited collection of data. It does however raise the following questions in relation to my data-gathering methods: Did the teachers not understand the question? Was the question poorly phrased? Do these teachers prefer to discuss tried and tested *methods* – which are often specifically required to be in place by district officials and principals / management teams – rather than discuss *what* they informally monitor? Keeping their written responses short and practical may provide some basic data but I speculate that much richer data may have been gathered through comprehensive in-depth interviews. This would certainly be a key method I would use for further investigations in future.

A second interesting point about these responses to question 2 arises in the analysis of School C's responses. As was ascertained in the analysis of question 1 responses, the Grade R and Grade 1 teachers at this school share a common perspective in terms of foregrounding '*classroom compliance*' as a priority. Again in question 2 the two teachers use very similar statements regarding what is monitored in their classrooms. The Grade R teacher noted monitoring "behaviour problems" while the Grade 1 teacher noted monitoring "when a child disbehaves".

Finally, a close look at the responses from the Grade 1 teacher in School A reveals some disparity in terms of promoted dispositions and monitored dispositions. In her responses to question 1, this teacher offered ten separate statements relating to dispositions across all

the four literature informed categories used in the analysis. Terms used included: “being brave”, “trying something new”, and “keeping going when things get tough” – all closely relating to indicators of productive learning dispositions, within key literature reviewed. However, when asked which dispositions are monitored, the same teacher offered a list of “disorders”, rather than behaviours or attitudes of a dispositional nature. These “disorders” include:

“reading disorder, writing disorder, mathematic disorder, Attention deficit Hyperactivity disorder”.

This perhaps points to the difference between what teachers see as promoted and what teachers see as monitored in relation to dispositions. Thus we can promote positive key productive learning dispositions and need to monitor ‘disorders’ or negative behaviour and dispositions. Such differences between what is said to be promoted as learning dispositions and what is reported on is similarly found when examining teachers’ exemplar learner reports. Again though, without further investigation and in-depth interviews with the teacher in question, it is difficult to draw any clear conclusions from this observation of different emphasis.

6.2.4: ANALYSIS OF RESPONSES – QUESTION 3

The table below shows a compilation of teacher responses to question 3 of the questionnaire that asked:

“Are the children’s learning dispositions reported on, and communicated to the parents in parents meetings or informally with learners or parents? If so, how?”

These responses are again organised per school, and per grade in the table below. The second column shows teacher responses to whether or not dispositions are informally reported to parents; the third column relates to *what* is communicated to parents; and the fourth column shows the compilation of the stated *methods* used by the teachers to report informally to the parents.

Grade	ARE DISPOSITIONS COMMUNICATED INFORMALLY?	WHAT IS COMMUNICATED?	HOW IS IT COMMUNICATED?
SCHOOL A			
R	Yes	- "inabilities" - "incapabilities" - "abilities" - "capabilities"	"call the parents"
1	Yes	- "progression of the learner"	"calling parents and discuss"
SCHOOL B			
R	Yes, to children	- "their willingness to spontaneously volunteer information or answers in discussions" - "their co-operation when tidying up" - "their inclusion of a peer in a game" - "when showing initiative or concern about a friend" - "Catching them doing right" - "Undesirable dispositions – bossiness, intolerance etc. are also used as 'teachable moments'."	"commenting on behaviours during the school day"
	Yes, to parents	- "During formal meetings with parents I make a point of mentioning strengths"	"during formal meetings"
1	Yes	- "actions / behaviours" - "how to improve/strengthen certain areas"	"individual parent meetings" "book comments"
SCHOOL C			
R	Yes	- "progression and behaviour"	"parent evenings and reports" "one-on-one chat"
1	Yes		"parent meetings" "parents come in to see me once a term"
SCHOOL D			
R	Yes	- "child's progress"	"Parent and teacher meetings each term"
1	Yes		"parent meetings which occur once a term"
SCHOOL E			
R&1	Yes		"daily; meetings"
SCHOOL F			
R&1	Yes	- "if there is a problem with a child's development or progress"	"parents have a meeting every term" "phone the parents to organise a meeting with them"

Table 11: Compilation of teacher responses to Question 3 (Informal Reporting) across all schools, all grades.

An encouraging point emerging from the compilation of responses to question 3, which deals with the *informal* reporting on / commenting on dispositions, is that all of the teachers responded that yes, they do communicate to the parents about their children's dispositions. This points to some communication of the prioritisation of dispositions, which speaks back to key literature sources, in which Cowie & Carr (2009) and Carr & Claxton (2010) argued that this communication is essential.

This communication is conducted informally, through a variety of ways – but mostly consists of holding parent and teacher meetings either once a term or as the need arises. This enables parents and teachers to work together towards shared goals and common expectations for the children. The school, as is pointed out in much of the literature reviewed above, is an extension of the child's home-life, and so the two should work in tandem. Further research could explore richer data of the nature of communication with parents around learning dispositions. Thus while five of the ten teachers, who responded to this question, listed either the child's progress or their behaviour as examples of the kinds of dispositions communicated with parents, it is not clear what *type* of behaviour is communicated. Is it, for example, expressed to parents when a child has shown a real enthusiasm for a new and challenging Mathematics task (*'love and passion for learning'*; *'resourcefulness / playfulness / sense-making'*), or is an incident in which the child was disruptive and not *'classroom compliant'* that takes precedence in the communication with parents? Or do both of these receive equal discussion in parent-teacher communication? Also, is positive or negative dispositional progress communicated in equal measures? The Grade R teacher from School B refers to this equal distribution in her comment *"during formal meetings with parents I make a point of mentioning strengths especially when sharing concerns about progress so as to present a balanced picture."*

Again, further investigation into this matter is warranted in order to determine how and what is communicated to parents during these informal discussions, possibly through conducting an observational investigation.

SECTION 2:

6.3: ANALYSIS OF RESPONSES (QUESTION 4) AND REPORTS

In this section, the nature of *what* and *how* dispositions are reported on in written reports to parents is discussed. This section relates to research question 3, in which I ask:

How, if at all, are learning dispositions reported on/communicated to parents in Grade R and Grade 1? Is there evidence of congruence and /or dissonance in these assessment practices: between the two grades; between the various schools; and between the policy and the practice?

The table below provides a summary of all the teachers' responses to question 4 of the questionnaire, which asked:

"Are the children's learning dispositions reported on, and communicated to the parents in reports? If so, how is this done and if comments are included what is the nature of comments made?"

The first column indicates whether or not learners' dispositions are formally reported on. The second indicates the layout of the report (in order to enable comparisons across the schools and between the grades in regards to the inclusion of 'comment sections' through which dispositional tendencies can be discussed). The third column outlines examples of dispositional comments made by the teachers in the questionnaire responses. The final column provides a snapshot of the exemplar learner reports supplied by the teachers so as to give a sense of the formatting of such reporting.

ARE DISPOSITIONS COMMENTED ON?		LAYOUT OF REPORT	EXAMPLES OF DISPOSITIONAL COMMENTS	SNAPSHOT OF REPORT																																						
GR	SCHOOL A																																									
R	No	-Rating scale 1-7 given for competences in four Learning Areas. -Separate section for comments	"Just comment on his/her achievements in the activities"	<table><tr><td>1</td><td>Reading</td><td></td><td></td><td></td></tr><tr><td>2</td><td>Writing</td><td></td><td></td><td></td></tr><tr><td colspan="5">3 MATHEMATICS</td></tr><tr><td>4</td><td>Content</td><td></td><td></td><td></td></tr><tr><td>5</td><td>Numbers, Operations & Relationships</td><td>✓</td><td rowspan="5">2</td><td rowspan="5">uyasokola ekubaleni usalufuna uncedo ekhaya. Inxaki ekafuni kuthetha</td></tr><tr><td>6</td><td>Patterns, Functions and Algebra</td><td>✓</td></tr><tr><td>7</td><td>Space and Shape</td><td>✓</td></tr><tr><td>8</td><td>Measurement</td><td>✓</td></tr><tr><td>9</td><td>Data Handling</td><td>✓</td></tr></table>		1	Reading				2	Writing				3 MATHEMATICS					4	Content				5	Numbers, Operations & Relationships	✓	2	uyasokola ekubaleni usalufuna uncedo ekhaya. Inxaki ekafuni kuthetha	6	Patterns, Functions and Algebra	✓	7	Space and Shape	✓	8	Measurement	✓	9	Data Handling	✓
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1	Yes	-Key Rating scale from 1-7 for competences in four Learning Areas. -Mark given out of 100 for each Learning Area. -Separate section for comments.	-	<table><tr><th colspan="2">LEARNING PROGRAMME</th><th>KEY</th><th>MARK</th><th>LEARNING PROGRAMME COMMENTS</th></tr><tr><td colspan="2">isiXosa Home Language (Gr 1)</td><td>5</td><td>62</td><td></td></tr><tr><td colspan="2">English First Additional Language (Gr 1)</td><td>6</td><td>77</td><td></td></tr><tr><td colspan="2">Life Skills (Gr 1)</td><td>7</td><td>85</td><td></td></tr><tr><td colspan="2">Mathematics (Gr 1)</td><td>4</td><td>58</td><td></td></tr></table>		LEARNING PROGRAMME		KEY	MARK	LEARNING PROGRAMME COMMENTS	isiXosa Home Language (Gr 1)		5	62		English First Additional Language (Gr 1)		6	77		Life Skills (Gr 1)		7	85		Mathematics (Gr 1)		4	58													
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SCHOOL B

MEASUREMENT:									
Describes the time in terms of day and night, days of the week, seasons and weather chart									
Knows own birth date and age									
Distinguishes between long and short, higher and lower									
Can sequence recurring events in own daily life									
DATA HANDLING:									
Collects and sorts physical objects according to one attribute									
LEARNER'S MARK: Outstanding Achievement									
7	6	5	4	3	2	1			
Outstanding Achievement	Meritorious Achievement	Substantial Achievement	Adequate Achievement	Moderate Achievement	Elementary Achievement	Not Achieved			
16 - 20 ✓	14 - 15 ✓	12 - 13 ✓	10 - 11 ✓	8 - 9 ✓	6 - 7 ✓	1 - 5 ✓			
☺	☺	☺	☺	☺	☺	☺			

COMMENT:

is beginning to show confidence when participating during group discussions and he demonstrates a growing vocabulary. He has a good grasp of the emergent reading skills of rhyme, sound-symbol relationships and alphabetic knowledge. His mathematical skills are good. His behaviour is impeccable. It is a pleasure teaching.

NOT SUPPLIED

"The report largely focuses on skills mastered rather than dispositions shown. Comments included in the report such as (x) deserves to be recognised for her stoicism when attempting challenging tasks; (y) demonstrates resilience in the playground; (z) is to be commended for her enthusiastic participation in...."

-Rating scale of 'smiling faces' given for competences in four Learning Areas, divided into comprehensive list of various components within each.
-Mark given at end of each Learning Area (1-7).
-Space for comment at end of report (general comment).

"Certain dispositions, mainly positive ones, will be communicated in reports. When improvements are noted, these can be reported on."

NOT SUPPLIED

SCHOOL C																																																	
R	No	-Rating Code 1-7 for each of the four Learning Areas. -Small section for comments for each Learning Area.	"The report does not allow enough room for enough comments and the principal does not want negative feedback on report"	<table border="1"> <tr> <th colspan="5">Lewensvaardighede / Life Skills</th></tr> <tr> <td>Aanvangkennis & pers. en sos. welsyn / Beginning knowledge & Health Education</td><td></td><td></td><td></td><td>4</td></tr> <tr> <td>Stappende kunsie / Creative Art (Visual arts)</td><td></td><td></td><td></td><td>4</td></tr> <tr> <td>Kreërliewe Vaardighede/ Performing arts (Music, Movement and Drama)</td><td></td><td></td><td></td><td>4</td></tr> <tr> <td>Liggaamsvoeding / Physical education</td><td></td><td></td><td></td><td>4</td></tr> </table>	Lewensvaardighede / Life Skills					Aanvangkennis & pers. en sos. welsyn / Beginning knowledge & Health Education				4	Stappende kunsie / Creative Art (Visual arts)				4	Kreërliewe Vaardighede/ Performing arts (Music, Movement and Drama)				4	Liggaamsvoeding / Physical education				4																				
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	Kwartaal / Term 2		Kwartaal / Term 3																																														
Huis taal Home Language	Is able to blend letter words, is progressing steadily.																																																
Eerste Add. Taal First Add. Lang.	Average vocabulary. Uses short simple sentences.																																																
Wiskunde Mathematics	Counts accurately and with confidence. Has a good understanding of numbers.																																																

SCHOOL D

R	Yes	-Assessment Criteria: Excels (E) Proficient (P) Meets minimum requirements (M) Needs assistance (N) Has Difficulty (H) given for each Learning Domain, divided into comprehensive list of various components within each. -Lengthy comments for each Learning Domain -General comments at end of report -Child's drawings	Comments could say – as M was carrying a bucket of water, he remarked "Look, I'm the strongest in the whole school".	<table><tr><th colspan="7">LANGUAGE STRUCTURE</th></tr><tr><td>Is able to communicate using compound sentences and mature speech</td><td>✓</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Is able to recognize that words are comprised of a compilation of sounds</td><td></td><td>✓</td><td></td><td></td><td></td><td></td></tr><tr><td>Can identify and relate sounds to the letters of the alphabet</td><td></td><td>✓</td><td></td><td></td><td></td><td></td></tr><tr><td>Is familiar with greetings and some songs in other languages</td><td></td><td>✓</td><td></td><td></td><td></td><td></td></tr></table> Teacher's Comments: [REDACTED] has a wide vocabulary and enjoys working out the meaning of words: 'musician/magician!' He is good at describing and explaining his ideas and has an excellent general knowledge. His drawings have become more structured and show pleasing detail. He has made good progress in sound and letter identification and can identify initial and final sounds in words. He enjoyed dividing words into syllables through drumming. He is good at recalling stories and loved acting out 'The elephant's child.'	LANGUAGE STRUCTURE							Is able to communicate using compound sentences and mature speech	✓						Is able to recognize that words are comprised of a compilation of sounds		✓					Can identify and relate sounds to the letters of the alphabet		✓					Is familiar with greetings and some songs in other languages		✓				
LANGUAGE STRUCTURE																																							
Is able to communicate using compound sentences and mature speech	✓																																						
Is able to recognize that words are comprised of a compilation of sounds		✓																																					
Can identify and relate sounds to the letters of the alphabet		✓																																					
Is familiar with greetings and some songs in other languages		✓																																					
1	Yes	-Assessment Standards 1-5 for each Learning Domain, divided into comprehensive list of various components within each. -Lengthy comments on each Learning Domain -General comments at end of report	"Your child is confident to tackle problem-solving exercises. Your child tries hard and enjoys a challenge. Your child shows an interest in...."	<table><tr><th>LITERACY</th><th>Teacher</th><th>Achieved Level</th></tr><tr><td>English</td><td>[REDACTED]</td><td></td></tr><tr><td>Oral</td><td></td><td>4</td></tr><tr><td>Reading</td><td></td><td>5</td></tr><tr><td>Phonics</td><td></td><td>5</td></tr><tr><td>Written</td><td></td><td>4</td></tr></table> [REDACTED] relates his news confidently and in a logical order. He speaks clearly using good vocabulary and language. His recognition of sight words is very good and he is reading fluently. He has already completed Kathy and Mark 6 words and I will be extending him with other word lists. He is beginning to read with more expression, but must take note of the punctuation marks when reading aloud. He has coped well with the phonics this term and he is able to sound out and write short words using the a, e and i vowel as well as the extension words. He is writing well-constructed sentences on his own when recording his news and makes good use of his dictionary to help him. He is able to apply his phonic and spelling knowledge to his written work. GENERAL COMMENTS Class Teacher [REDACTED] I am very pleased with the progress. [REDACTED] has made this term and he is coping very well in all areas. He approaches tasks with enthusiasm and I am pleased with his positive attitude in class. He is able to follow instructions and works independently, although he must focus on completing his work thoroughly and neatly. It is really important that he gets to school on time every morning, so that he is able to get himself organised and ready for the school day. He gets on well with his peers and always has many friends around him. He is polite and helpful towards adults. I have enjoyed teaching him and look forward to an equally successful second half of the year.	LITERACY	Teacher	Achieved Level	English	[REDACTED]		Oral		4	Reading		5	Phonics		5	Written		4																	
LITERACY	Teacher	Achieved Level																																					
English	[REDACTED]																																						
Oral		4																																					
Reading		5																																					
Phonics		5																																					
Written		4																																					

SCHOOL E			
R&I	Yes	GRADE R -Rating scale 1-7 for each Learning Area, divided into comprehensive list of various components within each. -Space for short comments in every component -Short general comment at end of report -Children's drawings	LISTENING & SPEAKING LISTENS attentively in a group situation CARRIES out instructions MEMORY games, numbers sentences PARTICIPATES in discussions 4 can be disruptive and loves to chat during ring time! 5 5 6 6 TERMI KWARTAAL KOMMENTAAR is eager to learn and is well-liked by his peers. He enjoys participating in discussions, and goes about his day with confidence and enthusiasm. PERSONAL SKILLS Follows instructions ✓ Excellent Concentrates ✓ Excellent Works independently ✓ Responsibility ✓ Helpfulness ✓ Shows courtesy and respect ✓ Excellent Is confident ✓ General neatness ✓ Fantastic! Days absent GENERAL COMMENT is a model pupil and I regard it as a privilege to have him in my class. He has excellent manners and is a popular member of the class. Keep on giving of your best - you can go far one day!
SCHOOL F			
R&I	Yes	GRADE R -Rating Scale 0-7 for four Learning Domains -Lengthy comments for each domain -Lengthy general comment at end of report GRADE 1 NOT SUPPLIED	HOME LANGUAGE 1 Listening & Speaking 2 Emergent Reading 3 Emergent Writing Term 1 HOLIS TIC MARK 6 Term 2 HOLIS TIC MARK 6 Term 3 HOLIS TIC MARK 6 Term 4 HOLIS TIC MARK 6 COMMENTS ON HOME LANGUAGE is a progressing well in this area. She listens attentively to questions and gives appropriate answers. She is learning to show respect for the speaker. She is able to match things that go together and compare things that are different and has enjoyed playing the memory game we have in class. She is able to look carefully at pictures and talk about common experiences. She is starting to match words to objects and is able to label items. She is able to think of objects that start with a given letter. She is able to identify 15 letter-sound relationships of the alphabet and can think of objects that start with all the letters of the alphabet. She enjoys the letters sound games we have played this term. She can draw or paint a picture to convey a message about a personal experience. She understands that writing and drawing are different and copies letters and numbers from the classroom environment.

Table 12: Compilation of teacher responses to Question 4 (Formal Reporting) with examples of REPORTS across Gr R and 1, all schools

All reports for both grades and schools include a graded either 'checkbox' or numerical scale (or variation thereof) to indicate learners' progress across various skills and knowledge in the three learning domains, and space for comments, and although not all have space for comments within each learning domain, they all contain space for 'general' comments.

The data relevant to my focus on the assessment of dispositions is thus largely found in the comments sections of the exemplar reports. Thus I have tabled and categorised all comments from exemplar reports that are relevant to the development of key productive learning dispositions as defined within my extended analytic framework.

However, three report templates are worth noting for the inclusion of dispositional speak within the 'checkbox' section (schools B, D and E). These are discussed in further detail under tables 13.2, 13.4 and 13.5 respectively.

Of the eleven teachers who participated in this study, nine supplied copies of their reports. Some teachers provided more than one report for each grade, sending samples of weak, average and strong learners. An example of the layout of the reports is provided in the table above. The template and layout remains the same for all learners in a grade at each school. The ratings may differ in many of the outcomes assessed for each child, but the actual outcomes and expectations included in reporting templates are standardized for every child. The major difference between the various reports from the same class and the same school is in the comments. Due to the small scale scope of this project, coupled with maintaining consistency across the schools, only one report was analysed per teacher and comments categorised. Other instances of dispositional speak may well be evident in other reports.

It is interesting to note that of the eleven teachers who participated, several (4 out of 11) stated reluctance in their responses to questionnaire questions to include dispositional comments in reports. Two teachers from different schools remarked that they did not in fact comment on their learner's dispositions in their reports, preferring verbal communication with parents for this. So for example, the Grade R teacher from School A offered the following reason behind this:

“Yes as I have called the parents to report to him or her. I see no need to write comments on the report. I just comment about his/her achievements in the activities”.

It appears that engaging in an informal verbal communication with the parents is seen as preferable for these two teachers rather than formally in written reports. The Grade R teacher from School C similarly responded that she does not include dispositional comments in her reports, but her reasons given are different from those above. She said:

“The report does not allow enough room for enough comments and the principal does not want negative feedback on report”.

On the other hand, the Grade R teacher from School B, stated that although dispositional comments are reported on, this is not done in detail as:

“The report largely focuses on skills mastered rather than dispositions shown”.

The above responses and practices raise several questions around firstly, the perceived importance of formal reporting of dispositions versus the informal remarks communicated between teacher and parent, as well as the causes behind this. Secondly, these responses raise the question around *how* restrictive the actual design of a report is to a teacher’s opportunity to report on and assess learner dispositions. Further research could investigate the relationship between various forms of dispositional reporting such as informal ad hoc discussion with parents, comments to parents in learner books, formal parent-teacher meetings and formal written reporting.

The following tables, table 13.1 to 13.6, summarise the type of dispositional comments made in reports for each school, by analysing the comments according to the categories of the expanded analytic framework of indicators.

Grade	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
SCHOOL A								
Home Language (Xhosa) – COMMENTS ONLY								
R						"he likes to work"		"he's good"
1								
First Additional Language (English) – COMMENTS ONLY								
R								
1								
Mathematics –COMMENTS ONLY								
R								
1								
Life Skills – COMMENTS ONLY								
R							"he likes to help the others in the class"	
1								
Total	0	0	0	0	0	1	1	1

Table 13.1: Frequency of dispositional comments in reports – School A

The teachers from this school provide no (Grade 1 teacher) or only brief (Grade R teacher) comments. The tick box approach to reports (see table 12) offers little insight into the learner's dispositional development. Again, because of the restricted nature of distance correspondence between researcher and respondents, it was not possible to determine if whether such limited comments are typical of most of their learner reports.

The absence of comments however connects with the teachers' responses to question 4, that they do not in fact include dispositional related comments in their reports, as these have already been communicated to parents informally.

Grade	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE- MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
SCHOOL B: ONLY GRADE R (Grade 1 teacher did not supply reports)								
Home Language: -TICKBOXES ONLY								
R	"taking turns to speak" "participates in discussions and asks questions"	"generates rhyming words"		"speaks confidently"			"listens without interrupting"	
Mathematics:– TICKBOXES ONLY								
R		"compares" "can create own pattern"						
Life Skills: - TICKBOXES ONLY								
R		"participates in Kindermusik lessons" "Participates in dramatisation activities" "executes creative movements" "creates images of his/her own world freely and in various mediums" "participates enthusiastically during lessons" "has an adventurous spirit"		"acts with confidence"	"assumes responsibility in the classroom"		"demonstrates safe play practices at school" "gets on well with playmates" "Is helpful in the classroom" "Accepts authority willingly and has a positive attitude" "Demonstrates good self-control"	
General – COMMENT ONLY								
R				"beginning to show confidence"				"his behaviour is impeccable"
Total	2	9	0	3	1	0	6	1

Table 13.2: Frequency of dispositional comments in reports – School B

Unfortunately no Grade 1 reports were received for this school. Although the Grade 1 teacher filled in a comprehensive questionnaire, she did not provide a report as requested. Further requests for an exemplar report were not fruitful. As will be discussed further in the section regarding limitations of the study, due to the tentative relationship which exists between researcher and respondents, repeatedly pursuing data is not advisable as there is the risk of alienating the participants, and also jeopardises future research relationships.

The exemplar report of the Grade R teacher yielded the majority of the dispositional statements from the 'tickbox' section. This section consists of a list of specific outcomes divided into learning areas. Each outcome is afforded a 'facial expression' depending on the grading awarded to the child in relation to their development, as shown in the extracted section of the report below:

	😊	😐	😞
LIFE SKILLS			
BEGINNING KNOWLEDGE:			
Knows own name and surname	✓		
Knows a parent's telephone number		✓	
Knows names of members of family	✓		
Knows names of peers in class	✓		
CREATIVE ARTS:			
MUSIC, MOVEMENT AND DRAMA			
Participates in Kindermusik lessons	✓		
Participates in dramatisation activities	✓		
Follows movement instructions in a demarcated space without bumping into others or hurting them while moving	✓		
Interprets music by moving rhythmically		✓	
Sings along and executes creative movements to dramatise nursery rhymes or songs	✓		
Performs hand clapping rhythms with ease	✓		
VISUAL ART			
Creates images of his/her own world freely and in various mediums	✓		

As can be seen in table 13.2, the majority (20 of the 22 total) dispositional statements are extracted from the 'graded' sections of the exemplar report. This is interesting as it is the only report within this study which contains the highest frequency of indicators outside of the comments sections. Significant as well is the 'graded' scale used for dispositional specific outcomes and development.

Due to the absence of a Grade 1 report for this school, a comparison between the reporting practices of the Grade R and Grade 1 teachers is not possible. Looking closely at the Grade R reports however still produces some interesting insights. While the two teachers in School A, for instance, offered a total of 3 responses loosely related to dispositional development, the Grade R teacher in School B, however, includes many dispositional responses in her exemplar report. As in the case of School A's teacher, that remarked that she intentionally does not include dispositional comments, this teacher similarly said that the focus of her report writing is also not on dispositional attributes, but rather on "skills mastered". Despite this, and as a result of dispositional outcomes included in the reporting template, 22 different instances of dispositional references can be noted, which spread across most of the categories, and also, interestingly, appear under all three of the learning area sections. Admittedly, the majority of these comments appear under 'Life Skills' and not 'Mathematics', but there is nothing herein to indicate that these dispositions do not manifest across all of the learning activities throughout a school day. For instance, "acts with confidence" could relate to the child's approach to new Mathematical games and discussions. Further investigation of similarity and difference in promoted dispositions across learning areas would be of interest to the field. This would likely necessitate submerging myself fully into the classroom environment.

Grade	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
SCHOOL C								
Home Language – COMMENTS ONLY								
R						"listens to short stories with enjoyment"		
1								
Mathematics –COMMENTS ONLY								
R								
1						"counts accurately and with confidence"		
Life Skills – COMMENTS ONLY								
R	"Works well in a group and enjoys the company of others"							
1								
Additional Comments								
R	"is shy and withdrawn"						"he likes to assist other learners where possible"	"he is very neat and tidy on himself and his work"
1			"a conscientious little worker"				"he is a co-operative pupil"	
Total	2	0	1	0	0	2	2	1

Table 13.3: Frequency of dispositional comments in reports – School C

In questions 1 to 4, the teachers from School C advocated the importance of '*classroom compliance*'. Examination of the reports supplied by both of these teachers shows inclusion of other categories of 'dispositional speak', such as "works well in a group and enjoys the company of others" (i.e. '*reciprocity*') and "a conscientious little worker" (i.e. '*resilience / steady effort*'). There are interestingly strong similarities between the dispositional statements included in the reports and statements in the curriculum documentation. The phrase "listens to short stories *with enjoyment*", for instance, can be found verbatim in the Curriculum and Assessment Policy Statements for Home Language (English) for Foundation Phase: "Listens to short stories with enjoyment and joins in choruses at the appropriate time" (DBE, Curriculum and Policy Assessment Statements: Foundation Phase - English Home Language, 2013, p. 31).

Not all of the comments were directly from the current curriculum documentation though (e.g. "a conscientious little worker"). Regardless, the occurrence of at least one direct curriculum reference generates questions as to possible reasons for disparity between these teachers' perceived prioritisation of '*classroom compliance*' in the questionnaires and the actual comments made in the formal reports. Is it that the teachers may include curriculum dispositional discourse in reports because they are a formal 'public' document while they have more freedom in their classrooms in terms of the dispositions they promote in them?

Grade	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
SCHOOL D								
Literacy – TICKBOXES AND COMMENTS								
R	"good at describing and explaining his ideas" "waits to speak" "participates in group discussions" "uses language to demonstrate understanding"	"enjoys working out the meaning of words" "enjoyed dividing words into syllables using drumming"						
1	"relates news confidently" "speaks clearly"	"able to apply phonic and spelling knowledge to his written work"	"must focus on completing his work thoroughly"	"relates news confidently"		"approaches tasks with enthusiasm"		
Mathematics – TICKBOXES AND COMMENTS								
R			"works out complicated problems" "loves a challenge"			"thoroughly enjoys maths games of all kinds" "love a challenge"		
1		"work them out without the use of concrete aids"	"loves a challenge"	"is confident to work independently"	"confident to work independently"	"loves a challenge"		
Life Skills - TICKBOXES AND COMMENTS								
R	"interacts well with peers and teachers"	"willingly participates in drama rings" "engages in fantasy play" "participates during music rings" "enjoys exploring and experimenting with a variety of art materials and techniques"	"concentrates for an appropriate period of time" "is a motivated and conscientious learner"			"enthusiastic woodworker" "loved acting out"	"understands rights and responsibilities in the classroom" "displays emotional stability" "outgoing and sociable" "always willing to include others" "aware of the needs of others" "always ready to offer assistance"	"responds positively to the classroom structure and rules"
1	"has the confidence to participate" "had a lot of"	"enjoys experimenting with the different media"	"making a greater effort"	"has the confidence to participate"				

	information to offer during our discussions"	available"							
R		"enquiring mind"	General Comments						
1		"approaches tasks with enthusiasm"			he" works independently" needs to "get himself organised" in the mornings	"approaches tasks with enthusiasm"	"co-operative learner"	"follows instructions" "complete work neatly" must get to "school on time"	
Total	9	11	7	3	4	7	10	4	

Table 13.4: Frequency of dispositional comments in reports – School D

¹ "has a positive attitude" is included here under the category of 'Affective Elements' as it is understood in this specific context to refer to how a pupil relates to his peers and teacher, and the classroom environment as a whole; as it is not specific to a learning domain, but rather is discussed under 'General Comments'.

It is evident from the above table that the teachers from School D contributed the highest frequency of references to dispositional development across the ten teachers, in terms of exemplar reports. A total of 55 dispositional comments were recorded throughout the two exemplar learner reports, both in the comments section (Grade R and Grade 1), and in the description of some tickboxes used (Grade R only). The Grade 1 exemplar report does not contain a graded scale to record dispositional behaviour, however the Grade R exemplar report does. This graded scale offers the following letter symbols to indicate learners' progress:

E: Excels

P: Proficient

M: Meets requirements

N: Needs help

H: Has difficulty

The extract below provides an example of a dispositional statement "displays appropriate listening behaviour – waits to speak without interrupting" ('reciprocity') and the corresponding grade awarded to this learner as 'meets requirements (M)':

Literacy					
LISTENING	E	P	M	N	H
Responds to instructions and questions with some understanding	✓				
Displays appropriate listening behaviour - waits to speak without interrupting			✓		
Shows an understanding of oral texts and subject teaching and can identify the main characters and themes	✓				

Relevant statements from both the 'checkbox' section and the comment sections of the grade R exemplar report have been tallied and categorised according to the Indicator Matrix in table 13.4, and the total statements reflect the frequency of dispositional statements throughout the report (graded or not).

The high volume of dispositional commentary within these two exemplar reports correlates to the teachers' responses to the questionnaire, which similarly included a high frequency of

dispositional comments across categories. It is interesting is that the responses of both the Grade R and the Grade 1 teachers to the questionnaire were detailed and offered many references to dispositions. These tended to fall under the categories of *'resourcefulness / playfulness / sense-making'*; *'resilience'*; *'confidence'*; *'independence'* and *'love and passion for learning'* (Grade R) and *'reciprocity'*; *'resourcefulness'*; *'resilience'*; *'confidence'* and *'independence'* (Grade 1). On the other hand, their commentary in the exemplar reports revealed even richer data that speaks to every one of the Indicator Matrix categories, with higher frequencies of statements in each indicator category. For example, the Grade R teacher offered a total of two responses related to the category *'resourcefulness / playfulness / sense-making'* in the questionnaire, but there were seven similarly categorised statements in the exemplar reports. This Grade R teacher also presented statements in the exemplar reports which related to the following dispositional categories which were not included in her questionnaire responses: *'reciprocity'*; *'affective elements'*; *'independence'* and *'classroom compliance'*.

There is a fairly even spread across the categories, with at least three statements in each category. The category with the highest instances is that of *'resourcefulness / playfulness / sense-making'*, which also featured predominantly in these teachers' questionnaire responses. The category with the least statements is *'confidence'*, although this is because the Grade R teacher does not mention it while the Grade 1 teacher refers to it three times, once in each learning area.

Again though, as with some of the other schools in the study, some of these responses (especially in the Grade R tick boxes – see table 12) are evidence of “curriculum speak”. For instance “participates in group discussions” appears in the CAPS document for English Home Language Foundation Phase as “participates in discussions and asks questions” (DBE, 2013, p. 23).

It is interesting too to note the amount of responses which fall under the learning domain of Mathematics (seven in total). Although there are more dispositional statements arising within the Life Skills domain in the reports, the amount of statements in the Mathematics section is important as it indicates the cross-over nature of dispositions (evident regardless of activity, and not dependent on a specific learning domain).

A second interesting point is the similarity of the comments between these two Grade R and Grade 1 teachers. Similarly the examination of these teacher's questionnaire responses showed strong similarity between them. This is reiterated here as the phrases such as "loves a challenge" and "enjoys experimenting" are repeated in the comments by each of the teachers.

Finally, it is notable in that not all of the comments are positive – the child is not presented as faultless – however the language used remains encouraging. In this way, these two teachers are seemingly continuing to strengthen and consolidate which dispositions are valued and should be encouraged: in mentioning that a child "needs to get himself organised in the morning" lets the parents know that the child needs encouragement in developing this behaviour, and that the disposition of '*independence*' is valued in this teacher's classroom.

Grade	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
SCHOOL E								
Literacy— TICKBOXES AND COMMENTS								
R	"participates in discussions"					"loves writing"		"can be disruptive and loves to chat during ring time" "lovely, neat work"
1								
Mathematics – TICKBOXES AND COMMENTS								
R		"creates own patterns" "compares"				"loves building 3D constructions"		
1								
Life Skills – TICKBOXES AND COMMENTS								
R	"participates in theme discussions"	"group participation" "participation: Music & movement" "creative ability"		"self-confidence"	"sense of responsibility" "self-discipline" "independence"	"participation and enjoyment"	"thoughtfulness / consideration" "shows respect towards adults and peers" "controls feelings and actions to others"	"can apply class rules and follow routines"
General Comments								
R	"enjoys participating in discussions" "loves sharing news"	an "inquiring mind"		"goes about his day with confidence" "he must guard against his confidence in his own ability allowing him to become careless"		"eager to learn" "goes about his day with...enthusiasm" "approaches everything with enthusiasm"		
1		"a keen mind"	"keep on giving of "your best"				"loveliest nature" "shows true compassion for his friends"	"he has excellent manners"
Total	4	7	1	3	3	6	5	4

Table 13.5: Frequency of dispositional comments in reports – School E

School E, like School D, revealed a fairly high frequency of dispositional responses in their reports, evenly spread across all the categories, with at least once instance in each. This could be as a result of dispositional statements being present in both the tickbox section and the comments section of the exemplar reports, as was the case with School D. In School E however, both the Grade R and the Grade 1 exemplar reports contained relevant statements in the tickbox and the comments sections. The following rating, or grading, scale is used:

1: Not Achieved

2: Partial Achievement

3: Achievement with Assistance

4: Adequate

5: Good

6: Above Average

7: Excellent

and below is an example of the dispositional comment “participates in discussions” (*‘reciprocity’*) and corresponding grade awarded to this learner as ‘above average (6)’, from the Grade R report:

<u>LISTENING & SPEAKING</u>		
Listens attentively in a group situation	████ can be disruptive and loves	4
Carries out instructions	to chat during ring time!	5
Memory games, numbers sentences		5
Participates in discussions		6
		6

and “works independently” (*‘independence’*) in the Grade 1 report, with a corresponding tick (✓) symbol confirming achievement.

PERSONAL SKILLS						
Follows instructions	√	Excellent	√	He is a star!	√	Well done!
Concentrates	√	Excellent	√	Excellent	√	Excellent
Works independently	√		√		√	Excellent
Responsibility	√		√		√	

Although the Grade 1 exemplar report does not offer a grade (it is either achieved or not) for this particular dispositional outcome, it is included here as it is relevant to the investigation around *which* key productive dispositions are promoted, and which are subsequently formally reported on.

What is interesting too, is the high frequency of responses in the category '*love and passion for learning*' in the comments sections, as this particular disposition was not mentioned at all by these teachers in any of their questionnaire responses.

It is again pertinent to note that, as with previous schools, there are few responses related specifically to the Mathematics learning domain, and what is included is largely 'curriculum speak', for example: "creates own patterns" and "compares" are found in the CAPS Foundation Phase for Numeracy, Section 3: Content Areas Overview (DBE, 2013, pp. 20-38).

Finally, in the analysis of the teachers' questionnaire responses, these two particular teachers decided to complete the questionnaire together, and submitted only one questionnaire between the two of them. This of course was prohibitive to conducting a comparison between Grade R and Grade 1, but possibly indicated a collaborative working relationship with the intention of some common goals and priorities. This similarity in priorities is visible in the exemplar reports of the two teachers. Although the Grade 1 teacher does not offer as high a volume of comments and responses, this is possibly due to the restrictive design of the report itself, rather than her own reluctance to include more (see table 12 for details around differences in layout of report). Their collaboration and similarities can be seen in the correlation of language used: the Grade R teacher speaks of an "inquiring mind" and the Grade 1 teacher speaks of a child having a "keen mind". They both also regard "thoughtfulness / consideration [of others]" (Grade R) and "true compassion" (Grade 1) as important attributes worth noting amongst their learners in their report writing.

Grade	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
SCHOOL F: DUAL CLASS (R&1)								
Home Language – COMMENTS ONLY								
R	"learning to show respect for the speaker"					"enjoyed playing the memory game"	"learning to show respect for the speaker"	
Mathematics – COMMENTS ONLY								
R		"create her own patterns"						
Life Skills –COMMENTS ONLY								
R						"likes to dance" "enjoys creative activities"		
General Comments								
R		"positive approach to activities"	"worked hard this term" "has very good concentration skills and always completes a given task to the best of her ability"		"shows increasing independence"		"friendly girl" "interacts well with her peers" "is learning to share and help others"	
Total	1	2	2	0	1	3	4	0

Table 13.6: Frequency of dispositional comments in reports – School F

As this school has a multi-grade class for Grade R and Grade 1, the teacher only sent examples of the Grade R reports implying the Grade 1 report would be similar as they are designed and written by the same teacher. This surely in itself presents challenges as a teacher to have to differentiate between the two grades, with different outcomes and expectations, while at the same time streamlining her teaching process and practices and keeping the children occupied together.

Similarly in this exemplar report it can be seen that the majority of her dispositional comments fall under the 'General' section and are not specific to any one learning domain. As seen in other schools, without further investigation it is difficult to ascertain how dispositional remarks could relate to Mathematical activity more specifically than to observations of general demeanour. Thus a comment such as "concentration skills" provides little clarity around where or how this particular child showed her "concentration skills" or her "increasing independence" - on the playground with her friends? While working on a new mathematics task?

While the Foundation Phase is an integrated phase a research question that is raised in this respect is to what extent general learning dispositions apply across learning areas or may differ in some. Since much research points to several academically strong learners with generally positive learning dispositions having 'maths phobia' it would be interesting to research within the Foundation Phase whether such learning area specific differences in learning dispositions emerge in these early years.

SECTION 3:

6.4: TEACHER VIGNETTES

The above analysis dealt with the responses and reports supplied by the eleven teachers across the six participating schools, and provided a broad analysis across all data. In the next section (section 3), in order to provide richer data, I provide two vignettes of three teachers as case studies for more holistic analysis across their data. These enable communication of data from schools and teachers as a whole rather than per question. The teachers selected for these vignettes were chosen to illustrate the range of responses in data sources, both differences and similarities across teachers and data sources. Thus Busi and Thembi were chosen because of the disparity which arose during analysis between what was 'said' and what is being 'done' (in terms of report writing), and Rebecca was chosen because her data provides a contrast to Busi and Thembi, in that there is strong coherence in her report writing practices and what she voices though her responses in the questionnaire.

VIGNETTE 1

Busi and Thembi, Hope Primary School (names changed)

Busi and Thembi work together at Hope Primary School in the Eastern Cape. Their school is situated in a low-income area outside of an urban town. Busi teaches the Grade R class, and Thembi teaches one of the Grade 1 classes.

When filling out the questionnaire provided by myself on dispositions, Busi listed the following dispositions that she regards important for developing amongst her Grade R learners:

- "Let learners make suggestions"
- "Build confident learners"
- "Courage"
- "Trust"
- "Playfulness"

- “Interaction”

These dispositions were categorised as falling under the following categories: *‘reciprocity’*; *‘resourcefulness / playfulness / sense-making’*; *‘resilience’*; *‘confidence’* and *‘affective elements’*.

From her answers, it would appear that Busi both understands and values a wide range of key aspects of a productive learning disposition.

Busi also remarked, in regard to commenting on dispositions, that it is important to look at a learner’s “state of mind and his interactions with his peers and teachers”, and she made a point of reminding us to

“look at the learner’s upbringing and background”.

By adding in these additional insights in her responses, we can see that Busi pays attention to the influences behind the development of these dispositions.

Thembi, Busi’s colleague, and the Grade 1 teacher, completed the same questionnaire. Her responses regarding the dispositions she considers as important included:

- “Curiosity”
- “Enthusiasm”
- “Courage – or a willingness to ‘have a go/take a chance’”
- “Problem-solving”
- “Creativity”
- “Independence”
- “Perseverance”

Like Busi’s responses, Thembi’s responses were categorised under the following categories: *‘resourcefulness / playfulness / sense-making’*, *‘resilience’* and *‘confidence’*, although unlike Busi, indicators of *‘reciprocity’* and *‘affective elements’* were not included within her list.

Thembi too indicated a prioritisation of dispositions and the promotion thereof. Like Busi, she emphasised these in her responses to subsequent questions, as she discussed the promotion of dispositions in terms of being a part of a bigger, more long-term objective. She

noted that the promotion of dispositions:

“will support learning for a lifetime no matter the subject, interest and level of challenge because they cross traditional curriculum boundaries and act as motivator.”

Thus, Busi and Thembi articulated quite similarly their views of the promotion of productive learning dispositions.

A secondary element of the research project gathered data from the learners’ reports written by Busi and Thembi. Upon analysis, these indicated an absence of the wide range of key productive learning dispositions noted by both teachers above. Through examination of the reports, it became evident that little to no mention was made at all in the formal reports around the promotion of any of the above-mentioned dispositions. Comments on learners instead noted:

- *“He can count. He can count from 1-10 and also uses objects to count from 1-10”*
- *“He likes to work and also he likes his work”*
- *“He likes to help the others in the class”*

Busi and Thembi appeared to share the same goals and values in terms of their responses to the questionnaire. They both seem to have an established understanding of what dispositions are important, that cohere well with the reviewed literature, as well as the benefits of promoting the development thereof. The question then arises as to why these two teachers refrain from articulating these through the medium of formal report writing? Busi only offered the following statement as a reason behind this absence:

“as I have called the parents to report to him or her. I see no need to write comments on the report. I just comment about his/her achievements in the activities”.

As mentioned earlier, Busi and Thembi both appear to have an awareness and understanding of the need for the implementation / promotion of key productive learning dispositions. Further investigation as part of a larger research project may provide insights into the classroom practices of these teachers, through classroom observations, and provide insight into how the teachers' awareness and dispositional statements unfold in their practice.

A larger research project may enable in-depth as well as follow-up interviews with teachers in order to investigate the following questions:

- What is discussed with parents in terms of dispositions? How do parent respond to this information? Is there support from parent in the promotion of these dispositions? How are meetings recorded / noted if at all – in learner's files, teacher's notebooks etc?
- Are dispositions included in any formal written assessment correspondence, whether to parents / headmaster / department of education / fellow teachers etc?

A pertinent question that arises from this particular case study is *why* are dispositions not reported on formally? Given the value of documented assessments (in terms of evaluating and recording the learning taking place), as well as the already established prioritisation and acknowledged importance of specific dispositions, it seems a shame (from my point of view as well as that of the literature reviewed) that performance indicators and systemic assessment (ratings, marks) take precedence here – leaving the possible impression for learners and parents that key productive learning dispositions are not valued in this setting (contrary to the teacher's speak).

The above vignette illustrates strong similarities between the dispositional values and goals of these two teachers. There is however a disconnect between what is being *said* to be promoted in practice and what is being *written* and promoted in written formal reporting to parents for both teachers. Further research into this field may explore the underlying reasons for such disconnect.

VIGNETTE 2

Rebecca, Westwood Prep School (names changed)

Rebecca is a Grade 1 teacher working for the last few years at a local quintile 5 (i.e. wealthy) school. Rebecca completed the same disposition-related questionnaire as the teachers at Hope Primary School. Her responses when asked which dispositions she regarded as important amongst her Grade 1 learners included:

“Enquiring minds, curiosity, asks questions”

“Perseverance, persistence”

“Confidence”

“Responsibility”

These too were categorised as falling under the following dispositional categories:

‘reciprocity’, ‘resourcefulness / playfulness / sense-making’, ‘resilience’, ‘confidence’ and ‘independence’.

Here we see Rebecca as a teacher who articulates in her responses the promotion of and value of a range of learning dispositions. Throughout the remainder of the questionnaire, Rebecca continued to re-iterate the many different dispositions she promotes in class, and also remarked that she uses different methods to record these dispositions in the classroom, and that she reports on them informally to parents.

As with the other teachers, Rebecca provided examples of learners’ formal written reports. Rebecca’s reports were comprehensive in her references to behaviours, actions and attitudes of a dispositional nature. In one report, a total of twenty-six references were identified, across all of the learning domains. These were categorised in the same way as her responses to the questionnaire, and resulted in the coding of responses in the following dispositional categories:

‘Resilience’

'Resourcefulness / playfulness / sense-making'

'Reciprocity'

'Confidence'

'Independence'

'Love and passion for learning'

'Affective elements'

'Classroom compliance'

In her reports, Rebecca included dispositions she had not included in her questionnaire responses. Her exemplar reports provided a deeper and richer showing of her prioritisation of and promotion of productive learning dispositions.

Thus, for example, her report included the following comment under the Mathematics learning domain:

[redacted] has a very good understanding of all the concepts taught this year and **he is confident to work independently**. He thinks quickly when doing mental maths and **he loves a challenge**. He enjoys doing the problem solving exercises and he is beginning to work them out without the use of concrete aids. His written computations are done accurately and without the use of concrete aids. He has enjoyed the practical maths lessons and is able to identify the 3D objects that we have covered this term.

She remarks that the learner is “confident to work independently”, and that he “loves a challenge”, indicators of *'confidence'*; *'independence'* and *'resilience'* respectively. The category *'resourcefulness / playfulness / sense-making'* is expressed here through Rebecca's remark that this learner is beginning to work problem solving exercises out “without the use of concrete aids”.

Rebecca's dispositional comments are not restricted to the Mathematics learning domain however, as is seen in her inclusion thereof in the Literacy learning area comments:

[redacted] **relates his news confidently** and in a logical order. He **speaks clearly** using good vocabulary and language. His recognition of sight words is very good and he is reading fluently. He has already completed Kathy and Mark 6 words and I will be extending him with other word lists. He is beginning to read with more expression, but must take note of the punctuation marks when reading aloud. He has coped well with the phonics this term and he is able to sound out and write short words using the a, e and i vowel as well as the extension words. He is writing well-constructed sentences on his own when recording his news and makes good use of his dictionary to help him. **He is able to apply his phonic and spelling knowledge to his written work.**

and her General comments:

I am very pleased with the progress [REDACTED] has made this term and he is coping very well in all areas. He approaches tasks with enthusiasm and I am pleased with his positive attitude in class. He is able to follow instructions and works independently, although he must focus on completing his work thoroughly and neatly. It is really important that he gets to school on time every morning, so that he is able to get himself organised and ready for the school day. He gets on well with his peers and always has many friends around him. He is polite and helpful towards adults. I have enjoyed teaching him and look forward to an equally successful second half of the year.

This particular report example was provided by Rebecca as an example of a strong learner, and so the dispositional comments are possibly of a more positive and affirmative nature than all reports.

Despite hailing from very different backgrounds (both personally and professionally), and despite currently working under the most diverse conditions in contrasting school environments (quintile 2 and quintile 5), Rebecca made very similar comments to Busi and Thembi in her questionnaire responses. Her exemplar reports however differed from those of Hope Primary School as she included numerous mentions of dispositions therein. Rebecca's reports could provide an example of ways in which formal reports can be used as a medium of communicating and exhibiting the importance of the promotion of key productive learning dispositions to those outside the classroom, such as parents and other stakeholders.

CHAPTER 7

DISCUSSION OF FINDINGS

7.1: GOALS OF THE RESEARCH PROJECT

The goal of this study was to investigate the promotion of productive learning dispositions in relation to government policies and teacher assessment strategies and through this to analyse possible congruence and/or dissonance between the policies for these grades and between the stated promoted dispositions of a sample of Grade R and Grade 1 teachers.

RESEARCH QUESTIONS

In order to achieve the above goal, I endeavoured to answer the following questions:

- 1: What productive learning dispositions are promoted in current curriculum documents and assessment criteria in Grade R and Grade 1?
What are the similarities and differences in dispositions promoted across the curriculum and those promoted in assessment guidelines and policy across these grades?
- 2: What are the prevailing views / current understandings of teachers in Grade R and Grade 1 around productive learning dispositions and the promotion thereof in these grades?
- 3: How, if at all, are learning dispositions reported on/communicated to parents in Grade R and Grade 1? Is there evidence of congruence and /or dissonance in these assessment practices: between the two grades; between the various schools; and between the policy and the practice?

In the chapters that preceded I answered these questions through the process of policy analysis, and discussions around teacher responses and collected exemplar learner reports. These were presented in chapters 5 and 6 respectively. In this chapter I focus on discussion of the research process as a whole, cutting across the data and findings related to the

various questions in order to capture in a more integrated way the range of insights that have emerged from this process. I have thus structured this chapter as follows:

In Section 7.2 below I summarise the findings related to my research questions in the form of a set of analytic statements so as to consolidate the findings incorporated in chapters 5 and 6.

In section 7.3 I focus on the limitations of this study and engage with the numerous research challenges I experienced that led to a significant re-design of my original research proposal.

In Section 7.4 I foreground the methodological and theoretical insights that have emerged from the study in relation to frameworks for analysing learning dispositions and dispositional indicators.

In section 7.5 I address the implications of the study for policy, teacher education and for teachers (and my own practices as a teacher).

In section 7.6 I discuss my critical reflection in terms of my process of conducting research and my learning within this reflection.

In sections 7.7 I foreground the implications of my research for highlighting avenues for possible further research.

7.2: WHAT PRODUCTIVE LEARNING DISPOSITIONS ARE PROMOTED in Grade R and 1 in policy and by teachers?

Below I provide a series of analytic statements that emerge from my research in relation to the policy analysis conducted in the preceding chapter 5 and the analysis of teacher responses and supplementary exemplar learner reports provided by teachers. In this respect the three key data sources that contributed to these findings are policy, teacher questionnaires and a sample of learner reports. For each of these data sets written statements have been analysed in relation to the dispositional indicator matrices developed during the analysis process of each of the three data sets.

Before commencing with my analytic statements it is important to note that having only examined a portion of available government *policy*, in the form of the curriculum statement

for Foundation Phase, I cannot and do not attempt to make claims to what the Education Department's viewpoint is on learning dispositions and their promotion as a whole. Similarly with only six schools and eleven participating teachers in this sample of schools I cannot make claims at this stage about the understandings and assessment practices of all teachers in the Grade R / Grade 1 band, nor about the educational profession at large in these grades.

Keeping the above in mind, the following are some key analytic statements derived from the tabled findings across all three data sets (policy, teacher questionnaires, learner exemplar reports) to the study. table 14 below summarises the frequency of dispositional statements across policy, teacher responses and exemplar reports for all schools and both Grade R and Grade 1 teachers.

Specific pertinent instances from these, and other overall summary tables, are used to support the analytic statements outlined below.

	CAPS Sections 1,2 & 3	Numeracy Handbook	ANA Diagnostic Report	Assessment Guidelines Gr R & 1	School A				School B				School C				School D				School E				School F						
					Question 1	Question 2	Question 3	Question 4	Reports	Question 1	Question 2	Question 3	Question 4	Reports	Question 1	Question 2	Question 3	Question 4	Reports	Question 1	Question 2	Question 3	Question 4	Reports	Question 1	Question 2	Question 3	Question 4	Reports		
Reciprocity	46	13	2	10	2	1	0	0	0	5	0	2	0	2	0	0	0	2	1	0	0	0	9	1	0	0	4	3	0	0	1
Resourcefulness / playfulness	42	7	2	7	7	0	0	0	0	7	1	0	1	9	0	0	0	0	4	0	0	0	11	1	0	0	7	1	0	0	2
Resilience	1	4	2	0	6	1	0	0	0	3	2	0	2	0	0	0	0	1	5	1	0	1	7	0	0	0	1	0	0	0	2
Confidence / self-efficacy	1	1	0	0	4	0	0	0	0	3	1	0	0	3	0	0	0	0	2	1	0	0	3	1	0	0	3	0	0	0	0
Connections to learner's world / see mathematics as worthwhile	12	7	1	10																											
Independence					0	0	0	0	0	3	0	0	0	1	0	0	0	0	2	0	0	0	4	0	0	0	3	0	0	0	1
Love and Passion for Learning					0	0	0	0	1	0	2	0	0	0	0	0	0	2	1	0	0	1	7	0	0	0	6	0	0	0	3
Affective Elements					1	1	0	0	1	7	1	1	0	6	0	0	0	2	0	0	0	0	10	0	0	0	5	0	0	0	4
Classroom Compliance					0	0	0	0	1	0	1	2	0	1	4	4	0	0	1	0	0	0	4	0	0	0	4	1	0	0	0

Table 14: Frequency of dispositional statements across policy, teacher responses and exemplar learner reports (All schools, both grades)

	School A		School B		School C		School D		School E		School F	
	Question 1, 2 & 3 (General dispositional discussion responses)	Question 4 and Exemplar reports (reporting practice specific responses)	Question 1, 2 & 3 (General dispositional discussion responses)	Question 4 and Exemplar reports (reporting practice specific responses)	Question 1, 2 & 3 (General dispositional discussion responses)	Question 4 and Exemplar reports (reporting practice specific responses)	Question 1, 2 & 3 (General dispositional discussion responses)	Question 4 and Exemplar reports (reporting practice specific responses)	Question 1, 2 & 3 (General dispositional discussion responses)	Question 4 and Exemplar reports (reporting practice specific responses)	Question 1, 2 & 3 (General dispositional discussion responses)	Question 4 and Exemplar reports (reporting practice specific responses)
Reciprocity	3	0	7	2	0	2	1	9	1	4	3	1
Resourcefulness / Playfulness	7	0	8	10	0	0	4	11	1	7	1	2
Resilience	7	0	5	2	0	1	6	8	0	1	0	2
Confidence / self-efficacy	4	0	4	3	0	0	3	3	1	3	0	0
Connections to learner's world / see mathematics as worthwhile												
Independence	0	0	3	1	0	0	2	4	0	3	0	1
Love and Passion for Learning	0	1	2	0	0	0	1	8	0	6	0	3
Affective Elements	2	1	9	6	0	0	0	10	0	5	0	4
Classroom Compliance	0	1	3	1	8	1	0	4	0	4	1	0

Table 14.2: Summary of table 14.1 – excluding policy documents, and with grouping of Question 1,2,3 together and grouping of Question 4 with Exemplar Reports

Analytic statement 1: There appears to be coherence between the rhetoric in government CAPS Foundation Phase policy and the teacher written responses especially as relates to the notions of the importance of encouraging learner engagement and '*playfulness / resourcefulness*' in these grades. For both policy and for teachers the frequency of statements in these two categories was highest, while '*resilience*' and '*confidence / self-efficacy*', while present in both, were much lower. As can be seen in the data from table 14 above, indicators '*reciprocity*' and '*playfulness*' have a high frequency of occurrence across the policy documents examined and was echoed in similarly high frequencies of comments by teachers across questionnaires for both grades across the schools.

Thus from table 14 above, CAPS shows a total of 88 frequencies (46 and 42 respectively) for the first two indicators. All the schools, with the exception of School C, which, as discussed earlier, prioritises Classroom Compliance without emphasis on any other dispositions, also have a high response rate for these two indicators with 84 related statements is total (i.e. School A: 10, School B: 27, School C: 2, School D: 25, School E: 13, School F: 7).

Analytic statement 2: There appears to be coherence too between the dispositions that Grade R and Grade 1 teachers say they promote. This finding was contrary to my initial concern that from my experience there can be strong dissonance between the Gr R and Grade 1 teacher's views on learning dispositions in a school. An example of such close coherence is given below and is taken from chapter 5, analysis of teacher responses to Question 1, School B. As can be seen, there is overlap in the terms used for the dispositions the teachers regard as important as is the case with "*curiosity*" and "*creativity*". This was true for many other Grade R – Grade 1 pairs of teachers and across the different indicators too.

RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING
School B
Grade R
* "enthusiasm" * "a willingness to have a go/take a chance" * "curiosity" * "problem-solving" * "creativity"
TOTAL: 5
School B
Grade 1
* "creativity" * "curiosity"
TOTAL: 2

Analytic statement 3: Policies relating directly to assessment guidelines and strategies (specifically the ANA Diagnostic report and the Assessment Guidelines for Grade R and Grade 1), although congruent with general policy in the Foundation Phase, do not appear as comprehensive as Section 1, 2 and 3 of CAPS document, and the Numeracy Handbook and do not encompass the full range of dispositions suggested by literature reviewed as relevant to these early years of schooling. An example of congruence is in the category of *'reciprocity'* where the Assessment Guidelines and the CAPS document present a high frequency of instances (10 and 46 instances respectively). However, reference to indicators of *'confidence'* and *'resilience'* are noticeably absent in the Assessment Guidelines, although mentioned in both the literature and the CAPS document (as indicated in the snapshot of table 14 below).

	CAPS Sections 1, 2 & 3	Numeracy Handbook	ANA Diagnostic Report	Assessment Guidelines Gr R & 1
Reciprocity	46	13	2	10
Resourcefulness / playfulness	42	7	2	7
Resilience	1	4	2	0
Confidence / self-efficacy	1	1	0	0
Connections to learner's world / see mathematics as worthwhile	12	7	1	10

Analytic statement 4: There are notably many similarities between the Grade R and Grade 1 teachers within a specific school and differences rather emerge across the pairs of Grade R-Grade 1 teachers in different schools. The extracted table below (taken from table 14 above) provides an example of the difference in dispositions emphasised and promoted by pairs of teachers in two different schools:

	RECIPROCITY	RESOURCEFULNESS / PLAYFULNESS / SENSE-MAKING	RESILIENCE	CONFIDENCE	INDEPENDENCE	LOVE AND PASSION FOR LEARNING	AFFECTIVE ELEMENTS	CLASSROOM COMPLIANCE
School C	0	0	0	0	0	0	0	5
School D	1	4	5	2	2	1	0	0

Thus the table shows that School C provides no statements for the first seven indicators, and offers five relating to classroom compliance. School D, however, offers at least one statement for the first six indicators, and no statements of '*classroom compliance*' – pointing to a difference in priorities in relation to stated promoted dispositions across these two schools. Similar differences are visible throughout these teachers' responses, and is echoed in their reporting practices. For example, in response to Question 1, around which dispositions the teachers regard as important, teachers in School C stated the following:

“Routine, discipline, class rules, and sitting in groups” (see table 8.3).

Whereas the teachers in School D offered the following dispositional statements:

“ask questions, enthusiasm, intensely curious, enquiring minds, concentrate, persevere, conscientious, persistence, show pride, confidence, responsibility and love for learning” (see table 8.4).

The teachers at School C's statements were all categorised under '*classroom compliance*', whereas the teachers at School D provided no statements under this category – instead their statements fell under the first six indicators (all except '*affective elements*'), with a frequency of at least one statement in each category.

Analytic statement 5: The analysis of teacher responses and supplementary examples of reports pointed towards some differences between what the teachers were saying they promoted in class and what they were including in their reports. Many of the teachers responded to questions around dispositions by providing examples of a wide variety of prioritised dispositions. For many teachers however their corresponding reports contained little evidence of the same dispositional 'speak' used in the questionnaires. Some teachers additionally pointed out that they were not comfortable with writing down on a report some aspects of dispositions. For example the Grade R teacher from School A responded to Question 4 which asked:

“Are the children’s learning dispositions reported on, and communicated to the parents in reports? If so, how is this done and if comments are included what is the nature of comments made?”

as follows:

“Yes as I have called the parents to report to him or her. I see no need to write comments on the report. I just comment about his/her achievements in the activities” (Appendix D).

I include one example here of a strongly notable difference between what teachers wrote in the questionnaires and what they included in learner reports. School A, for example, provided a total of twenty statements related to the five indicators ‘reciprocity’, ‘playfulness / resourcefulness’, ‘resilience’, ‘confidence / self-efficacy’, and ‘affective elements’ in response to Question 1 of the questionnaire. Analysis of the reports however revealed a total of only three dispositional statements (across both the grades). These were: “he *likes* to work; he likes to *help the others* in the class; and *he’s good*”, thus related to the emergent categories ‘love and passion for learning’, ‘affective elements’ and ‘classroom compliance’ rather than the predominantly literature generated categories referred to primarily in the questionnaires.

Analytic statement 6: Teacher comments in reports on dispositions can be rich and informative. Several teachers provided rich examples of how the importance of certain dispositions can be communicated to parents and teachers within reports largely in ‘open comment’ sections, either per learning area or at the end of the report, usually called ‘General Comments’. An example is provided below: The Grade 1 teacher from School D provides an example of how dispositions can be communicated through report comments, specifically under Mathematics:

MATHEMATICS	Teacher	Achieved Level
Mathematics		
Mental Arithmetic		4
Basic Number Concepts		4
Written Computations		4
Problem Solving		4
has a very good understanding of all the concepts taught this year and he is confident to work independently. He thinks quickly when doing mental maths and he loves a challenge. He enjoys doing the problem solving exercises and he is beginning to work them out without the use of concrete aids. His written computations are done accurately and without the use of concrete aids. He has enjoyed the practical maths lessons and is able to identify the 3D objects that we have covered this term.		

Of interest the exemplar reports submitted by schools B (Grade R), D (Grade R) and E (Grade R and 1) contained some indication of the development of a *graded system* of recording and formally reporting on dispositional development, however these were not as comprehensive, nor as uniformly noted across the different grades, as those offered by the higher grades (Grades 8-12) of one of these schools. This system involves teachers filling in a graded scale of 1-4 the extent to which a learner worked hard and engaged fully in class – referred to as ‘application marks’. The following is a snapshot of the grading system employed in the higher grades of School D for assessing learning dispositions.

L	LACKING	Homework not always done / correct books often not in class / tendency to be disruptive / uncooperative at times / lack of effort in preparation for tests or assignments / unfocused in class / little engagement with work covered / negative attitude / often not punctual
O	ORDINARY	Capable of better / work is generally completed but without extra effort / room for improvement / attitude is neutral or passive / tests suggest preparation could have been better / generally punctual and organised
P	PRAISEWORTHY	Produces pleasing work / homework done and shows effort / attentive and positive in class / cooperative and involved / grapples with the work and makes the effort to understand it
R	REMARKABLE	Goes the extra mile / consistently puts in extra effort / positive example in class / shows initiative / strives to improve on previous best / takes full responsibility for learning

In further research it might be interesting to research Gr R and 1 teacher views on such systems of grading rather than primarily commenting on learner dispositions such as willingness to engage, to work hard, steady effort, passion for learning etc. in general comment sections.

7.3: LIMITATIONS OF THE STUDY

This study presented with a host of limitations, some of which have been mentioned in previous chapters. Below I engage more comprehensively with various challenges faced throughout the research journey.

My first challenge related to my lack of access to teacher classroom practices as was originally intended in my proposal. Teachers I approached, some with whom I had quite good relationships, said that having an outsider in these relatively new Grade R classes with relatively new teachers would be too stressful, disruptive and time consuming. Indeed gaining access to teacher classes is difficult, especially in the Grahamstown area where there is a sense of schools near Rhodes University being over researched as a result of their proximity to the university (Graven, personal communication, 2014).

Though I had thought my insider status as a fellow teacher would help in this respect, this was insufficient to allow me access to teacher classrooms. I thus went back to revising my research design, focusing more on the documentary curriculum analysis and shifting my data on teacher promoted dispositions from classroom observations to a relatively brief (and not very time consuming) questionnaire and request for exemplar learner reports. I then attended, at the invitation of my supervisor, the NICLE sessions and through this met with teachers from a wide range of schools who indicated that they were happy to ask their schools and Grade R and 1 teachers whether they were willing to participate in the research. I then followed up through sms communication, e-mail and telephone calls to confirm with the teachers and their relevant principals their willingness to participate in the research.

My research thus no longer focused on what dispositions were promoted in policy and observed *practice* but on policy and what teachers said they prioritised and what they may or may not have included on learning dispositions in their report writing.

I gathered my data by travelling to the schools and meeting personally with the teachers. While analysing the data, I realised that much would be learnt by follow up interviews. Unfortunately however schools were busy with the Annual National Assessments and any follow up in September would have been disruptive. While interviews in October / November might have been possible, as a full time student with my due date for submission

(and my due date for my baby) being early December, as my supervisor pointed out, it was necessary to work with the data I had.

In further research I would include interviews with teachers. So for example, sometimes a response of one word was offered where a more detailed explanation was sought. For example, in response to the question:

“Are the children’s learning dispositions reported on, and communicated to the parents in parents meetings or informally with learners or parents? If so, how?”

the teachers from School E responded with *“Yes – daily, meetings”*.

Because of the nature of using questionnaires, it was not possible to ask for elaboration of responses by the teachers immediately and the distance between researcher and those participating meant that differences in interpretation of questions between myself and respondents were not addressed. Thus while questionnaires are useful in the sense that they are not particularly time-consuming and are a less threatening medium of data collection than many other methods, this method also has its limitations. The most pertinent limitation that arose during the course of this study was the lack of control, that I as the researcher, had over how the questionnaires were filled in – for example, one pair of teachers decided to fill in one questionnaire together, leaving little room for my intended analysis of possible congruence and/or dissonance between the Grade R and Grade 1 teachers (School E).

Many of the responses given were not focused on dispositions or were too general for analysis. For example, responses by School A, around which dispositions they regard as important, suggested: *“Mind development”* and School E included: *“Physical, concrete before the abstract”* in their list of important dispositions. Again, because of the distance between the teachers and myself in the questionnaire method, this left little room to coax further explanations, specifics or elaboration.

Throughout this research project, especially in the initial design, there was a constant risk of ‘pushing too hard’ and risking what is already a sensitive and precarious relationship between myself and those asked to participate. It was a priority to observe polite social

norms when contacting all of the schools, ensuring correct communication protocols and allowing time for responses.

There is still very limited research in the field regarding Grade R in our uniquely South African context, making it difficult to first of all, predict what may be found amongst schools. There was also a very small selection pool in this area in regards to established primary schools with an established Grade R thus resulting in a relatively small scale research sample.

Because of the relatively small scale nature of this research project, it is not possible to generalise the findings much beyond the schools explored. However, as indicated in the methodology chapter, much of the contribution will be in the extent to which findings resonate with other researchers and practitioners and the extent to which findings have illuminated potentially fruitful avenues for further research.

A larger scale research project would be possible in a larger area, where more schools could be contacted and invited to participate. Also, because of the close proximity to Rhodes University, local schools are often asked to accommodate students in a variety of contexts – either as researchers, as pre-service trainee teachers doing their practical, or as interns and assistants. This can cause a sense of research participation ‘fatigue’ amongst teachers, as these accommodations inevitably cause disruptions to everyday school life. Future research could explore a much broader geographical area to avoid these difficulties.

7.4: METHODOLOGICAL AND THEORETICAL INSIGHTS FROM THE STUDY

Kilpatrick et al. (2001) offer critical insights into the development of children’s mathematical proficiency through their identification of critical productive leaning dispositions, as a fifth strand of proficiency. These dispositions formed the starting point for this investigative study, and were useful in launching and shaping the initial research questions. However, due to the fact that Kilpatrick et al. focus on learners’ learning trajectory throughout their school careers, rather than in any particular grade or phase, and also offer little in the way of possible progression frameworks relating to the development of dispositions, I also looked at the work of Carr & Claxton (2010).

Although Carr & Claxton (2010) do not focus specifically on Mathematical learning dispositions, this was not restrictive when working with their writing. Indeed their contributions to the notion of the promotion of productive learning dispositions can and are adaptable across a range of subjects (including Mathematics). An added advantage of their work is that Carr & Claxton (2010) situate their work specifically in the Early Years', or Foundation Phase setting, where this particular research study is situated. Secondly, Carr & Claxton (2010) also attempt to offer some form of progression across dispositions, again useful here as this study is partly focused on teacher assessment practices on dispositions as they may progressively differ from the Grade R (reception) year to Grade 1.

For these reasons, a combination of Kilpatrick et al.'s (2001) work and Carr & Claxton's (2010) categories of key learning dispositions were composed into an indicator framework, or matrix (chapter 4). This assimilation of theory worked well for the analysis of government policy documents (in chapter 5).

However, when this new indicator matrix was used to analyse teacher responses to questionnaires and supplementary report examples, it proved insufficient in its scope, and did not encompass the variety of dispositional statements offered and prioritised by the teachers. As a result, the indicator matrix was again modified to include a wider breadth of indicators. The emergent indicators from the research are: *'independence'*; *'love and passion for learning'*; *'affective elements'*; and *'classroom compliance'*.

Assimilating the work of Kilpatrick et al. (2001) and Carr & Claxton (2010) led to the development of a richer, more usable and relevant collection of indicator categories of dispositions appropriate for promotion amongst learners across all subjects (not just Mathematics) in the Early Years' / Foundation Phase setting. The addition of four extra indicators (even while not fore grounded in key literature consulted) provides for the initial groundwork for the development of a more comprehensive list of indicators, or dispositions, as they relate not only to policy and theory examined, but importantly, to teachers' experiences and actual classroom practices. As the final indicator matrix derives influence from practical experiences, it could have the potential to provide a significant, and to this point somewhat lacking, link between the promotion of learning dispositions discussed in theory and those prioritised and experienced in real-world classroom settings.

7.5: IMPLICATIONS OF THE STUDY

My initial perceptions (partly the inspiration for the framing of this research project), pointed towards a possible dissonance between Grade R and Grade 1 practitioners' pedagogical approaches to the teaching and learning process, specifically in terms of which productive learning dispositions were prioritised in the classroom. My impression was that the Grade R focused, by its very nature, on the promotion and development of at least some of the key productive learning dispositions mentioned by Kilpatrick et al. (2001) and Carr & Claxton (2010). This impression was based on the understanding that Grade R plays a pivotal role in the social and emotional development of the child, and thus prioritises attitudes to learning and being which include '*resilience*', '*reciprocity*' and '*confidence / self-efficacy*', amongst others. On the other hand, my impression of Grade 1 was perceived as 'formal' schooling, focused on the cognitive and intellectual development of the child in a more scholarly sense, leaving possibly less room for dispositional development. Grade 1 is also physically a far more traditional environment with desks in rows or groups, and more teacher directed activities.

Based on my views of such differences in Grade R and Grade 1 classrooms, I expected some difference between Grade R and Grade 1 teachers' discourse on dispositions. However, to my surprise, this research study revealed that amongst the six schools involved, and within the sample of policy analysed, that there exists little dissonance between dispositional discourse across these two grades. Differences did present themselves, but these were: between different schools, and between what teachers responded to questionnaires in contrast to what they included in their supporting exemplar reports.

To make this discovery has not only caused a reassessment of the initial assumptions held by myself, but has also opened up an avenue of interest which has its focus in current assessment practices amongst Foundation Phase teachers, specifically in relation to formal report writing. As was discussed elsewhere in this study, report cards serve as visible methods of accounting for and documenting the teaching and learning process – an often nuanced and 'hidden' phenomena. The apparent lack of prioritisation of dispositions in many of the analysed report comments suggests that the report is perhaps not fully utilised

as a mechanism for promoting learning dispositions, or as a means to communicate priorities in development.

Much of the literature reviewed points to formal assessment of dispositions enabling the strengthening and visibility of these within the school system (Cowie & Carr, 2009; Carr & Claxton, 2010). An implication in this respect is that departmental documents providing assessment guidelines could be usefully supplemented with exemplar reports that include dispositional reporting so as to bring reporting in line with the foregrounding of learning dispositions in policy.

7.6: MY PROCESS OF LEARNING AS A RESEARCHER

The initial goal of this research project was to investigate possible congruence and/or dissonance between the promotion of productive dispositions amongst Grade R and Grade 1 teachers through conducting an in-depth on-site observation of teacher practices, supplemented by thorough teacher interviews. Due to circumstances outside of my control access was not granted.

As there was already an established professional and personal relationship with the two teachers identified as possible candidates for the study, I had predicted that access would be easily negotiated. There appeared to be very little risk of the power imbalance and sense of scrutiny often experienced by those under observation. The previously established conviviality already established in this instance would have gone a long way to alleviating many of the stresses of the research situation. Access however was still not granted, and this served as a reminder that not everything within a research situation can be predicted, and points to the importance of approaching more than one research site in order to ensure alternative options should the first one not work out as anticipated.

Since the decision by my intended case study school not to participate came quite late during the allocated time-frame for this study, this left me little time to gather alternative sources of data for addressing my key research questions. Due to the above-mentioned time constraints, the research study had to shift its focus and direction away from teacher practices and so away from classroom observations and interviews. Upon redesign, it was

decided that a more expedient and much less threatening method of gathering data would be through questionnaires, and through collecting examples of formal reports.

It was also decided to widen the scope of teachers from a case study involving only two teachers situated in one school to an investigation spanning several schools from different quintiles. Six schools comprising of eleven Grade R and Grade 1 teachers accepted my invitation to participate and thus formed my sample. This was done in order to provide a richer and more comprehensive comparative study across a variety of Grade R and Grade 1 teachers, and to provide a wider variety of responses and subsequent insights into teacher understandings of the promotion of productive learning dispositions.

This unpredictability of the research process and the inevitability of redesign when working within the South African research context are discussed by Vithal (1998) in her engagement around 'Disruptions and Data'. Also, reflexivity on the part of the researcher is an essential element of qualitative research, because it supports the opportunity for the 'transformation in the being of the researcher,' which is the most significant product of research (Mason, 1998, p. 357).

This process of redesigning the study has taught me, as a researcher, firstly of the tenuous relationship which inevitably exists between the researchers and the subjects of the research. It is a sensitive relationship, one which needs to be respected and not taken for granted. Secondly it has taught me that when embarking on a research project of this nature, one cannot remain fixed on intentions or be unwilling to accommodate deviations from the intended purpose of the project. Although the data gathered was not exactly as initially intended, I still managed to unearth interesting nuances that would not previously have been considered. Through these new discoveries, I was able to contribute to the discussions around the promotion of productive learning dispositions through the development of two indicator matrixes, which may not have emerged had the study focused only two teachers in one school.

Finally, conducting this research project in this way has made me aware of the limitations of conducting research – from the unpredictability of the process and the limitations of employing questionnaires, to the various time constraints. The methods which had to be employed were not ideal, but rich data was nonetheless generated, and valuable insights

were developed, as well as the added advantage of maintaining a favourable and positive relationship with the participating schools, forging the way for possible future research collaborations. Thus, in respect of, as Mason (1998) suggests, the key outcome of post graduate research being the learning journey and changed being of the researcher, this research has certainly achieved this.

7.7: IMPLICATIONS FOR POLICY AND PRACTICE, AND FOR FURTHER STUDY

In terms of implications for policy documentation and teacher practices the inclusion of exemplar reports in teacher guides and the sharing of school reports across teachers and schools in workshops aimed at developing common dispositional speak could be invaluable for teachers and schools.

The possibility for an action-research project here is specifically note-worthy – the potential for conducting teacher-training workshops centred on improving report writing procedures, and observing the effects thereof, would be beneficial to the field of understanding the possible progression of learning dispositions, in relation to teacher practices and contributing to the development of common dispositional speak across schools.

This study has left me with many further suggested avenues of research and perhaps what the study points to for further research is one of the key findings from my process. I engage with some of these avenues below.

With more time, access could be negotiated with schools in order to conduct classroom observations. Through integration into the school life, deeper insights into teacher classroom practices in relation to the *what* and *how* certain dispositions are promoted could be uncovered, which could then be further explored by conducting in-depth interviews with the teachers, the children and even the parents of learners. This process would possibly address some of the questions raised by this study, especially those concerned with how policy is being implemented in the classroom, and could shed some light on *how* the promotion of productive learning dispositions can and is being realised practically in the dynamic setting of the classroom.

A richer analysis focusing specifically on assessment strategies could pave the way for establishing a broader and more intentioned focus on the importance of including the

productive dispositional speak in formal report writing as it pertains to establishing the importance thereof across the broader school community.

Finally, drawing on the emergent indicator matrix, it may be possible to conduct further research into developing a comprehensive *progression* framework of learning dispositions which could be used by teachers to inform both the teaching and learning process as well as supplement their report writing strategies across various grades. This progression framework could explore Carr & Claxton's (2010) notions of 'sophistication' and 'robustness', and of being 'ready, willing and able'.

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Appendix A: Summary of Grade R provision in the Grahamstown District 2014/2015

200100271	GRAHAMSTOWN PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	42	39	635.40	R 24 780.60	2	#####	incomplete	39
200100273	GRAPEVALE PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	2	#N/A	0	635.40	R 0.00	#N/A	#N/A	No Grade	0
200100300	HENDRIK KANISE COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	3	44	44	635.40	R 27 957.60	0	R 0.00	complete	44
200100319	HOPE FOUNTAIN PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	2	6	7	635.40	R 4 447.80	0	R 0.00	complete	7
200100375	IKAMVA LESIZWE PUBLIC SCHOOL	GRAHAMSTOWN	Section 21	YES	3	94	80	635.40	R 50 832.00	0	R 0.00	incomplete	83
200100376	KENTON ON SEA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	4	28	25	318.00	R 7 950.00	0	R 0.00	incomplete	25
200100397	KLIPFONTEIN DRC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	44	36	635.40	R 22 874.40	1	R 63 600.00	incomplete	36
200100419	KUYASA COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	3	113	84	635.40	R 53 373.60	3	#####	incomplete	87
200100424	kwaMHALA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	2	4	6	635.40	R 3 812.40	0	R 0.00	complete	6
200100482	MAKANA PUBLIC SCHOOL	GRAHAMSTOWN	Section 21	YES	3	60	67	635.40	R 42 571.80	3	#####	complete	70
200100487	MANLEY FLATS MISSION SCHOOL	GRAHAMSTOWN	Section 21	YES	2	8	10	635.40	R 6 354.00	1	R 63 600.00	complete	10
200100491	MARTINDALE FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	0	6	635.40	R 3 812.40	1	R 63 600.00	complete	6
200100530	MOSSLANDS FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	2	0	635.40	R 0.00	0	R 0.00	No Grade	0
200100537	MTYOBO PUBLIC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	153	82	635.40	R 52 102.80	0	R 0.00	incomplete	85
200100548	N V CEWU PUBLIC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	106	97	635.40	R 61 633.80	3	#####	incomplete	100
200100550	NANGKOS PRIMARY FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	3	6	635.40	R 3 812.40	1	R 63 600.00	complete	6
200100554	MASAKHANE COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	2	9	5	635.40	R 3 177.00	0	R 0.00	incomplete	5
200100582	NOMPUCUKO COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	3	70	75	635.40	R 47 655.00	0	R 0.00	complete	78
200100593	NTABA MARIA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	4	79	43	318.00	R 13 674.00	2	#####	incomplete	43
200100602	OATLANDS PREPARATORY SCHOOL	GRAHAMSTOWN	Section 21	YES	5	59	30	109.80	R 3 294.00	0	R 0.00	incomplete	30
200100612	HOERSKOOL P J OLIVIER	GRAHAMSTOWN	Section 21	YES	5	25	25	109.80	R 2 745.00	0	R 0.00	complete	25
200100631	PINEWOODS FARM SCHOOL	GRAHAMSTOWN	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Unofficially closed	#N/A
200100632	PORT ALFRED HIGH SCHOOL	GRAHAMSTOWN	Section 21	YES	5	53	24	109.80	R 2 635.20	0	R 0.00	incomplete	24
200100633	PORT ALFRED PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	98	84	635.40	R 53 373.60	3	#####	incomplete	87
200100639	QHAYIYA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	140	126	635.40	R 80 060.40	3	#####	incomplete	118
200100651	RIEBEECK EAST COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	2	17	15	635.40	R 9 531.00	1	R 63 600.00	incomplete	15
200100673	SALEM PRIMARY SCHOOL	GRAHAMSTOWN	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Unofficially closed	#N/A

200100271	GRAHAMSTOWN PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	42	39	635.40	R 24 780.60	2	#####	incomplete	39
200100273	GRAPEVALE PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	2	#N/A	0	635.40	R 0.00	#N/A	#N/A	No Grade	0
200100300	HENDRIK KANISE COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	3	44	44	635.40	R 27 957.60	0	R 0.00	complete	44
200100319	HOPE FOUNTAIN PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	2	6	7	635.40	R 4 447.80	0	R 0.00	complete	7
200100375	IKAMVA LESIZWE PUBLIC SCHOOL	GRAHAMSTOWN	Section 21	YES	3	94	80	635.40	R 50 832.00	0	R 0.00	incomplete	83
200100376	KENTON ON SEA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	4	28	25	318.00	R 7 950.00	0	R 0.00	incomplete	25
200100397	KLIPFONTEIN DRC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	44	36	635.40	R 22 874.40	1	R 63 600.00	incomplete	36
200100419	KUYASA COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	3	113	84	635.40	R 53 373.60	3	#####	incomplete	87
200100424	kwaMHALA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	2	4	6	635.40	R 3 812.40	0	R 0.00	complete	6
200100482	MAKANA PUBLIC SCHOOL	GRAHAMSTOWN	Section 21	YES	3	60	67	635.40	R 42 571.80	3	#####	complete	70
200100487	MANLEY FLATS MISSION SCHOOL	GRAHAMSTOWN	Section 21	YES	2	8	10	635.40	R 6 354.00	1	R 63 600.00	complete	10
200100491	MARTINDALE FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	0	6	635.40	R 3 812.40	1	R 63 600.00	complete	6
200100530	MOSSLANDS FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	2	0	635.40	R 0.00	0	R 0.00	No Grade	0
200100537	MTYOBO PUBLIC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	153	82	635.40	R 52 102.80	0	R 0.00	incomplete	85
200100548	N V CEWU PUBLIC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	106	97	635.40	R 61 633.80	3	#####	incomplete	100
200100550	NANGKOS PRIMARY FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	3	6	635.40	R 3 812.40	1	R 63 600.00	complete	6
200100554	MASAKHANE COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	2	9	5	635.40	R 3 177.00	0	R 0.00	incomplete	5
200100582	NOMPUCUKO COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	3	70	75	635.40	R 47 655.00	0	R 0.00	complete	78
200100593	NTABA MARIA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	4	79	43	318.00	R 13 674.00	2	#####	incomplete	43
200100602	OATLANDS PREPARATORY SCHOOL	GRAHAMSTOWN	Section 21	YES	5	59	30	109.80	R 3 294.00	0	R 0.00	incomplete	30
200100612	HOERSKOOL P J OLIVIER	GRAHAMSTOWN	Section 21	YES	5	25	25	109.80	R 2 745.00	0	R 0.00	complete	25
200100631	PINEWOODS FARM SCHOOL	GRAHAMSTOWN	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Unofficially closed	#N/A
200100632	PORT ALFRED HIGH SCHOOL	GRAHAMSTOWN	Section 21	YES	5	53	24	109.80	R 2 635.20	0	R 0.00	incomplete	24
200100633	PORT ALFRED PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	98	84	635.40	R 53 373.60	3	#####	incomplete	87
200100639	QHAYIYA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	140	126	635.40	R 80 060.40	3	#####	incomplete	118
200100651	RIEBEECK EAST COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	2	17	15	635.40	R 9 531.00	1	R 63 600.00	incomplete	15
200100673	SALEM PRIMARY SCHOOL	GRAHAMSTOWN	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Unofficially closed	#N/A

200100676	SAMUEL NTLEBI PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	88	63	635.40	R	R 40 030.20	2	#####	incomplete	66
200100677	SAMUEL NTSIKO PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	104	91	635.40	R	R 57 821.40	2	#####	incomplete	94
200100691	SHAW PARK COMBINED SCHOOL	GRAHAMSTOWN	Section 21	YES	2	13	18	635.40	R	R 11 437.20	1	R 63 600.00	complete	18
200100692	SHAW PARK PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	4	11	7	318.00	R	R 2 226.00	0	R 0.00	incomplete	7
200100693	SHENSTONE FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	4	16	635.40	R	R 10 166.40	1	R 63 600.00	complete	16
200100696	SIDBURY PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	4	4	9	318.00	R	R 2 862.00	0	R 0.00	complete	9
200100719	SOUTHWELL INTERMEDIATE SCHOOL	GRAHAMSTOWN	Section 21	YES	2	5	5	635.40	R	R 3 177.00	1	R 63 600.00	incomplete	5
200100739	ST MARY'S RC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	105	30	635.40	R	R 19 062.00	0	R 0.00	incomplete	30
200100770	TANTYI PUBLIC SCHOOL	GRAHAMSTOWN	Section 21	YES	3	51	57	635.40	R	R 36 217.80	2	#####	complete	60
200100821	VICTORIA PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	5	44	20	109.80	R	R 2 196.00	4	#####	incomplete	20
200100841	WARWICK FORD STATE AIDED SCHOOL	GRAHAMSTOWN	Section 21	NO	2	#DIV/0!	0	635.40	R	R 0.00	0	R 0.00	No Grade R	0
200100859	WILSON'S PARTY FARM SCHOOL	GRAHAMSTOWN	Section 21	YES	2	6	12	635.40	R	R 7 624.80	0	R 0.00	complete	12
200100885	ZINTLE PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	2	5	4	635.40	R	R 2 541.60	1	R 63 600.00	incomplete	4
200100915	DAMBUZA PUBLIC PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	YES	3	102	115	635.40	R	R 73 071.00	6	#####	complete	107
200100038	ARCHIE MBOLEKWA SENIOR PRIMARY SCHOOL	GRAHAMSTOWN	Section 21	NO	3	0	16	635.40	R	R 10 166.40	0	R 0.00	complete	16

Appendix B: Permission Letter



06 August 2014

SA NUMERACY CHAIR SCHOOLS

THE PRINCIPAL

Dear Sir/Madam

The introduction of Grade R is growing across South African schools. As part of our work we would like to understand the transitions between Grade R and Grade 1, with a special focus on transitions of learning dispositions as envisaged in a range of policy documents and as conceptualized by practicing Grade R and Grade 1 teachers. Some of the Grade R or Grade 1 teachers have expressed a willingness to participate in this project which includes completing the attached questionnaire. We therefore request your permission to approach the teachers formally to participate by completing the questionnaire and sharing their reporting system. Please let us know if you have any queries or concerns. My cell number is 082 334 5299 and my work tel is 046 603 7268

The full time masters student who is conducting this research (and thus gathering the data) under my supervision is Ms Roxanne Long. Roxanne has only recently left teaching to do her masters studies having taught in a pre-school in Grahamstown for several years.

In our next phase of our programme we are looking to support Grade R to Grade 2 teachers as well as Grades 4-7 teachers should funding be secured and our findings from this research study would be helpful to our planning. All data collected will remain anonymous, and schools and teachers will be afforded complete confidentiality. Your schools participation in this research would be greatly appreciated.

Yours sincerely

Prof Mellony Graven

SA Numeracy Chair



SA Numeracy Chair hosted by Rhodes University, jointly funded by the FirstRand Foundation with the RMB fund, the Anglo American Chairman's Fund & the DST and administered by the NRF

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Appendix C: Questionnaire and request for reports

Questionnaire - Grade R/1

My name is Roxanne Long and I am currently conducting research into productive dispositions within Grade R and Grade One classrooms in the Eastern Cape, as part of my Master's Thesis, conducted through Rhodes University, under the supervision of Prof Mellony Graven.

A portion of this research is dedicated to analysing reporting systems present across a range of schools, looking at the transitional stage between Grade R and Grade One. I hereby invite your school to participate in this research through the completion of the following questionnaire, and through providing me access to the current Grade R and Grade One report templates used by teachers. The study hopes to contribute to understanding the differences and similarities in assessment across these grades.

All data collected will remain anonymous, and will be afforded complete confidentiality. Your participation in this research would be greatly appreciated.

Yours sincerely, Roxanne Long

Please do not hesitate to call me (cell 074 1797 453) or my supervisor Prof Graven (046 603 7268) should you have any questions.

Question 1: 'Learning dispositions' can be thought of as **habits of mind or tendencies to respond to situations in certain ways** and refer to learners ways of being and participating in the classroom in relation to learning situations.

Are there learning dispositions that you regard as important for developing in your Grade R/1 classroom? If so, please list these.

Question 2: Do you monitor/ make notes about children's learning dispositions during term time (in their books or in your recording schedules or anywhere else)? If so, how do you do this and what kind of comments might you make?

Please turn over

Question 3: Are the children's learning dispositions reported on, and communicated to the parents in parents meetings or informally with learners or parents? If so, how?

Question 4: Are the children's learning dispositions reported on, and communicated to the parents in reports? If so, how is this done and if comments are included what is the nature of comments made?

Question 5 Is there anything else you wish to add about how you consider learning dispositions and the promotion of certain learning dispositions in your teaching and assessments of learners?

- Please attach copies of your latest reports to this questionnaire – one indicating a lower performing child, the other, a stronger performing child. Thank you!

Appendix D: CAPS provided assessment exemplar for Grade R (DBE, 2012, p. 267-269)

GRADE R				
Checklist for Term 1 assessment				
Content Area	Content	Criteria	✓ or x	Comments
Patterns Functions and Algebra	Copy, extend and create own patterns	Identifies patterns in the environment		
		Copies, extends and creates own patterns		
Space and Shape (Geometry)	Recognise, identify and name 3-D objects	Recognises, identifies and names balls		
		Recognises, identifies and names boxes		
	Recognise, identify and name 2-D shapes/pictures	Recognises, identifies and names his/her own symbol, his/her peers symbol and the class name		
		Builds at least a 6 piece puzzle		
		Shows the ability to distinguish between objects in the "foreground and background"		
	Geometric shapes	Identifies and recognises the circle		
		Identifies and recognises the triangle		
		Identifies and recognises the square		
	Describe, sort and compare 3-D objects according to:	Compares which of two given collection of objects are bigger, smaller, biggest, smallest		
		Sorts objects in:		
		Size - big and small,		
		Colour – Primary colours (red, yellow, blue)		
		Shape – circle, triangle and square		
		Objects that roll		
		Objects that slide		
	Recognise line of symmetry in:	Recognises line of symmetry in Self		
	Spatial Relations: The position of two or more objects in relation to the learner	Knows in front of/behind,		
		Knows on top of, on, under, below,		
		Knows in, out,		
		Knows up, down		
	Directionality	Understands the concepts: forwards, backwards, front and back		
Measurement	Time	Uses words like day, night, light and dark, morning, afternoon tonight to describe time of the day		
		Orders recurring events in own daily life (Daily Programme)		
		Shows and awareness of days of the week, seasons and weather		
		Knows own birthday date		
	Length	Distinguishes between tall, taller, tallest, short, shorter, shortest (Height chart)		
Data Handling	Collect, sort, draw, read and represent data	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute		

FINAL RATING:

GRADE R				
Checklist for Term 2 assessment				
Content Area	Content	Criteria	✓ or x	Comments
Numbers, Operations and Relationships	Counting	Estimates and rote counts up to 7 (number songs and rhymes included to develop number concepts)		
		Counts backwards and forwards (1-4)		
		Understands the concepts "many and few" (clapping)		
	Number Recognition	Recognises numbers in familiar context - e.g. house number, address register		
	Identify and describe whole numbers	Identifies number pictures and dot cards		
		Knows the number symbols 1, 2, 3, 4		
		Recognizes the number names two, three and four		
	Number sense	Understands one-to-one correspondence (Helpers' chart during refreshment time)		
		Distinguish between more, less and equal, many and few up to 4		
		Recognises the different South African coins		
Patterns, Functions and Algebra	Solving problems	Uses concrete apparatus		
		Explains own thinking in words and through drawings or concrete objects		
Space and Shape (Geometry)	Copy, extend and create own patterns	Orally solves addition and subtraction problems up to number 4		
	Copy, extend and create own patterns	Copies, extends and creates own patterns (objects, shapes and coins)		
	Recognise, identify and name 2-D shapes	Builds at least a 12 piece puzzle		
		Shows the ability to distinguish between objects in the "foreground and background" (assess again)		
	Geometric shapes	Recognise, identify and names the triangle		
		Understands form constancy of triangle (Shape conservation)		
	Describe, sort and compare 3-D objects according to:	Compares which of two given collection of objects are long, longer; short/shortest		
		Sorts objects in		
		Size – long and short		
		Colours - (red, yellow, blue and green)		
	Build 3-D objects using concrete materials	Shapes		
		Explores with building blocks		
	Recognise line of symmetry in:	Recognises line of symmetry in self and own environment		
		Able to cross the mid-line		
	Spatial Relations	Understands the position of two or more objects in relation to the learner		
		- On, under		

GRADE R				
Checklist for Term 2 assessment				
Content Area	Content	Criteria	✓ or x	Comments
Measurement	Time	Understands the days of the week, seasons and weather chart (Songs and rhymes - assess again)		
		Knows own birthday (assess again)		
	Length	Distinguish between longest, shortest, longer, shorter (Height chart)		
Data Handling	Collect, sort, draw, read and represent data	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute		

FINAL RATING:

Appendix E: CAPS provided assessment exemplar for Grade 1 (DBE, 2012, p. 491-492)

Grade 1 Term 1: Exemplar Assessment Task 1

Content area	Topic	Criteria
Numbers, operations and relationships	Number Concept	Counts out 10 objects reliably, saying the names in sequence
		Writes and reads number symbols from 1 to 5
		Orders numbers 1 - 5 from smallest to greatest
		Uses language to describe relative size of numbers: before, after, between
	Solve Problems	Solves word problems in context involving addition, subtraction with answers up to 5 using apparatus or drawings and explains own solution to problems
		Solves practical problems involving equal sharing and grouping with whole numbers up to 5 and with answers that may include remainders by using apparatus or drawings Explains solutions
	Calculations	Does addition up to 5 using apparatus or drawings
		Does subtraction from any number 5 or fewer using apparatus or drawings
Patterns, functions and algebra	Number Patterns	Completes number sequences of counting in ones up to 10 e.g. 1, 2, 3, 4, __, __, __, __, 9, 10
Space and shape (Geometry)	Position	Follows instructions to place one object in relation to another e.g. put the pencil inside the box; put the pencil on the right hand side of the box
	3-D	Recognises and names • ball shapes (spheres) • box shapes (prisms)
Measurement	Time	Describes when something happens using language e.g. morning, afternoon, night, early, late
	Length	Measures lengths, widths or heights using informal measures. States measurement in informal units
	Mass	Measures and compares mass of three or more objects using a balancing scale using informal measurements. Order the objects according to mass. Describes order using lighter, heavier, heaviest
Data handling	Sorting collections of objects	Collects and sorts everyday physical objects according to criteria given by teacher Draws a picture of the sorted objects or describes the sorted collection

Grade 1 Term 2: Exemplar Assessment Task 1

Content area	Topic	Criteria
Numbers, operations and relationships	Number Concept	Counts out 20 objects reliably, saying the names in sequence
		Says which of two given collections of objects is more or fewer where both collections are 10 or fewer
		Reads number symbols from up to 30
		Writes number symbols to 10
	Solve Problems	Solves word problems in context involving addition, subtraction with answers up to 10 using one of the following • apparatus • drawings • building up and breaking down numbers • number lines • doubling and halving and explains own solution to problems
	Calculations	Does addition up to 10 using one of the following • apparatus • drawings • building up and breaking down numbers • number lines • doubling and halving Writes a number sentence using +
Does subtraction from any number 10 or fewer using one of the following • apparatus • drawings • building up and breaking down numbers • number lines • doubling and halving Writes a number sentence using -		
Patterns, functions and algebra	Number Patterns	Completes number sequences of counting to 30 • in ones e.g. 20, 21, 22, 23, __, __, __, __, 28; __; 30. • in fives e.g. 5, 10, 15, __, __, 30,
	Geometric Patterns	Copies and extends a pattern • made by using one object but having the colours of the objects change in a regular way. or • made by using similar objects of different size
Space and shape (Geometry)	2-D	Identifies and names circles squares triangles

Appendix F: Compilation of raw data from questionnaire responses from all teachers

Compilation of Questionnaire Responses

Are there learning dispositions that you regard as important for developing in your Grade R/1 classroom? If so, please list these.

QAR(1)

- Interlectually i.e. I want to do this who can help me and how can we do it
- Developing good learning. Let learners make suggestion
- Build confident learners
- Habit of mind i.e. making sense of mind and acting
- Courage
- Trust
- Playfulness
- Interaction
- Mind development
- Knowledge equisition from learner
- Positive feedback when learners were doing task
- Must include in the evaluation i.e. assessment

QBR(1)

Ideally every child in a Grade R class would demonstrate an attitude of mastery underpinned by:

1. Curiosity
2. Enthusiasm
3. Courage – or a willingness to ‘have a go/take a chance’
4. problem-solving
5. creativity
6. independence
7. perseverance

Important, too, are social dispositions – friendliness, patience, tolerance, co-operation, respect, responsibility and kindness.

Equally important are the dispositions of the teacher and other adults (assistants, parents, support staff) who enter the classroom space. Student teachers need to be reminded/taught that a classroom should be a place that

- a.) has a ‘heart’. A place for authentic relationships built on trust and respect;
- b.) offers hospitality. All children, regardless of unique characteristics, should feel welcome.
- c.) Provides healing – emotional support, remedial intervention etc.
- d.) Offers hope – for the child and their parents.

It goes without saying that happy children who feel secure are able to, or ready to, learn. Besides, happy classrooms are a great place to play even for the teacher!

QCR(1)

- Language barrier – As most learners are not being taught in their mother tongue (which is very important in the FP) it makes T&L very difficult, especially in the first term. It also slows the T&L process.
- Routine/Discipline & Classrules – Most of the learners that come to Gr R have not attended any crèche or play-school and whereas I have to start with Gr R curriculum, I have to start with discipline/routine and class rules.

QDR(1)

Yes. Grade R learners should be able to concentrate for longer, and persevere when problem-solving. I also expect them to show some pride in their work and be conscientious about doing it, and carrying out tasks like tidying up. They should have a love for learning, and a real enthusiasm for sounds, letter and number symbols, and an interest in the world around them. They should be intensely curious.

QER&1(1)

- Discovering and exploring
- Self-discipline
- Responsibility
- Positive self-image in children
- Co-operate with peers
- Physical, concrete before the abstract

QFR(1)

In my Grade R class I concentrate a lot on listening skills in the first term. I do a lot of games and activities that help develop the children's listening skills. During our morning ring I cover our theme for the week and also add a maths activity every day. We build on the time throughout the year. Group time is very interactive and all the children are encouraged to participate. Each child gets an opportunity to give some input to the theme discussion.

QA1(1)

- Trying something new
- Being playful
- Persisting
- Using trial and error
- Making mistakes
- Choosing hardwork
- Keeping going when things get tough
- Being brave and curious

QB1(1)

- Curiosity
- Perseverance
- Creativity
- Tolerance
- Empathy
- Co-operation
- Communication
- Individuality
- Asking questions
- Willing to venture

QC1(1)

- Routine
 - Dissipline
 - Class rules
 - Sit in groups
- These are the most important

QD1(1)

Enquiring minds, curiosity, asks questions

Perseverance, persistence

Confidence

Responsibility

Question 2: Do you monitor/ make notes about children's learning dispositions during term time (in their books or in your recording schedules or anywhere else)? If so, how do you do this and what kind of comments might you make?

QAR(2)

Yes, by stating his abilities and state of mind and also his interaction with peer and teachers and their reaction i.e. how they believe toward others

QBR(2)

Yes. Observations are made on a continuous, sometimes daily basis. These observations include written notes:

1. On visual perceptual cards. Created on a termly basis they are used as part of a structured, explicit programme. Each child is issued with a card. Their participation, effort, perseverance and success is noted on the card. Notes include: persevered despite initial challenge; stoic; gave up easily; expressed pleasure/ease; found it frustration; highly motivated.

2. Observations also made in an observation book. Insights recorded as need arises. Sometimes daily, sometime sporadically. These are recorded at the end of the day whereas comments on v-perceptual cards made while children busy.

QCR(2)

Recording schedules/Anecdotal notes/Informal (diary)

All the behaviour problems and barriers have to be noted and at a certain level I called the parents and through my notes I have evidence to show to the parents.

QDR(2)

I have an anecdotal notebook to write down my observations throughout the day. (Unfortunately I'm not as consistent as I should be). While 2 children are engaged with the small doll family and furniture I might sit quietly nearby and write things like: B – "Let's put the table here with the chairs". A – "No, because the chairs won't be able to all fit around the table and the whole family needs to sit." This would show that the child is counting, using one-to-one correspondence etc.

QER&1(2)

- Books (workbooks and testbooks)
- Assessment worksheets test different aspects. All tests filed in learner's files. Mark learners' books daily.

Remarks eg: practise 'ch' sound
 Start maths lesson with revision of mistakes / problems in previous day's work
 Call learners individually to help with problems

Grade R: speak to evenings regularly, give 'reports' daily

QFR(2)

I make notes after group times. I also do observations of children and try and observe each child. I then also make notes on my assessment sheets. I then consolidate all this at the end of each term for my reports.

QA1(2)

Yes, some comment in their books and also in teacher's observation book

Comments:- when child has Reading disorder, writing disorder, mathematic disorder, Attention deficit Hyperactivity disorder.

QB1(2)

Comments made in books or projects

"I find your ideas interesting."

"You really found some valuable information."

“You shared your ideas in such a kind and helpful way.”

“Thank you for helping..... with the tidying up” (a note in the homework book perhaps)

Notes are made on a classlist during the school day and collated later in the recording file.

QC1(2)

Anecdotal notes – behaviour – when a child disbehave I make a note / also when a parent come to see me. Everything must be noted and dated – so that they have evidence.

Recording schedules: Achievement description (1-7)

Informal Ass: (very important) You don't give a mark – you can just tick – can do, unsure, cannot do it.

QD1(2)

I keep notes in my record book and make a note of observations made during the school day. Also comment in their books when marking them. e.g. Observations: Jess tried hard today when doing her problem-solving OR Jess didn't seem confident to offer her ideas etc.

Question 3: Are the children's learning dispositions reported on, and communicated to the parents in parents meetings or informally with learners or parents? If so, how?

QAR(3)

Yes I do call the parents and tell him/her about inabilities and incapacabilities and also abilities and capabilities because the learner can know something, not that the learner has a empty minds

QBR(3)

I try to acknowledge children's efforts by commenting favourably on behaviours during the school day – their willingness to spontaneously volunteer information or answers in discussions; their co-operation when tidying up; their inclusion of a peer in a game; when showing initiative or concern about a friend. “Catching them doing right” is a great way of incidentally promoting constructive, positive behaviours. Undesirable dispositions – bossiness, intolerance etc. are also used as ‘teachable moments’. During formal meetings with parents I make a point of mentioning strengths, especially when sharing concerns about progress so as to present a balanced picture.

QCR(3)

Yes, through parent evenings and reports.

I also invite the parents on regular basis to have a one-on-one chat regarding their child's progression and behaviour.

QDR(3)

We have Parent & Teacher meetings each term where we report on the child's progress. Mostly we use our list of outcomes with tickboxes to show what the child has achieved. Other observations (as in anecdotal notes) are used to substantiate the more 'official-looking' tickboxes.

QER&1(3)

Yes – daily, meetings

QFR(3)

The Grade R's receive a report every term. The parents have a meeting every term where they can discuss any problems. If I find there is a problem with a child's development or progress I will phone the parents to organise a meeting with them. We will then discuss how best to help the child.

QA1(3)

Yes, by calling parents consent and discuss with the parent the progression of the learner and make sure that the parent sign as a proof

QB1(3)

The child's dispositions are communicated to the parents in an individual parents meeting. Book comments are seen by the parents when the workbook goes home. Positive reporting is easy. It is important to communicate the more negative actions/behaviours in a sensitive manner realizing that you are actually talking about their beloved child.

Discussion on how to improve/strengthen certain areas should be addressed. The children's positive behaviours/dispositions are acknowledged and the negative ones improved through guidance and the opportunity to "practice".

QC1(3)

Yes, the parents get a report each term (formal)

There are parent meetings as well. But I let parents come in to see me once a term. For me its best to see them alone – so that we can discuss their child privately. (informal)

QD1(3)

These are communicated to parent meetings which occur once a term.

Question 4: Are the children's learning dispositions reported on, and communicated to the parents in reports? If so, how is this done and if comments are included what is the nature of comments made?

QAR(4)

Yes as I have called the parents to report to him or her. I see no need to write comments on the report. I just comment about his/her achievements in the activities

QBR(4)

The report largely focuses on skills mastered rather than dispositions shown. Comments included in the report such as (x) deserves to be recognised for her stoicism when attempting challenging tasks; (y) demonstrates resilience in the playground; (z) is to be commended for her enthusiastic participation in....

QCR(4)

Reports are being issued each term.

The copies I included are of Term 1. Term 2 showed a lot of improvement. Unfortunately I could not print due to a printing error. The report does not allow enough room for enough comments and the principal does not want negative feedback on report and therefore I invite my parents on a one-on-one basis to discuss the report and I do house-visits as well.

QDR(4)

Reports consist of a 'tick box' section for each learning domain, and a section for comments. Comments could say – as M was carrying a bucket of water, he remarked "Look, I'm the strongest in the whole school".

QER&1(4)

Yes – see reports attached

QFR(4)

The parents receive a report every term. The report is divided into English Home Language, Mathematics, Life Skills and Skills, Knowledge and Values. There are marks given for each section and comments made in the comment section. If a child does well in an area or does badly in an area this is commented on in the comment section.

QA1(4)

Yes, we also call the parents to come and collect their learners report, so that you can discuss with the parent about the learner's progress

QB1(4)

Certain dispositions, mainly positive ones, will be communicated in reports. The negative dispositions need to be handled in an interview and not recorded/reported on initially as these dispositions may improve with development, maturity and support. The child is then not at risk of being "labelled". When improvements are noted, these can be reported on.

QC1(4)

- Each term a report
- See attach
- The comments must be 'specific'
- On the day that the parents come to collect the report – I also discuss the report with the parent

QD1(4)

These are reported on in reports to parents which are sent out in March, June and November (once a term).

Eg. of comments: Your child is confident to tackle problem-solving exercises. Your child tries hard and enjoys a challenge. Your child shows an interest in....

Question 5 Is there anything else you wish to add about how you consider learning dispositions and the promotion of certain learning dispositions in your teaching and assessments of learners?

QAR(5)

When you observe these learners disposition don't forget to look at the learners upbringing and background because some of disposition happens because these can hamper the learning disposition.

QBR(5)

Learning dispositions go hand in hand with skills and self-esteem so it is crucial that age-appropriate activities, suitable resources and relevant play experiences are available to children. Government issued workbooks should be banned!

I am also of the opinion that teachers devote too much time ensuring their admin. satisfies the dictates of the department at the expense of lesson preparation, resource creation, and, crucially, interaction with the children themselves.

Personal experience also indicates that reporting can, and is, sometimes fraudulent. (children enrolled at my previous IEB school in Jhb have arrived from public schools with glowing reports but have not mastered the skills needed and indicated; and my involvement with children attending the local "P.D." school has highlighted this issue on our doorstep.)

Teachers who are overburdened in this community by virtue of shocking buildings and other poor infra-structure, limited resources, an uninvolved parent body and impoverished children are understandably doing the bare minimum. In their defence, huge class sizes, minute space and poor resources make it difficult to develop authentic relationships.

In sum, what is happening on my doorstep is part of the national disgrace that is education in the Eastern Cape. Whilst (my school) can't claim to be the best it is streets ahead of the other schools where little children are seldom exposed to learning that is real, relevant and rich!

The university should be encouraging students to study creative ways of addressing the systemic problems facing the local schools.

And, "the powers that be" should be reminded to address the "disconnect" between theory and practice.

QCR(5)

I am a constructivist and feel strongly about co-operative learning. The groups work well and the learners respond easily than being in a whole class situation where they feel the focus will be only on them. I construct my groups in such a way that learners can learn from each other. Each group consist of a strong learner, a weak learner and two average learners. A strong learner in language, might not be strong in maths and that is where they help each other because the learner that is weak in language might be able to help or assist the other's in maths. I carefully plan my grouping and change the groups each term.

QDR(5)

Unfortunately not much recognition is given to anecdotal notes these days. Most teachers don't even know how to observe properly and write anecdotal notes. I feel that they are far more important than ticking boxes – which don't give us the whole picture of the child being ready, willing and able to do so much.

QER&1(5)

- Continuous assessments
- Our teaching is holistic – can't separate one aspect from the other.

QFR(5)

In Grade R I always do continuous assessment of the children. At the end of each term I consolidate everything and then do the termly assessments that I check once a term. I do a lot of Physical development assessments as this is very important in Grade R.

QA1(5)

Learning dispositions will support learning for a lifetime no matter the subject, interest and level of challenge because they cross traditional curriculum boundaries and act as motivator.

QB1(5)

It is important to gain insight into each child, getting to know their dispositions in different learning and social situations. Provide a variety of stimulating activities that encourage involvement and exploration and the opportunity to develop in a positive way.

QC1(5)

It is good to have groups in your class.

For Reading, I have 3 groups: strong learners, less strong, and then the weak ones – then they develop in their own group. I can work faster with the strong group – but with the weak group I can go slower. In mathematics you can do the same. In this way it's so much easier to do assessment as well.

QD1(5)

It is important to take into account certain factors will affect a child's learning disposition.

Appendix G: Exemplar of ‘application marks’ system for Grades 8 to 12 of one participating school

APPLICATION MARKS – 2012

After an exhaustive process of consultation the following revised Application Marks are proposed for implementation in the [REDACTED] 2012.

A child should be given the relevant application mark if he/she displays some of the listed descriptors, but the list is not exhaustive and so teachers are not limited to these.

L	LACKING	Homework not always done /correct books often not in class / tendency to be disruptive / uncooperative at times / lack of effort in preparation for tests or assignments / unfocussed in class / little engagement with work covered / negative attitude / often not punctual
O	ORDINARY	Capable of better / work is generally completed but without extra effort / room for improvement / attitude is neutral or passive / tests suggest preparation could have been better / generally punctual and organised
P	PRAISEWORTHY	Produces pleasing work / homework done and shows effort / attentive and positive in class / cooperative and involved / grapples with the work and makes the effort to understand it
R	REMARKABLE	Goes the extra mile / consistently puts in extra effort / positive example in class / shows initiative / strives to improve on previous best / takes full responsibility for learning

IMPLEMENTATION

- Provisional Application Marks will be entered for ALL children before the half term parent teachers meeting each term. This is to provide parents and children with an indication of their application to their work in your subject. It also gives you the opportunity to suggest areas of improvement.
- Deadline for entry of Application Marks this term would be **10 October 2012** in order to give [REDACTED].
- Application Marks will be revised for the end of term report.
- All Grade 10 – 12 subjects must give application marks.
- In Grade 8 – 9, subjects where the pupils are seen less than 3 times a cycle will not receive application marks [REDACTED]
- The new system needs to be discussed in Tutor Groups in order for children to know exactly what the expectations are, and also for parents to be informed about it so that they understand the expectations. It would be good to also put the criteria up in the front of each classroom.
- For the calculation [REDACTED] the following numerical values will be attached to each rating in order to get an average at the end of each term. (This will be tested in October and maybe revised depending on whether it gives clear values or not).

L	LACKING	-1
O	ORDINARY	0
P	PRAISEWORTHY	1
R	REMARKABLE	3

23 September 2012

