Sir, On What Page Is The Answer?

Exploring teacher decision-making in the context of complex curriculum change

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CHAPTER 1

ORIENTATION AND BACKGROUND

1.1 INTRODUCING THE ARGUMENT

What happens when teachers are required to change their practices in line with a curriculum which has proven to be complex and alienating, and which already has a revised version looming on the policy horizon? More specifically: How do teachers who are in the midst of reform make the strategic curriculum decisions that shape their classroom practices? In 1998, the new South African government launched its most ambitious project for reform, Curriculum 2005 (C2005), with an underlying methodology called outcomes-based education (OBE). Commencing implementation in all Grade 1 classrooms in 1998, the intention was to phase it progressively into all grades by the year 2005. Barely two years later, as a result of the hue and cry from various stakeholders, the same government (albeit under a new Minister of Education) called for a 'streamlining' of C2005 in a brief to what became known as the Curriculum Review Committee. This Committee identified a number of weaknesses in the conception and execution of C2005. Among other limitations, the initial implementation of Curriculum 2005 was severely hampered by its complex structure and design, tight time frames, the lack of quality teacher training and appropriate learning support materials, and the incapacity of provincial authorities to support teachers effectively (Chisholm, 2000).

In 2001, this 'streamlined' or revised version of the same curriculum was launched for discussion and refinement for implementation in all South African schools. Given the sheer scale and complexity of the original C2005, it is comprehensible that most teachers were still grappling with the modalities of its implementation in their classrooms (Potenza and Monyokolo, 1998; Chisholm, 2000). Classroom-based research in Grade 1 has shown, for example, that the instructional practices of many teachers who were claiming to have shifted to an outcomes-based approach, were still dominated by the traditional content-heavy and teacher-centred pedagogy (Taylor and Vinjevold, 1999; Christie 1999; Malcolm, 2001). Moreover, the original C2005 would not even be 'phased in' to all compulsory school grades (1-9), as originally

envisioned, by the year 2005. Yet, in midstream, a new or 'thin' version of the curriculum, which is substantially different from the 'thicker' version, was being finalised for introduction in 2004.

Despite the relentless criticism of C2005, and the vigorous public and departmental deliberations on the streamlined National Curriculum Statement (NCS), teachers were still expected to continue altering their curriculum practices to fit the original curriculum reforms embodied in C2005. The initial implementation schedule was still being followed, meaning that C2005 was still introduced in all Grade 9 classrooms in 2002. This meant, according to C2005 policy statements such as the following, that Grade 9 teachers (and all teachers implementing C2005) were afforded much greater decision-making authority than they had under the traditional curriculum (Department of Education, undated: 25).

> The new curriculum does not provide detail about content …
> Educators are recognized as professionals who can make curriculum decisions in the best interests of learners and who do not have to rely on the dictates of a centrally devised syllabus. This means the same outcomes can be achieved through a wide range of learning activities and contexts and educators must choose the content and locate the activity in contexts of relevance for their particular learners.

Towards the end of 2002 anecdotal evidence emerged which suggested that some teachers were already using all or part of the streamlined version of C2005, despite the fact that it was not yet official departmental policy and was still under construction. Such confusion appeared to be a stark reminder of the continuing turbulence in curriculum reform and implementation in South Africa. Yet, there is no systematic data on how teachers mediate or make sense of such complex curriculum changes in theory and in practice. This research therefore seeks to understand how and why teachers make particular curriculum decisions at the interface of multiple curricula.

In engaging this broader research puzzle in South African secondary schools, my specific research questions were:

1. How do secondary school teachers *understand* the critical differences between the traditional curriculum, the new curriculum and the revised version of this new curriculum?

2. Why and how do these teachers *make* strategic curriculum *decisions* at the interface of these three curricula in their classrooms?

1.2 SETTING THE STAGE: THE ORIGINS OF THE NATIONAL CURRICULUM STATEMENT

Under apartheid, the curriculum handed down to teachers for implementation has been described as prescriptive, content-heavy, teacher centred, detailed and authoritarian, with little space for teacher initiative (Ntshingila-Khosa, 2001; Jansen, 1999b; Nekhwevha, 1999; Christie, 1993). Apartheid South Africa boasted nineteen racially based education departments in which curriculum development was " a white and male-dominated process", and largely "non-participative for the majority of departments" (NEPI, 1992: 14). This meant that the core syllabuses were developed by "experts" in the white Department of Education and Culture, with the black departments participating as mere observers and recipients of these prescriptive and content-laden syllabuses. Although black education departments were allowed to add, but not delete, from the core syllabuses, it was commonly adopted "with minor, if any, alterations" (Christie, 1993).

Another distinctive feature of the apartheid era was that teachers across all the departments were not involved in the development or revision of the curriculum. Jansen (2001: 243) recorded that "the teacher was an obedient civil servant that executed the well-defined instructional tasks as per an official syllabus". In other words, as Paris (1993: 7) observed of the traditional curriculum in North American schools:

> The relationship of teachers to curriculum was reduced to the receiving and implementing of curricula without their having engaged intellectually in their creation or critique.

Christie (1997: 112), in turn, characterised the traditional curriculum as a "relatively low participation, high selection system, of comparatively poor quality for the majority of students". The apartheid curriculum had little relevance to the needs of learners. This contributed to high failure and drop-out rates, especially in disadvantaged schools where resources were often non-existent and teachers were poorly qualified. Moreover, the rigid traditional syllabuses accounted for a pervasive lack of critical and creative thinking and poor communication skills among most school-leavers (Motala, 1995: 161).

One of the last policy documents that outlined the curriculum philosophy and structure of the apartheid government, was *A Resume of Instructional Programmes in Public Ordinary School,* commonly known as NATED 550 (Department of National Education, 1989). NATED 550, which is synonymous with the traditional or apartheid curriculum, was underpinned by the government's philosophy of Christian National Education (CNE). The philosophy of CNE which underpinned the apartheid education system, ensured that syllabuses, textbooks and examination questions mirrored the perspectives of Afrikaner Nationalism (NEPI, 1992; Christie, 1992). With the advent of the new democratic South Africa in 1994, the core syllabuses, which formed the substance of NATED 550, were superficially revised to rid it of the most overt symbols of CNE; these included explicit racism and sexism, as well as symbols of white (Afrikaner) supremacy. However, as NATED 550 continued to be implemented in South African schools, it retained its complexity, lack of transparency and accountability, and inadequate assessment directives (Department of Education, 1998).

The *White Paper on Education and Training* (Department of Education, 1995) was the first official document in which the vision and organisational frameworks for education reform in post-apartheid South Africa were outlined. This manifesto framed the principal goals of policy as the improvement of the general quality of education, the promotion of life-long learning and the integration of education and training. It proposed that these goals be realised through the implementation of a National

Qualifications Framework and a curriculum that advanced independent and critical thought, the capacity to inquire, learner-centredness and continuous assessment.

In 1997, the National Department of Education marked the break from the apartheid curriculum with the announcement of a new, ambitious curriculum that signalled comprehensive curriculum change in post-apartheid South Africa. Curriculum 2005, so called because it was envisaged that it would be completely implemented and practised by all compulsory school grades (1 to 9) by the year 2005, was built around the philosophical principles of outcomes-based education. This new emphasis on "outcomes" instead of inputs, on learner centredness instead of teacher-centredness, and on activity learning instead of passive learning, signalled a revolutionary new way of teaching and learning in South African classrooms. The Australian curriculum scholar and practitioner, Cliff Malcolm (2001: 209), hailed C2005 as "arguably one of the most liberal and adventurous education frameworks in the world".

As a national curriculum framework, C2005 was marketed as the major policy instrument for realising the transformation goals envisaged in the White Paper (Department of Education, 1995). It would be a flexible, non-discriminatory curriculum of high quality, enabling all individuals to value, have access to and succeed in life-long learning. It would also foster the integration of education and training, promote human resource development and refocus from "education for compliance" to "education for democratic participation" (Osman & Kirk, 2001: 175). In breaking from the apartheid curriculum, the key curriculum changes sought by C2005 included the following:

- **New approaches to teaching and learning** – new and progressive pedagogical commitments were advocated, such as that all learners can succeed, albeit at a pace allowed by the individual, and that learning takes place best during discovery and learner activity (Spady & Schlebusch, 1999: 29). Teaching would be more learner-centred, activity-based and flexible. This implied that teachers would have a more facilitative role and that they would make use of a variety of teaching and assessment strategies. Furthermore, all teaching-learning processes would be 'designed down' from ambitious generic outcomes that focus on learners being able to demonstrate proficiency in pre-determined knowledge, skills and values.

Teachers were to assume much greater responsibility and discretion in designing Learning Programmes (subject curricula) according to the unique needs, developmental levels and interests of their learners. All teaching would be governed by overarching Critical Outcomes, such as critical and creative thinking, teamwork and efficient organisational skills. This meant that teachers could now make strategic decisions, within the limits of the pre-defined outcomes, about what content to teach, the depth, scope and sequence of that instructional content, as well as what teaching and assessment activities to employ.

- **New organisational structures** – the traditional discipline-oriented subjects were to be phased out to make way for eight integrated Learning Areas. Moreover, the traditional core syllabi were to be replaced by provincial, contextualised Learning Programmes, designed according to the broader Curriculum 2005 Framework.

- **Goals/Outcomes** – The outcomes-based fundamentals of C2005 meant that all teaching would be aimed at learners achieving and mastering certain pre-defined outcomes. The twelve generic, cross-curricular Critical Outcomes included, for example, that learners should be able to identify and solve problems, make decisions critically and creatively, and that they should be able to work effectively in a team situation. Each Learning Area was also equipped with its own Specific Outcomes and the Assessment Standards to be attained.

As critics had warned, C2005 soon ran into a myriad of difficulties that threatened the survival of the new curriculum (Jansen, 1997; Tema, 1997). Teachers complained of poor training, the abstract language, the complex curriculum design, lack of support, and the general pace of implementation (Taylor & Vinjevold, 1999; Chisholm, 2000; Marnewick & Spreen, 1999). At the beginning of 2000, when it became clear that the implementation of C2005 was not proceeding as planned, the new Minister of Education, Kader Asmal, ordered a review of the new curriculum. He unequivocally stated that only the broad structure and implementation aspects of the new curriculum were under scrutiny, not the principles of Outcomes Based Education. After a three-month review process, the Chisholm Committee published its findings. It found that the implementation of C2005 was compromised by the complex structure and design

of the curriculum, tight time frames, lack of resources, a weak model of teacher training, insufficient learning support materials and poor departmental support to teachers (Chisholm, 2000: 27). The Review team recommended that Curriculum 2005 be streamlined, phased out, and 'strengthened' with a revised version in the form of a National Curriculum Statement (NCS). The proposed streamlining included reducing the number of Learning Areas from eight to six, and discarding some of the complex designs of Curriculum 2005, like Range Statements, Performance Indicators and Phase Organizers.

Furthermore, it recommended that the NCS terminology should be accessible and clear and that a more flexible time frame for implementation be scheduled (Department of Education, 2001: 27). The findings of the Review prompted the Department of Education to task a Ministerial Project Committee with designing a NCS within the context of these recommendations. This important draft curriculum policy document was finally released at the end of July 2001, signalling the start of a second wave of curriculum reforms in South Africa.

On the occasion of the introduction of the NCS on 31 July 2001, it was announced that although actual implementation would only commence in 2004, very important groundwork and pre-implementation activities would be undertaken in 2002 and 2003. These included piloting the NCS, teacher orientation and training and the development of Learning Programmes. The key change features of the *Draft Revised National Curriculum* (Department of Education, 2001: 1–40) were the following:

- The complex organisational concepts of C2005, such as Specific Outcomes, Phase organisers and Range Statements were discarded. Each of the Learning Areas was now composed of a Learning Area Statement, which described what learners are expected to know in each grade, a limited number of Learning Outcomes specifying what learners should be able to do and know, and the Assessment Standards, which describe the depth and breadth at which a learner should be able to demonstrate mastery of a Learning Outcome.

- The stipulation that each province or school will be expected to formulate their own contextualised Learning Programmes from the NCS.

- The use of much simpler language to communicate the ideals of the NCS.

Clearly, as Cross, Mungadi and Rouhani (2002: 186) note, the development of the NCS "was not just a matter of semantics", but "reflected a major surgery on the existing curriculum an approach". In other words, the revised NCS presented a structurally 'thinner' version of C2005, a more attractive and implementable form of outcomes-based education.

As the Department persisted with the introduction of the 'thicker' version of C2005, I became interested in exploring teachers' experiences as they shifted from the traditional curriculum to C2005, and how the proposed revised version impacted their decision-making and classroom practices. Moreover, I was interested to see how teachers made decisions on issues of content, outcomes, instructional activities and assessment strategies.

1.3 THE RATIONALE FOR DOING THIS RESEARCH

My principal motivation for doing this research was the widely observed dearth of research on curriculum policy implementation in developing countries (Dyer, 1999; Wedekind, Lubisi, Harley, & Gultig, 1996). The research that does exist is descriptive and prescriptive, or focuses largely on the problem of *resources* as explanations for the 'gap' between policy intentions and practical outcomes. That is, the literature generally centres on the lack of materials, or the lack of understanding, or the lack of qualified teachers (Lockheed & Verspoor, 1991; Fuller & Snyder, 1991). There is very little research on *what teachers actually do in their classrooms*, and even less on how teachers make sense of the curriculum practices when influenced by multiple curricula. Cohen and Ball (1990: 348), for example, argue that a much-neglected aspect of educational research is how teachers perceive instructional policies, how they interpret them and how different policies influence teaching. Furthermore, Fuller and Snyder (1991: 274) note that little empirical work has been done on the various

ways in which African teachers organise their work, while Western scholarship abounds with classroom-based research on teacher practices (AERA, 2004).

In the light of this paucity, the radical curriculum reforms of the post-apartheid government offered a unique opportunity to examine how the curriculum practices of teachers had changed – and the thinking or decision-making that preceded and accompanied, constrained or facilitated such changes. Much of the available research in South Africa focuses on what teachers fail to do and, therefore, why reforms fail (Taylor & Vinjevold, 1999; Potenza & Monyokolo, 1998). Little is known about *how* and *why* teachers actually make particular strategic decisions when in the midst of complex curriculum change. There is a paucity of empirical record of how teachers make decisions when faced with situations that teachers in developing contexts currently have to contend with. That is, having to implement a complex new outcomes-based curriculum which expects teachers to exercise much greater decision-making authority in the midst of curriculum renewal. It is this 'gap' in the research literature, namely, how teachers make curriculum decisions at the confluence of multiple curricula, that alerted me to the value of such an investigation.

Furthermore, as a practising Science educator, I have come to see the shortcomings of a content-heavy and exam-oriented apartheid curriculum. Year after year I saw how high school learners failed to develop the valuable skills needed for the 'real' world. In 1998 the promises and possibilities with which C2005 and OBE were introduced in Grade 1 brought excitement and hope for a better teaching-learning future. The euphoria was short-lived, however, for soon fatal cracks in curriculum design and practice started to surface. However, the sleeker, streamlined NCS offered new promises and possibilities that learners and teachers could have productive curricular experiences. As C2005 continued to be phased into secondary schools, I was interested in gaining an analytical perspective on the strengths and limitations of the new curriculum, and the complexities of implementation. In this regard, I was particularly keen on exploring *how* and *why* teachers made decisions on lesson outcomes, content, classroom activities and assessment strategies when faced with different curricula.

1.4 THE LIMITATIONS OF THIS STUDY

I wish to draw attention to four potential constraints or limitations of this study. Firstly, the fact that I investigated this topic by means of a case study methodology allowed me to compose teachers' personal voices of their experiences at this precarious interface of radical curriculum change. However, the very nature of case studies is such that the findings are not high in external validity or generalisability; cases do, however, offer depth and insight on a poorly understood subject.

Secondly, there can be no doubt that making meaning of or getting to understand change is a process that takes time. During the research period, both respondents were in their second year of practising C2005 (in terms of the departmental schedule). The fact that I researched the transformation of teacher practices, and the underlying decisions that teachers made within this initial period, when uncertainty and anxiety might have been high, could give a skewed impression of the long-term prospects of the new or revised curriculum.

Thirdly, there was evidence, though not significant, that the two teachers at times purposely altered their instructional routines as a result of my pre- and post-lesson interview questions. For example, the day after I asked one of the participants why he always read out the worksheets questions himself, instead of asking different learners to do it, he responded by doing exactly what he assumed I was suggesting. However, these rare observations of teacher reactivity to my interview questions were easily recognisable. I am confident that such interferences were countered by my prolonged engagement with these teachers in their classrooms.

Fourthly, owing to the widespread reluctance of teachers to make themselves available as respondents for this study, I could not keep to my original intention of purposively sampling three experienced teachers. Ideally I wanted teachers who were active, knowledgeable and forward looking with respect to curriculum change, and who were dynamic and expressive enough to afford me immediate access to their deliberative thoughts and decision-making processes. The two teachers did not fit exactly my initial, idealistic intentions to secure articulate, eloquent and knowledgeable respondents. But, as the fieldwork progressed, I realised that each

teacher had a rich story to tell and that they all mirrored, in some way or another, images of what South African teachers were doing and thinking in their classrooms. I found some comfort in Clark's (1986) indictment that by studying only the 'ideal' teacher (as I had intended to), as researchers we unconsciously promote "an insidious form of elitism" (p. 24). This, he warns, elevates and lionises the reflective and articulate teachers among us, while the 'average' masses who need research-based support are neglected.

1.5 THE ORGANISATION OF THIS THESIS

This study is concerned with how teachers make sense of curriculum changes that target their traditional classroom practices, as well as how and why they make particular curriculum decisions. It is certainly not designed as an evaluation of the merits, or otherwise, of C2005 or its implementation record.

The thesis is organised as follows:

In **Chapter 1**, I provide a portrayal of the curriculum reconstruction efforts in post-apartheid South Africa, and identify how the new curriculum policies intended to impact on the classroom practices of teachers. I identify the main research questions and provide the intellectual rationale behind these interests. Furthermore, I note the limitations of this study, and conclude this chapter with an outline and organisation of the thesis.

In **Chapter 2**, I proffer a critical synthesis of the literature on curriculum policy implementation. I argue for a cognitive approach to studying how teachers change their classroom practices, and suggest that looking at how and why teachers make curriculum decisions can provide much needed insights into the implementation problem. Hence, I review the literature on teacher decision-making, illustrating that there is a definite paucity of research on teacher decision-making in developing countries, and that much of the existing work is limited to elementary school teachers. Moreover, on the basis of this critical literature review, I argue that my research addresses the 'gap' in scholarship on *how* and *why* teachers make strategic decisions

during complex curriculum change, that is, when faced with multiple and competing curricula.

In **Chapter 3**, I provide a detailed account of the journey towards the conceptual framework that I eventually settled on to make sense of the voluminous data that emerged from this study. I explain how I initially embarked on this study with a 'hypothesis-testing' frame of mind but, while in the field and listening to the voices of the respondents, realised that the theoretical work on "the intensification of teachers' work" presented a much more apposite and persuasive explanation of how and why the teachers in this study make certain curriculum decisions.

In **Chapter 4**, I describe the research design and methods employed in this study. I begin by explaining the difficulties I had in locating willing and suitable Natural Science teachers, and continue by providing a narrative account of the data collection process and strategies. I conclude this chapter by giving an account of how I attended to issues of validity in the two teacher case studies.

In **Chapters 5 and 6**, I present narrative-analytic accounts of the curriculum understanding and decision-making of the two teachers who participated in this study. For each of the two case study reports I provide a detailed biographical sketch of the teacher, a description of the institutional context in each case, and the main themes that emanated from this exploration of teacher understanding and decision-making during curriculum change.

In **Chapter 7**, I relate the data (Chapters 5 and 6) to the existing theoretical work on teacher decision-making and the intensification of teachers' work in order to explain the respondents' decision-making patterns. I conclude by outlining the implications this study has for policy, practice and further research.

1.6 CHAPTER SUMMARY

In this chapter I provided an introduction and orientation to this research, as well as an outline of how the rest of this thesis is organised. I described recent curriculum policy changes in South Africa, and their reflection in classroom practice. Furthermore, I identified the main purpose of this study as an exploration of how teachers understand different curriculum strands that impact on their practices, pursuing how and why teachers make strategic curriculum decisions.

The next chapter reviews and evaluates the existing scholarship on teacher decision-making and its connections to this South African study.

CHAPTER 2

THE INTELLECTUAL ANCESTRY OF TEACHER DECISION-MAKING RESEARCH IN THE CONTEXT OF CURRICULUM CHANGE

2.1 A PORTRAIT OF EDUCATIONAL CHANGE

In this chapter I make a case for research on how South African teachers make decisions at the precarious interface of competing curriculum reforms. In the context of educational change, I tease out the considerable research evidence on the complexities of curriculum policy implementation and the difficulties of changing teachers' classroom practices, and undertake a critical review of three of the more prominent theories that attempt to explain this implementation problem. I review the limited literature on the relationship between teacher cognitions and classroom practices, and present the state of knowledge on *how* and *why* teachers make particular curriculum decisions. I conclude by arguing that despite its explanatory value, there has not been any major focus in developing contexts on the cognitive experiences of teachers during complex curriculum reform. As will be demonstrated, there is a critical gap in the literature on how teachers make curriculum decisions when faced with multiple curriculum influences. In my research these 'curriculum influences' will refer to C2005, the NCS and the traditional curriculum, NATED 550.

The literature cited in this review deals largely with research on educational change, curriculum policy implementation, change in teachers' classroom practices and teacher decision-making. This was primarily gleaned through physical, manual searches in a number of South African and USA libraries, as well as surveys of electronic databases such as ERIC. I consulted a wide range of local and international books, articles in policy journals and on-line journals, and research reports on curriculum change in African and Western countries. In the light of my research focus on curriculum policy implementation in South Africa, I made extensive use of the recent research publications on the implementation of C2005, as well as government

policy documents. I also reviewed recent doctoral theses dealing with post-apartheid educational policy implementation issues.

Over the last three decades, both developed and developing countries have been subjected to a barrage of educational and curricular reforms seeking to improve the quality of schools. The unrelenting pressure of rapid economic and technological changes, coupled with the demands of globalisation, have meant that countries continuously seek to reform education in response to broader social changes (Sayed, 2001). The most prevalent rationale for educational change is economic development, especially in relation to the preparation of a competent workforce and a competitive standing in relation to other countries (Nieuwenhuis, 1997). In South Africa, the need for large-scale educational changes has largely been articulated and enacted in response to the apartheid educational system (Rogan and Grayson, 2003; Jansen, 1999b; Enslin and Pendlebury, 1998). Curriculum transformation, for example, started off with a clear political agenda and the need to transcend the curriculum of the past which "perpetuated race, class, gender and ethnic divisions and ... emphasised separateness …" to a new curriculum aimed at realising a "truly united, democratic and internationally competitive country…" (Department of Education, 1997b: 1).

Whatever the underlying drivers of educational change, there is broad agreement that reform is a contested, complex, time-consuming, uneven and energy-intensive process that is far easier to pronounce than to implement (McAdams, 1991; Fullan, 1991). In attempting to explain why it is such as complicated exercise, Hargreaves (1998a: 282, 283) argues:

> … educational change is not just a technical process of managerial efficiency, or a cultural one of understanding and involvement. It is a political and paradoxical process … Second, significant educational change can no longer be achieved … in a step-by-step, linear process … it is much more messy than that.

This 'messiness' can largely be attributed to the myriad of dilemmas, ambivalences and paradoxes that riddle the change process (Lieberman & Grolnick, 1998). Change strategists must inevitably try to fuse steps that do not coalesce well; provide both support and pressure; expect results and yet be patient; balance top-down and bottom-up strategies; and have a clear vision and still be open-minded (Fullan, 1991).

The educational change process is further complicated by the uniqueness of each of the various contexts in which it must be implemented and the fact that for each role-player, change is often a personal and emotional experience (Hargreaves, 1998c).

There is overwhelming evidence that change complexity and uncertainty is especially prevalent during large-scale changes (Fullan, 1991); that is, those changes which attempt to fundamentally alter the aims, structures, roles and organisation of, for example, a national school curriculum. The school curriculum generally embodies the knowledge, skills and attitudes that are considered important by society, and which it would like to be taught in its schools and acquired by its citizens (Taylor, 1999b: 1). It is primarily as a result of this "identity-forming" potential (Baxen and Soudien, 1999: 138) that curriculum policy-making, development and implementation is such a highly contested arena where competing groups tussle to have their values, ideas and interests reflected (Jansen, 2001; Montero-Sieburth, 1992; Nieuwenhuis, 1997). Moreover, during the implementation or translation of curriculum policy into practice, numerous factors impact on or frame the curriculum. "Frame factors" (Posner, 1995, following Lundgren) that shape, limit or constrain the curriculum changes envisaged for schools, include temporal, political, historical, organisational, economic, cultural and personal influences. In this regard, Kemmis and Rizvi (1987, cited in Christie, 1999: 284) remind policy implementers to be cognisant of:

> … the ubiquity of disagreements about goals and means, the complexity of the situations in which programs work, the resistances which the articulation of goals and means may generate, the existence of contrary pressures among those associated with the program, and the difficulties of defining, let alone attaining successful programs.

Within this tumultuous, contested and uncertain world of curriculum policy change, policy-makers often overemphasise issues of design and development, but neglect implementation concerns (Christie, 1999; Jansen, 1999a; Dyer, 1999). This neglect of implementation concerns lies at the core of the convoluted nature of educational and curriculum change, and is probably the main cause of the widely observed disjuncture between policy and practice.

2.2 THE IMPLEMENTATION PROBLEM: CHANGING TEACHERS' CLASSROOM PRACTICES

Nowhere are the complexities of educational change more vividly portrayed than in initiatives aimed at changing the "core of educational technology" (Elmore, 1996: 2) towards more progressive classroom practices. There is considerable evidence that large-scale curriculum reform aimed at altering teachers' pedagogical assumptions, teaching methods, classroom organisation and assessment strategies, is difficult to achieve. The failure of many of these reforms prompted McLaughlin (1998: 70) to interrogate the 'implementation problem' with the simple but incisive question: *Why are classroom practices so hard to change?*

There is a significant body of evidence that underscores the relevance of this line of inquiry into the complexities of curriculum policy implementation. In the following section I review a number of studies of curriculum change initiatives in Southern African countries, and extend this critical assessment to similar research studies on teachers in developed countries. Through this review I wish to illustrate that changes in teachers' practices have been rather elusive, or at least sporadic, in both First and Third World countries, and that McLaughlin's (1998) phrasing of the implementation problem is still very pertinent. On the strength of the many explanations furnished for the difficulty of teacher change, it is safe to say that curriculum policy implementation is a subjective and demanding experience for classroom implementers. This review then forms the intellectual base for my broader research interest into the personal meanings teachers construct during complex curriculum change; how they make curricular decisions when faced with multiple curricula; and why they choose to make the decisions that frame their classroom practice.

In all the studies under review, teachers are in effect expected to change their classroom practices in line with a progressive, learner-centred pedagogy. Bearing in mind that teaching is a complex, multidimensional exercise, it goes without saying that in investigating teachers' classroom practices, one needs to look at both surface dimensions of practice (e.g. classroom arrangement, use of materials, teacher and learner activity, patterns of questioning) as well as deeper-lying aspects of practice (e.g. task and discourse patterns, the way learners interact with each other and with

the teacher; the way teachers respond to the activities and thinking of learners) (Spillane & Jennings, 1997: 451). In this study, I approached the two case studies with this multi-tiered conceptualisation of teachers' "classroom practice".

Van Graan (1998) and Ochurub (2001) published comprehensive accounts of the variegated and largely unsuccessful implementation of Namibia's new learner-centred curriculum. Before independence (1990), curriculum design and implementation in Namibia were, as in South Africa, driven by notions of separate ethnic development, inequitable distribution of educational resources, and highly centralised and authoritarian curriculum decision-making. The curriculum-in-practice was teacher-centred, examination-driven, memorisation-based, overly theoretical and socially irrelevant (Ochurub, 2001; Nekhwevha, 1999; Lockheed & Verspoor, 1991). The adoption and implementation of an ambitious new learner-centred curriculum promised to change the *status quo*. However, the classroom translation of the new policies was, and still is, characterised by continued frontal, teacher-centred instructional practices, with few teachers actually managing to make the shift to learner-centred teaching with success (Ochurub, 2001). The main reasons forwarded for this policy/practice disjuncture, as voiced by classroom teachers as well as research scholars in Namibia, centre around the hasty, non-consultative manner in which the new curriculum was mandated and the short, crash-course nature of the in-service training courses. Other reasons furnished included the difficulty teachers experienced in changing what was the routine nature of pedagogical practice, insufficient support from the curriculum officials, lack of basic resources such as photocopy machines, as well as poor communications resulting from wide dispersion and isolation of many schools (Van Graan, 1998).

The miscellany of reasons posited for Namibia's struggles with curriculum policy implementation certainly underscores the complexity and multidimensionality of the change process. It also demonstrates that politics is a powerful 'frame factor' in policy implementation and should never be discounted in any analysis of policy implementation. Clearly, in its haste to sever ties with the apartheid educational system, the Namibian government made sweeping and brisk curricular changes, and in the process undermined implementation considerations. In the process, teacher training and support, fundamental necessities in any teacher change initiative, were

seriously neglected. Consequently, teachers lacked the most basic understanding of what the practical, classroom implications of the new pedagogy were and, in the process, misinterpreted learner-centredness and active learning as meaning that learners should sit in groups. Moreover, contextual factors such as class size, resource availability and clear lines of communication were not incorporated in the change strategy, and consequently had a debilitating effect on teachers' attempts to implement the new policy. Namibia's experience with large-scale curriculum reconstruction reinforces the fact that educational authorities cannot expect teachers to change their pedagogical routines by simple edict. In McLaughlin's (1998: 13) words, "you cannot mandate what matters".

Other Southern African states that had similar experiences with curriculum policy implementation are Zimbabwe, Botswana and South Africa. Gwimbi and Monk (2003), in their qualitative study of Zimbabwean Biology classrooms, noted that the overwhelming majority of teachers persisted with their conventional didactical style of teaching, and bluntly referred to them as 'stubbornly conservative' (p.221). In explaining the inability of teachers in both under- and well-resourced schools to change their practices, even though a comprehensive professional development programme was in place, they argue that conventional practices continue to flourish because they 'fit' into the contextual world of Zimbabwean teachers. In other words, their conservatism sprung from the fact that their classroom contexts (large classes, heavy teaching loads, poor laboratory facilities etc.) militated against inquiry-oriented teaching and learning.

This evidence that 'context matters' questions the technical-linear logic that inputs in the form of adequate resources and training are sufficient for fundamental teacher change. It certainly emasculates the common and narrow perception, so often the focal point and central theme in the non-change literature, that teachers in developing countries have difficulty in changing their classroom practices merely because they lack adequate resources and training. What is often ignored is teachers' personal, situated engagement with curriculum change. I am not suggesting that physical and material inputs are not crucial enabling or catalytic factors in the curriculum change process, nor do I ignore the serious limitations that teachers in Southern African countries have in this regard – the literature on the state of developing countries is

replete with descriptions of resource deprivation. But what the literature on curriculum policy implementation in Zimbabwe and Namibia does indicate is that policy analysts need to look beyond whether resources are available or not, and pay greater attention to teachers' personal sense-making, their understandings and meanings of the various dimension of the policy change. Moreover, planners need to consider the determinant role of the contextual factors that constrain teaching space. Similar trends have been observed in studies on curriculum policy implementation in Botswana.

Tabulawa (1997) documents how the initiatives in Botswana to transform teachers' instructional practices from a traditional teacher-centred to a more learner-centred approach did not enjoy much success. Despite considerable efforts to support teachers, as well as the ready availability of the requisite resources, teachers essentially still continued in their transmission-centred mode, with successful implementation being limited to a just a few cases. Fuller and Snyder (1990), in a more comprehensive description of life in Botswana classrooms, concur with Prophet and Rowell's (1990) findings that there is still a preponderance of 'chalk-and-talk,' simple recall question-and-answer sessions and whole-class instruction, with very little active participation of learners. Fuller and Snyder (1990) make the point that most teachers in their countrywide study were indeed quite 'vocal and dominant' (p.68), but that within the ambit of this pedagogical style, interesting and 'colourful variations' (p.65) do occur. Furthermore, they note that learners were not always passive onlookers in the teaching process, but that there was a considerable incidence of learners 'reciting material chorally' (p.68), and that teachers saw this as a way of getting active participation from learners. The following finding from a study on Botswana classroom interactions (Prophet, 1995), suggests that an emphasis on personal sense-making may shed more light on *why teachers do what they do:*

> … from the extensive observations in these schools it can be said that that there has been little or no visible change in the nature of the classrooms from that observed in the earlier studies …. There is a continuing emphasis on teacher-centred whole-class teaching. There is a continuing student involvement in listening and silent desk work with a minimum of verbal participation (p.135).

What is instructive is Fuller and Snyder's (1990) concluding comments that variables that are conventionally invoked to explain variations in teacher behaviour, notably teacher qualifications, location and class level, did not have any influence on the classroom practices of the respondents in their study. Their observations that (i) the colourful variations were more a function of the *personal capacities* of teachers to enliven classroom practice, and (ii) that there is a veritable disjuncture between what teachers profess to believe about effective teaching and what they actually do in their classroom, adds substance to the line of inquiry that I am advocating in this study, that is, a focus on their personal, subjective and situated sense-making processes.

The Southern African country with the most recent attempts at comprehensive curriculum reform is South Africa. With neighbouring Namibia, Zimbabwe and Botswana having 'pioneered' the adoption and implementation of progressive educational policies in Southern Africa, one would expect South African educational authorities to have consulted extensively with their counterparts on the complexities, pitfalls and possibilities of comprehensive curriculum reconstruction. Just a cursory glance at the research literature on post-apartheid policy implementation shows that this was not the case (Jansen and Christie, 1999).

The literature clearly illustrates that South Africa has experienced almost identical frustrations with curriculum reform as its post-colonial neighbours. As detailed in Chapter 1, probably the most telling account of the complications of the post-apartheid curriculum change process in South Africa, and the limited success experienced by teachers, is the government's own review of C2005 (Chisholm, 2000). Following an outcry by teachers over the onerous practical implications of C2005, and scores of reports that many teachers misunderstood policy intentions, the government-commissioned review found that the classroom translation of C2005 and its underpinning OBE principles was seriously compromised by design and implementation shortcomings. This included lack of alignment between curriculum and assessment policy, complex and arcane terminologies, overdesign in outcomes but underspecification in content, and inadequate teacher training and support. Chisholm (2000: 78) note that in practice this meant that

> … teachers showed evidence that they had embraced the form rather than the spirit and content of the ideas. … teachers are still providing a great deal of direct instruction and are still preoccupied with content coverage.

However, Brodie et al (2002) take issue with such 'fuzzy generalisations' (Bassey, 1999: 44) that create the false impression that all teachers are unable to successfully implement the new pedagogy. Following their research on how teachers studying for a three-year Further Diploma in Education at Witwatersrand University employ the *forms* (such as group-work) and *substance* (essentially, the selection and sequencing of tasks based on learners' knowledge, and integration within and across subjects) of learner-centred teaching, they report that teachers show a melange of different responses and permutations. Consistent with the central theme of this discussion that "it is exceedingly difficult for policy to change practice" (McLaughlin, 1998: 71), it was found that the majority of teachers in their study take up the forms, without the substance, of learner-centred teaching. Interestingly, there were a few respondents who did not demonstrate either form or substance, that is, they were basically persisting with a conventional instructive pedagogy. Brodie et al (2002) attribute this inertia to the disabling contexts in which these teachers were working; contexts which do not value, support and encourage learner-centred teaching and learning. Not surprisingly, their discontent with the view that all teachers are pedagogically conservative arises from their finding that there were teachers, though few in number, who consistently demonstrated both the form and substance of learner-centred teaching and learning. In sum, this study shows that teachers adopt and practise progressive curriculum innovations in markedly different ways, and that this differential implementation is often a function of their contexts, personal resources and support structures.

The research of Jansen (1999b) into how the OBE principles of C2005 were practiced in Grade 1 classrooms in South Africa concurred that teachers had vastly different understandings and ways of implementing them. They observed three patterns of responses:

Pattern 1: Most of the observed teachers still taught in the conventional, teacher-centred way, choosing to do what they felt comfortable and familiar with. Within this

group, some professed to be doing OBE, while others admitted that they had not yet attempted to change their practices.

Pattern 2: Some teachers only used C2005 and OBE as a broad, guiding framework, showing only very superficial and elementary inclinations towards the new curriculum. They effectively tried to impose C2005 on the way that they had always organised their practices.

Pattern 3: A few teachers admitted that, in their classroom practices, they draw on both C2005 and the traditional curriculum, constantly moving between innovation and convention and between what was required and what was possible. They found that these were teachers who were actively trying to negotiate the meaning of the new curriculum approach.

The latter findings are consistent with Mattson and Harley's (2001: 1) account of their research into the implementation of OBE in Grade 4. During their observations they found that teachers did not have an authentic understanding of the philosophical and pedagogical underpinnings of OBE and therefore simply reproduced what they saw in training sessions, with the learner activity being more 'muscular than cognitive' (p.2). This mechanical and uncritical imitation by teachers is described as *mimicry* in an attempt to 'look competent' (p.1). That is, they slavishly imitate or replicate the superficial elements of the new pedagogy, such as groupwork, or even a complete model lesson performed by training officials, to mask their own perceived inadequacies. This underlines the fact that teachers experience the radical demands that C2005 make on their professional repertoire as a direct threat to their self-esteem, identity and competence as teachers (Fullan, 1991). Again, this illustrates the primacy of the teacher in educational change and how the teacher's subjective, personal experience mediates curriculum implementation.

Returning to the definitive role of politics in the curriculum change process in Namibia (and also South Africa, Zimbabwe and Botswana), Jansen's (1999a) contention that 'political symbolism' is at the core of non-change in transition states is apposite. He argues that the frenetic pace at which governments of transition states issue new policies often has nothing to do with a genuine intention to see fundamental

changes at the policy target level. Instead, when one looks at the haste in policy-making, the incoherence that exists within and between different educational policies, as well as policymakers 'fascination with new policy statements, rather than their implementation' (Jansen, 2001: 274), it becomes clear that the curriculum change initiatives in post-apartheid South Africa were more a symbolic and awesome display of a break from the apartheid education system. This point is made here not as a sad lament that the apartheid curriculum has been consigned to history. On the contrary, having experienced the inferior dimensions of apartheid for most of my life, I have no doubts that South Africa was (and probably still is) in need of major curricular surgery. Clearly, all indications are that instead of the "alternative of grandeur", a slower, more considered and staggered approach would have been more appropriate in a developing country where human and physical resources are not as freely available. However, a disturbing consequence of the overly political nature of the change process is that, in Fullan's (1991) words, "policy ideals do not meet classroom realities".

The difficulty of changing teachers' classroom practices is not only restricted to Third World countries, where inputs (for example, resources and training) are expected to play a key role in the underperformance of innovations. As the following studies suggest, educational policymakers and planners in developed contexts also have to contend with teachers' inertia to change and their variegated interpretations and enactments of curriculum reform policies.

McLaughlin's (1998: 70) well-known Rand Change Agent study highlighted the crucial role of the local capacity and will of teachers, as well as the fact that the innovation passed through various modifications during its practical translation. She found that innovations were seldom implemented 'as is' in schools, but went through a process of mutual adaptation or mutation with local conditions and constraints. In other words both the innovation and the local conditions changed in interaction with one another. This mutual adaptation at times meant an unfortunate dilution and deviation from the aims of the change initiative. More often than not it had the unintended effect that it was then shaped around the unique contextual features of the teachers.

I think that this notion, that teachers adapt rather than simply adopt policies, is a radical and necessary departure from the 'fidelity' perspective (Fullan & Pomfret, 1977: 340) which shapes much of the research on curriculum policy implementation in Southern African classrooms. This prevailing assumption holds that there should be an identical and manifested mirror image of the policy text in the teachers' practices – researchers then go to great lengths to explain the discrepancies in objective and detached terms. This has contributed to the deficit approach to teacher change and a 'discourse of derision' in which teachers are constantly demonised for the failure of educational reform (Ball, 1994: 19).

The Rand Agent study provided some crucial insights into curriculum change, most notably the importance of local capacity and will. However, it provided limited understanding of teachers' subjective realities and the many factors which have a bearing on their classroom practices at the confluence of different curricula. It also failed to explain how the old curricula impact on the new curricula. In this regard, the following two studies shed more light on the question of teacher reaction to multiple curricula.

The comprehensive study of David Cohen (1990: 327–345) on how a certain Ms Oublier negotiated her classroom practices in line with California's new progressive mathematics curriculum, proffers further insight into the complexities of changing instructional practices. He found that under close classroom observation, there was a definite mixture of the old with the new curriculum. She was energetically trying to teach for understanding, but still used elements that were not consistent with a 'pedagogy for understanding'. Ms Oublier was impressed with the pedagogical alterations she had made, and felt that she had revolutionised her teaching practices. However, classroom observations showed that she had in fact made only minor shifts towards the new pedagogy. Cohen (1990) concluded that, when teachers are asked to change their practices, it is extremely difficult for them to simply divorce themselves from routines, beliefs and practices that had been ingrained in them over a number of years. It was apparent that as teachers reach out to practise a new innovation, they "reach out with their old professional selves, including all the ideas and practices comprised therein" (Cohen, 1990: 339).

Cohen maintains that teachers face a formidable task in understanding the new way of doing things and that this really entails the unlearning of the well-set traditional knowledge and skills while they simultaneously learn the new. This means therefore that teachers require a special instructional programme to familiarise them with the innovation. Furthermore, governments often do not recognise that for teachers the curriculum change is really a (difficult) matter of *learning* the new pedagogy – instead policymakers hold the fallacious notion that they can alter teachers' practices by simple edict.

Spillane & Zeuli's (1999: 20) observations of how 25 teachers attempted to transform their practices in line with the new mathematics curriculum in Michigan show a startling similarity to the case of Ms Oublier. They report how that all 25 teachers enthusiastically assured them at the start of the research that they were *very* familiar with the innovation. However, extended classroom observations showed that only four of the 25 taught mathematics in ways that resonate with the letter and spirit of the innovation. They found that with the implementation of the innovation, teachers' classroom practices changed on two levels. On the one hand, in what they termed "the behavioral regularities of instruction" teachers changed the surface-level behavioural and physical orientations in the class. They emphasise that this was a necessary aspect of change, for example, a teacher was expected to change from being a teller (banker or depositor) to a facilitator.

On the other hand, according to Spillane and Zeuli (1999: 5), changes that were elusive were in the more difficult to reach "epistemological regularities of instruction", that is, changing the type of learning and cognition encouraged in class. These constructs appear to correspond well with Hargreaves' (1994: 23) notion of the two dimensions of change in teachers' classroom practices. He refers to "branch changes" as changes in the surface practices of teachers, while "root changes" occur at a deeper level where their beliefs, understandings and pedagogical philosophies are converted to that of the innovation. The research of Spillane and Zeuli (1999) has shown, just as that of Mattson and Harley (2001), that teachers often alter the behavioural regularities of their teaching, without making any shifts in their epistemological regularities. What is clear, however, is that successful innovations

geared at more ambitious conceptions of teaching and learning, will require a metamorphosis of both.

Another instructive investigation was McLaughlin and Talbert's (1993) longitudinal study which focused on how 900 teachers responded to an innovation that demanded a shift from a traditional content-heavy curriculum to one that promoted greater learner understanding. Three types of responses were identified:

- one group of teachers continued to enforce the traditional curriculum
- another responded by lowering their expectations of learners
- the third group changed their practices in line with the new demands for more learner-centred and activity-based teaching and learning. They also found that many in this third group were unable to sustain these practices and experienced frustration. On the other hand, some did manage to sustain the change, particularly members of a school that fostered a professional learning community for teachers.

The evidence presented thus far underlines the difficulty of changing classroom practice, and the fact that it is not simply of matter of teachers uniformly and stubbornly refusing to reform. Furthermore, it is not as simple as all teachers slavishly adhering to one or other pedagogy. It is true that in most of the referenced cases, even where resources and considerable teacher training and support were available, the majority of teachers primarily stuck to their old methodologies. However, across the studies, a considerable number of teachers show various permutations and configurations of the old and the new, with an elite minority successfully and cleanly translating the new progressive policies into their practice. What this essentially means, as borne out by the Botswana and Michigan experience, is that technical inputs of resources, training and departmental support hold no guarantees that policies will be successfully implemented. Yes, they are important, but there are a host of other interlinked, interdependent factors that could easily negate their positive effect on implementation.

There appears to be merit in McLaughlin's (1998: 18) testimony that when teachers are presented with changes in curriculum policy, they interpret and enact it through the unique filters of their own experiences, beliefs, personal resources, theories,

contexts and so forth, resulting in salient variances among the classroom practices of teachers. Posner (1995: 187) concurs that teachers' subject knowledge , teaching and administrative skills, willingness to extend themselves, collegiality and openness to new ideas are crucial factors in determining the success of curriculum change initiatives. He goes on to say that teachers typically seem to *adapt rather than adopt* curricula, that is, they shape or frame the curriculum to their own unique beliefs and abilities. When one considers that the possible permutations of these teacher variables are infinitely great, it is not hard to accept that contextual adaptation of innovations (instead of unmitigated adoption), coupled with slight variation in practice, is part and parcel of any curriculum change process.

What is problematic, however, is why nearly all of the studies reviewed here provide evidence that, during curriculum change, the implementation process is accompanied by a critical mass of teachers who show minimal or no change from their traditional didactic practices. This begs the following questions: Why are classroom practices so hard to change? Why do so many curriculum innovations fail to make sufficient impact?

2.3 UNDERSTANDING WHY CLASSROOM PRACTICES ARE SO HARD TO CHANGE

In response to the question of why educational change initiatives so often fail, Bascia and Hargreaves (2000: 4) argue that most reforms simply fail to understand the depth, range and complexity of *what teachers do*. Neglecting the "final policy brokers", (McLaughlin, 1990: 12), in other words, teachers, has proven to be the downfall of many an innovation. As mediators and filters (Marnewick and Spreen, 1999: 19) of the proposed changes, teachers are in a pivotal position to act as powerful, active agents of change (Osman and Kirk, 2001: 175).

Eisner (2000: 347) distils twelve lessons of educational change from recent experiences – one of his important reminders is that teachers are not "passive receptacles" for the input of government whims, that they are central to any school improvement initiative and that they must have a substantial role to play in shaping

the direction, content and form of the changes being proposed. Yet, he continues, administrators often erroneously assume that the "wisdom flowing from the golden tongues of orators will penetrate the teacher's cortex and transform the teacher from a pedagogical mediocrity into a pedagogical expert" (Eisner, 2000: 347).

The pivotal role of teachers as frontline implementers of policy has been the source of much debate and theorising over the last three decades of curriculum change. What is evident is that change theorists agree that the success of an innovation is measured by the extent to which teachers' altered practices resonate with those espoused in innovations. What they differ on is with regard to what the best approach is to implementing the new policies. Three of the more prominent theories of changing teachers' classroom operations, which I expound on hereafter, outlines the main criticism against the predominant way in which curriculum policy implementation has thus far been tackled, and what some of the crucial mind shifts are that educational planners need to make. Needless to say, this is not an exhaustive catalogue of policy implementation theories.

Teachers as faithful implementers (fidelity)

The Research, Diffusion and Adoption (RD&D) method of educational change, which was in vogue during the 1960s and 1970s, regards teachers as technicians who can faithfully implement a given curriculum (Lieberman and Grolnick, 1998; Knapp and Malen, 1997). Such a rational approach is based on the notion that, when innovations are well researched and developed by experts, then teachers can translate them into practice in a linear and sequential manner. Such innovations are generally top-down, rigid and 'teacher-proof,' not allowing the teacher any flexibility or deviations to accommodate local conditions. This 'fidelity' approach to changing teachers' practice is obviously too mechanical, short-sighted and detached from the realities of classroom life.

Technical-rational notions of curriculum change also assume that teachers already have the capacity and ability to teach in different and more effective ways (Miles, 1998; Bascia and Hargreaves, 2000). Such an approach to curriculum change therefore does not attach sufficient value to teacher participation, training,

development and support. In fact, by relying more on 'experts' to develop 'teacher-proof' curricula, teachers are reduced to mere recipients and technicians. The overarching technical-rational assumption is that if change procedures are correctly defined, clearly detailed and carefully monitored, then they can be prescribed through policy mandates. This "forward-mapping" according to de Clerq (1997b: 148), can however never be grounded in the dynamics of teachers on the ground and, more often than not, leads to vague, ambiguous and conflicting recommendations. Policy ideals then often do not match classroom realities (Sayed & Jansen, 2001: 2). Experience has taught that such authoritarian mandating of curriculum changes does not provide for the highly complex, uncertain, unpredictable and rapidly changing conditions which prevail in schools. The dated technical way of managing educational change might have worked in more stable times, but in the fluidity of the modern era, its potency certainly is limited.

Teachers as learners in a professional community

Change theorists such as Darling-Hammond (1999) believe that educational innovations, more especially those that seek to foster deeper learner understanding, can only succeed if teachers are cast as active learners in the change process. In line with this 'instructional view' on policy implementation, all efforts should then be focused on creating the optimal opportunities for teachers to come to understand the knowledge, skills and dispositions inherent in the new curriculum.

Spillane and Jennings (1997) concur by stating that the variance in practice that accompanies curriculum reform is really an indication that (i) curriculum policy implementation is fundamentally a question of teachers having to learn; (ii) some teachers learn faster than others; and (iii) in mediating the policies, each teacher brings his or her own unique configuration of knowledge, skills, commitments, attitudes, ecology and so on, which naturally determines the degree of learning and change in practice. They assert that the implementation problem is indicative of a *legalistic view* of policy implementation, that is, of "putting ideas into practice". Furthermore, unless an *instructional view* guides policy implementation, change in teachers' classroom practices will continue to be elusive.

Lieberman and Grolnick (1998) make a strong argument that in contrast to the common strategy of a transferable package of knowledge to be distributed to teachers in bite-sized pieces, people learn best through active involvement, thinking about and becoming articulate about what they have learned. This reflective practice implies that teachers consider not only their actions and their consequences, but also their beliefs, values and other knowledge that contributed to the rationale for that action (Briscoe, 1996: 315). It is hoped that as they critically and constructively interrogate their own practices, they will come to see how they differ from those espoused by the curriculum innovation, and make the necessary adaptations. Social constructivist theory also advocates learning as a social process, mediated by our interactions with others. This socio-centric view (Putnam and Borko, 1998: 1241) accepts the centrality of the individual in learning, but also takes into account the cultural nature of knowledge as a communal human construction that is formed by human beings. The primary role of others would then be to either stimulate the individual's efforts at making sense of his world, or to play the role of more knowledgeable models and supporters.

McLaughlin and Talbert (1993) support this sociological perspective by stating that for teachers to rise successfully to the challenge of adapting their teaching practices, they must have opportunities to participate in a *professional learning community* that discusses new strategies and supports the risk-taking and struggles entailed in transforming practice. Such a professional learning community breaks through the walls of teacher individualism and isolation that are so characteristic of 'stuck' schools. It consciously builds and fosters supportive up-close contexts in which strong collegiality, collaboration and open dialogue pave the way for teachers to continually learn and improve their professional selves. McLaughlin (1998: 1242) contends that the reason why policies fail to be efficiently implemented is largely because administrators and teachers fail to invest in teachers' "relational capital".

There can be little argument that curriculum change should be a learning experience for teachers, and that this is best done with the support and assistance of a professional community. However, one must admit that, especially in a traditional school culture where the walls of privatism and isolation are thick and high, the fostering of collegiality and cooperation can prove quite a daunting task. On the other

hand, when authorities mandate compulsory and regulated cooperation, the resultant *contrived collegiality* (Hargreaves, 1998: 1310) may have debilitating effects.

Teachers as meaning-makers

In recent times there have been compelling claims that much of the failure of educational reform can be related to the fact that teachers are not sufficiently supported to get "a clear, coherent sense of meaning" about what the curriculum changes are for, what they are, and how they will play out in their classrooms (Fullan, 1991). According to this school of thought, the 'implementation problem' and the resultant problem of confusion and misdirected resistance, is really "a problem of meaning", as teachers essentially want to be clear on the *what* and *how* of the proposed changes.

Fullan (1991: 127) believes that when teachers are faced with such large-scale changes, four vital questions are at the forefront of their thinking. These concerns, which are in essence attempts at making sense of the change, are: Does the change potentially address a need? How clear is the change in terms of what I will have to do? How will it affect me personally in terms of time, energy, professional development etc? and How rewarding will the experience with the new curriculum be in terms of my interactions? Fullan (1991: 4) reminds that:

> Neglect of the phenomenology of change – that is, how people actually experience change as distinct from how it is intended – is at the heart of the spectacular lack of success of most social reforms … ultimately the transformation of subjective realities is the essence of change.

Fullan (1991) explains his notion of how people "experience" change as a matter of how those involved in change can come to *understand* what it is that should change and how it can best be accomplished, while realising that the 'what' and the 'how' constantly interact and reshape each other. Change administrators should therefore make all efforts to continuously allow teachers to have empowering experiences with new innovations, and to gain a clear understanding of what they are all about. According to Jansen (1998), their energy should instead focus on *authentic curriculum change* at a deeper level, that is, at teachers' understanding of how to

change, why the change is necessary and how the change will improve learning– this no doubt requires sustained observation and interaction with individual teachers. Curriculum planning, teacher training and development must of necessity draw on teachers' purpose, the teacher as a person, the real-world context in which they work and the culture of teaching in that context (Harley, Barasa & Bertram, 2000: 301).

According to Fullan (1991: 35), underestimating the subjective experiences and understandings of teachers during curricular changes can also lead to two other catastrophes, namely "false clarity" and "painful unclarity". *False clarity* means that teachers have a false sense of meaning or understanding – they fallaciously *think* they are implementing the innovation successfully, while they are in fact only scratching the negligible surface. On the other hand, *painful unclarity* is manifested when unclear or vague innovations are attempted under conditions which do not value teachers' subjective reality.

In my earlier review of the literature on curriculum change in Southern African and Western countries, I made reference to the fact that researchers' preoccupation with the technical efficiency notion of inputs as the main determinant of innovation success, has slowly given way to a focus on the teachers' personal, subjective and situated experiencing of the innovation-in-practice. In trying to find answers to the vexing question of *Why are classroom practices so hard change?*, policy researchers have in various ways focused on teachers' beliefs, knowledge, prior experience, context, conditions of work and so forth, to find out how these impact and shape their classroom practices. Despite the extensive research on this puzzle in developed countries, the question remains. More importantly, our understanding of *when, why* and *how* teachers change (or do not change) their practices in developing Southern African contexts is still very limited, due partly to the paucity of research on McLaughlin's (1998) pertinent question. I am convinced that there is still much that we need to know about teacher change, and the factors and forces which constrain or enable policy implementation. In my opinion, a more apposite phrasing of the curriculum policy implementation problem, and one that is largely overlooked in the literature, is *Why do teachers do what they do?* In other words, what I am suggesting is that our understanding and knowledge of teachers' classroom practices and how they change can best be deepened by (i) engaging teachers themselves, right in the

"complicated embeddedness" (Paris, 1993: 123) of their contexts, and (ii) in accessing the decision-making processes that shape what they do. It is to this dialogical link between teachers' classroom practices and their situated decision-making that I now turn.

2.4 Linking classroom practice with teacher decision-making

In this study, I take my cue from Fullan's (1991) plea for greater recognition of the subjective *sense-making experiences* of teachers, as well as Darling-Hammond's call for an acknowledgment that for teachers, policy implementation is really about *learning*. Methodologically, the notion of 'voice' has been central in unravelling the personal meanings people attach to their experiences (Elbaz, 1990: 17).

More recently, a useful and popular way of amplifying the teacher's voice has been through attempts to get "inside teachers heads", (Feiman-Menser & Floden, 1986: 510), that is, to study the architecture of teachers' minds to get a sense of the thinking which shapes their classroom practices. This *cognitive approach* (Shulman, 1990: 62) to studying curriculum change is premised on two assumptions. Firstly, that the classroom actions and behaviours of teachers are to a large extent shaped by their thoughts, judgements and decisions (Borko, Livingston & Shavelson, 1990: 40). What this essentially means, in Spillane, Reiser and Reimer's (2002: 391) words, is that "behavioural changes have a fundamental cognitive component". Johnston (1990: 468) coined the term "minded practice" to crystallise that acts of teaching and learning are not merely atomistic, discrete sequences of behaviour, or isolated manifestations of a conceptual cognitive structure, but that they are "unities of mind and body". Secondly, the study of teacher thinking and decision-making, together with the context in which they operate, provides a better understanding of why teachers do what they do in their classrooms (Woods, 1996; Calderhead, 1987). In campaigning for such a cognitive perspective to curriculum policy implementation, Mitchell and Koedinger (2000: 20) contend:

> … previous efforts at curriculum and instructional reform have fallen short partly because reformers neglected to consider the decision-making processes of teachers.

Similarly Little (1993 : 130), in expounding on the prevalent practice of teachers to adapt, modify and contextualise curriculum innovations, notes that:

> … for the most part, experienced teachers have seldom been invited to ask questions and act as critics of research products disseminated in staff development programs. Nor have they been sufficiently often been invited to explain their reasons for adopting instructional innovations to particular classroom contexts.

Cognitive perspectives in policy implementation research are not entirely new – a number of scholars have looked at the mental understandings and interpretations of implementing agents with constructs which ranged from "cognition", "interpretation", "learning" to "sense-making" (Spillane et al, 2002; Ball, 1994). A cognitive perspective that was in vogue in the 1980s, but has of late been neglected by scholars, revolves around 'teacher decision-making'.

Indeed, there is a significant body of scholarship that describes teaching as essentially a decision-making enterprise (Milner, 2003; Westerman, 1991; Calderhead, 1987). Shulman (1986: 3) describes teacher decision-making as "more complex than that of the physician during a diagnostic consultation with a patient". Although there are various interpretations of 'decision-making', for the purposes of this study I employ the common-sense notion of curriculum decision-making as the making of a choice from a selection of alternatives. This is especially true in educational contexts where teachers are cast as curriculum designers who, to varying degrees, have autonomy to make curriculum decisions that frame what happens in their classrooms. As such they have to make a host of *curricular decisions* about, for example, which instructional outcomes to pursue, which content to teach and how, how to organise the learners in class, how different instructional materials are employed, as well as on how to assess learners, and how the assessment feedback will relate to subsequent teaching and learning. Pasch, Sparks-Langer and Moody (1991: 1) explain that what makes this process of curriculum decision-making so complex is the fact that (i) a large number of factors and influences have a bearing on the decisions; (ii) that decisions must be made on many different levels; and (iii) although the possibilities for what can be done in the class are almost infinite, only one thing can be done at a particular juncture in time.

Recently, a large body of literature brought to light that when teachers deal with instructional policy changes they interpret and enact them through the unique filters of their own experiences, beliefs, personal resources, theories, contexts and so on, resulting in salient variances among the classroom practices of teachers (Fullan, 1991; McLaughlin, 1998; Putnam & Borko, 1998). I think that this 'filtering' constitutes a 'decision-making' process, where by a kind of *osmosis*, a teacher *selectively permeates* whatever is manageable into his/her pedagogical consciousness and subsequently into his/her practice. As Richard (1995: 25) remarks, social scientists have long recognised the power of "selective attention" and its influence on making "cause-effect judgments in social situations". For example, in illustrating the determinant influence of context, Gwimbi and Monk (2003) make the point that teachers' classroom behaviour is best understood as a "selection' of pedagogical content knowledge that is successful in the environment in which the teacher works". Research over the last two decades on the thoughts and decision-making which shapes teachers' actions have largely had three foci, which can loosely be categorised as (i) the stages of decision-making; (ii) the external and internal processes which influence teacher decision-making; and (iii) comparisons of the decision-making of expert and novice teachers.

- The first line of inquiry, which flourished in the 1980s, derives from the assumption that the mode of teacher thinking and decision-making during a lesson is qualitatively different from that before and after the lesson. Shulman (1990: 57) also advises that :

  > … to understand adequately the choices teachers make in classrooms, the grounds for their decision, and judgements about pupils, and the cognitive processes through which they select and sequence the actions … we must study their thought processes before, during and after teaching.

  Following Jackson (1968), a number of teacher cognition studies (Calderhead, 1984; Shulman, 1990; Westerman, 1991) distinguished between three stages of teacher decision-making when preparing for and enacting a lesson.

Pre-active decision-making: sometimes referred to as planning, the pre-active stage encapsulate the pre-lesson mental deliberations such as decisions on content, classroom organisation and teaching strategies to be followed.

Interactive decision-making: in reference to those unplanned, routine and/or intuitive decisions teachers often make while in the business of actually teaching a class. They are in essence "in flight" or "real-time" decisions (Borko et al, 1990: 43) made on the spur of the moment to decide, for example, whether to go ahead with the next part of the planned lesson.

Post-active decision-making: a kind a post-lesson reflection of what transpired in the class, in which planning decisions are made, for example, as to whether to continue using certain teaching strategies.

It is important at this point to note that in departing from the original perspective that these stages are conceptually distinct processes, it is now commonly accepted that they are in fact interrelated, iterative components of a more broadly conceived process (Borko et al, 1990: 43). In addition, based on the cyclical, iterative nature of the decision-making process, two stages, namely the pre-active and post-active decision-making, are generally subsumed under the notion of "teacher planning" (Clark & Peterson, 1986: 258). In essence, planning refers to that activity where teachers individually or collaboratively decide on an instructional course of action. Teachers' plans serve as "scripts" for carrying out interactive teaching, and are therefore profoundly influential on what happens in the classroom (Shavelson and Stern, 1981). What makes research into teachers' planning processes very daunting is that for the most part, plans are rarely written down in any comprehensive accessible way, as teachers tend to prefer spontaneous, "mental scripts" (Borko et al, 1990: 41).

In one of the first investigations into teacher planning, Tyler (1950) proposed his rational, objectives-first model which entailed four sequential steps to lesson planning, namely (1) specify objectives; (2) select learning activities; (3) organise learning activities; and (3) specify evaluation procedures. However, research has shown that very few, if any, teachers follow this objectives-first approach. Instead,

according to Sardo-Brown (1990: 58), they select from conveniently available resources those activities that they believe will stimulate their learners. Moreover, it is evident that planning decisions are not discreet, atomistic activities but are 'nested' in the context of different levels of planning, chiefly yearly, term, unit, weekly, daily and lesson plans (Calderhead, 1996). In addition, when engaged in planning, teachers generally seem to draw heavily on their past experiences, and are either constrained or stimulated by the organisational context (teaching materials, curriculum guides, physical facilities, degree and quality of collaboration, etc) in which they work. This then has consequences when teachers are asked to enact a new curriculum.

The literature is largely in agreement that the decision-making challenge while teaching is quite daunting, and that on average a teacher makes approximately one interactive decision every two minutes (Clark & Peterson, 1986). However, the scholarship on teachers' interactive decision-making is rather bifurcated when it deals with the nature and intensity of the decisions that are made. On the one hand, according to Borko et al (1990), researchers such as Clark and Peterson (1986) are of the opinion that all interactive decision-making is a conscious, deliberate choice between continuing as before or behaving in a different way, and that it does not really entail the consideration of alternative courses of action. On the other hand, Warner (1987, cited in Borko et al, 1990) takes a different position, arguing that interactive thinking really entails two separate processes. That is, "interactive decision-making", which entails the weighing up of different alternatives, and "deliberate action", which occurs when a teacher sees the need for some action or response, but considers only one course of action (Borko et al, 1990: 43). This differentiation is crucial, especially in the light of my own experience and the research evidence that, in the unrelenting intensity of the daily 'classroom press' teachers generally operate under, there is not much time or scope to weigh up your options for each and every interactive issue. Routines evidently minimise conscious decision-making and ease the cognitive strain while teaching. Unsurprisingly, the burden of interactive decision-making does become greater if on a particular day the routines do not work out (Borko et al, 1990).

- As for the second line of research, there seems to be consensus that a number of factors come into play when teachers make curricular decisions, whether in pre-active planning or face-to-face interactive teaching. These include the context in which teachers operate (McLaughlin & Talbert, 1993; Gwimbi & Monk, 2003), teachers' beliefs and values about instruction (Clark & Peterson, 1986), teachers' epistemological world views (Schraw & Olafson, 2002), the nature of the curricular content, teachers' pedagogical content knowledge (Connely & Clandinin, 1990) and learner characteristics.

  Needless to say, the particular degree to which each of these affect teacher decisions at any particular point in time varies. I think that this probably explains the inconsistencies between teachers' reports of what the major influences are on their own curriculum decisions. In Sardo-Brown's (1990) study, the factors that most frequently affected the instructional planning decisions of the respondents include their personal beliefs, the need to maintain learner attention, a quest to achieve the goal of the lesson and the need to maintain an orderly transition between activities.

  Interestingly, the teachers in her study reported manuals and textbooks as the least influential decision-making factors. Furthermore, it became evident that certain decisions take precedence at particular levels of planning, for example, content decisions at the yearly level, evaluative decisions at the term level, scheduling decisions at the weekly level and activity decisions at the daily level. In contrast, in Shavelson and Stern's (1990) study, respondent teachers reported that consideration of learners' abilities was the major determinant of their planning deliberations, with textbooks, manuals and other supplementary materials playing a major role in decisions concerning the content and teaching strategies to be pursued.

  Another school of research that typically produced contradictory findings concerns the correlation between teacher beliefs and instructional practices. Thompson's (1992) review of the literature points to the fact that sometimes teachers' professed beliefs cohered well with their practices (see also, Borko et al, 1990; Mitchell and Koedinger, 2000), while in other studies there was a marked

dissonance between what teachers professed and what they were actually doing in their classrooms. McNamara (1990) corroborates that teachers' theories are often "at odds" with their actual practice.

Calderhead (1996) makes two other vital points about planning decisions. Firstly, that teacher planning is of a particularistic, situational and idiosyncratic nature and that this is indicative of the powerful role of teachers' considerations of practicality and contextual factors in this process. Secondly, he reports that as teachers wrestle with issues to make curriculum decisions, they draw on a rich variety of knowledge. This includes their pedagogical content knowledge (the particular way teachers understand, represent and convey their subject matter to learners), and practical knowledge (the knowledge teachers have of classroom situations and the contextual dilemmas they face).

- Another line of research has been the difference between the decision-making of expert and novice teachers (Borko et al, 1990; Westerman, 1991). Several studies have shown that the planning of experienced teachers is richer and more detailed, and reflects more selective prowess in their use of different resources than that of their inexperienced colleagues (Borko & Livingston, 1989). Westerman (1991), in her study of the decision-making of elementary novice and expert teachers, showed that there is a marked difference in their thinking. Among other things, expert teachers showed greater sensitivity to the individual needs and abilities of their learners as well as in integrating and linking new subject matter with what has gone before. Expert teachers were also able to adapt the curriculum guidelines to fit their unique contexts much more adeptly. In essence, it seems that both novices and experienced teachers form mental representations of lessons while planning, but that they differ in that those of expert teachers include a more comprehensive, holistic view of the classroom. Furthermore, novices attend to a much more limited number of factors in making curricular decisions.

A major limitation to the scholarly work on curricular teacher decision-making is that it has largely focused on elementary teachers (Sardo-Brown, 1990: 58), which means that there is a dearth of research on the planning and interactive decision-making of

secondary school teachers, more especially those teaching science. The literature on teacher thinking and decision-making, in whatever discipline, has also been limited to First World contexts, with very little in developing Third World countries (Brodie et al, 2002). In fact, Jansen (2003) observes that curriculum studies in Southern African countries are generally "underdeveloped" and that there is relatively little research and theorising around curriculum and its implementation.

As stated earlier, much of the available research in South Africa focuses on what teachers fail to do, and therefore, why reforms fail. However, little is known about *how* and *why* teachers actually make strategic curriculum decisions. In other words, there is a veritable 'black box' around teacher decision-making in classrooms when educational reforms or innovations are introduced.

There is no empirical record of how teachers make decisions when facing the situation that teachers in some developing contexts currently have to contend with. That is, having to implement a complex new outcomes-based curriculum, while a revised, simplified version looms on the horizon. It is to this 'gap' in the research literature, namely, how teachers make curriculum decisions at the confluence of multiple curricula, that my attention is focused.

In the context of the many variegated challenges that South African teachers face, this study could shed some light on the critical factors and contextual conditions that impede or promote instructional changes in developing countries – and such data could significantly 'push back' existing explanations for change, and continuity.

2.5 CHAPTER SUMMARY

In this chapter, with the aim of providing the theoretical foundation for my research questions, I described and critically engaged the existing scholarship on curriculum change, and specifically the difficulty of changing teachers' classroom practices. I argued that deeper insight into the 'implementation problem' could be gained by taking a cognitive approach in studying how teachers attempt to implement radically different curriculum policies. In this regard, I reviewed the extant literature on teacher decision-making, particularly in terms of the forces that impact on teachers' pre-

active, post-active and interactive decision-making. I identified two main gaps in the literature. Firstly, most of the existing literature is restricted to elementary teachers' decision-making, while secondary school teachers, particularly science teachers, have not been studied along these lines. Secondly, I demonstrated that very little is known about how teachers make decisions when faced with multiple curricula. Thirdly, I drew attention to the fact that there is a paucity of research on curriculum change in developing countries.

In the following chapter, I provide a detailed description of the conceptual framework that I employed to make sense of the data gleaned from this study, that is, of how two teachers understand and make decisions at the interface of multiple curriculum strands.

CHAPTER 3

TOWARDS A CONCEPTUAL FRAMEWORK FOR EXPLAINING TEACHER DECISION-MAKING DURING COMPLEX CURRICULAR CHANGE

3.1 INTRODUCTION

Deciding on an apposite conceptual framework – that is, an explanatory lens to understand and explain the teacher decision-making processes of the respondents in this study – has been a difficult and drawn-out process. Before commencing with the fieldwork (data collection) for this study, my research proposal outlined a neatly packaged, comprehensive conceptual framework along the lines of a 'hypothesis-testing' paradigm. My study was to be guided by five 'working hypotheses', based on recent studies on how teachers alter and change their classroom practices when implementing curriculum innovations. Needless to say, a great deal of time and mental effort was invested in putting the framework together. However, midway through my interactions with the respondents in this study, I realised that though there was a strong evidential base supporting one of my hypotheses, it seemed not to be able to fully explain what I was observing and what the respondent teachers were sharing with me as rationale for their practice. It seemed that in constructing the working hypotheses, I had neglected to cater for an issue which, in the mind of the respondents, was crucial in portraying the full picture of their decision-making. Hatch (2002) explains that he had a similar experience in a recent qualitative study, where midway through an extensive qualitative study, he adapted his theoretical lens to better explain the emergent findings. Hatch (2002: 34) goes on to say:

> …substantive theoretical grounding is necessary during the design phase, but that does not preclude the importance of continuing to explore alternative theoretical explanations as the study progresses and reports are written.

In this chapter, I outline the original five working hypotheses, supporting each with the extensive research evidence that frames it. I follow with a description of the alternative conceptual framework.

3.2 THE INITIAL CONCEPTUAL FRAMEWORK: FIVE 'WORKING HYPOTHESES'

The research of Cohen (1990), McLaughlin and Talbert (1993), as well as the local findings of Jansen et al (1999b), Taylor and Vinjevold (1999) and Baxen (2001), provide compelling evidence that curriculum change is not a simple matter of teachers nonchalantly relinquishing and unlearning their traditional practices, and shifting smoothly to new, different practices. Curriculum innovations are not introduced into a vacuum or onto a tabula rasa. Teachers interpret and react to curriculum changes on the basis of their practical and pedagogical knowledge, skills, beliefs and attitudes which are largely shaped by past experiences of implementing the curriculum. They generally call on mental images constructed over years of experience to make sense of the new teaching roles required of them. Often teachers' beliefs are not consistent with beliefs implicit in an innovation. In such a case, a teacher may reconstruct the innovation to match his own beliefs, knowledge and skills. In other cases, where a teacher's beliefs conflict with those implicit in an innovation, his personal knowledge and skill structures may be reconstructed (Briscoe, 1996: 326).

This notion is endorsed by Putnam and Borko (1998: 1228) who declare that teachers interpret the new curriculum demands through the filters of their existing knowledge and beliefs. In other words, they can only make sense of new instructional practices through the lens of what they already know and believe. Shulman (1987: 6) described teachers' practical pedagogical wisdom as a highly contextualised or situational knowledge acquired through experience. This 'apprenticeship' of experience implies that the longer teachers have been practising a certain approach, the more entrenched, routinised and automatic it becomes in their professional selves and the more difficult it is to alter. Their rich knowledge and experience of classroom practices in a particular curriculum allow them to quickly and automatically interpret classroom events and to act accordingly. This automaticity is on the one hand essential for coping with the managerial and cognitive complexity that is inherent in guiding their

activities. On the other hand, routinised knowledge and deeply held beliefs can impede teachers' efforts to see things in a new way or to learn new instructional approaches (Putnam and Borko, 1998: 1230).

As South Africa's Grade 9 teachers start implementing C2005, they will, consciously and unconsciously, have to make decisions as to how they are going to translate it within the context of their quite different experience with the traditional curriculum and their awareness of the imminent, strengthened NCS. It is my basic contention that both the traditional, subject-oriented curriculum and the impending revised, 'thin' NCS will impact on how teachers adapt their classroom practices. Pertinent questions which immediately surface at this critical interface include: How will these three curriculum influences (the traditional curriculum, C2005 and the NCS) come together to influence and shape teachers' work? To what degree do teachers draw from each of these curricula to make curricular decisions? To what extent do different external and internal factors affect teachers' curricular decisions?

Based on the described complexities and vicissitudes of curriculum translation, I suspect that, even for those proclaiming to be drawing on the NCS, teacher decision-making in South Africa may take on the following possible forms, which I wish to posit as my five working hypotheses.

Hypothesis 1

The teaching of experienced secondary school teachers will continue to be dominated by the traditional curriculum when faced with one or more curriculum changes or reforms that depart radically from their "apprenticeship of experience". (In other words, South African teachers' practice will still be dominated by NATED 550.)

This assumption is based on the findings of Jansen et al. (1999) and Taylor and Vinjevold (1999) who found that, with the implementation of the 'thick' version of C2005, teachers, despite their good intentions, were still dominated by the traditional curriculum. This suggests that the introduction of a third curricular influence, namely the NCS, although purportedly easier to implement, will not have any significant influence on teachers' learning and decision-making. In fact, teachers will continue to organise, plan and execute their classroom practices in the way that they have always

done it, and in a manner that makes them feel secure and in control of the situation. This entails a rigid, textbook-oriented and content-heavy approach where the teacher is the disseminator of knowledge and the learners are passive receptacles. Tabulawa (1997: 194), in reference to the inertia of teachers in Botswana to transform their classroom practices to a more learner-centred approach, blames the "banking" pedagogical style which had become habitual, routinised and institutionalised into a tradition. It seems, as asserted by King (1989, cited in Cohen, 1990: 5), "that once a pedagogical style has become so institutionalised, it has a resilience that is almost independent of changes in government, major curricular reform or even changes in teacher training". Ms Oublier's (Cohen, 1990) involuntary persistence with much of her traditional practices certainly bears testimony to this.

There are a number of causal factors which could lead to this scenario. As has been well documented in research on C2005 implementation, teachers' persistence with the traditional curriculum can be attributed to the fact that they genuinely do not understand the requirements and principles of the NCS. Alternatively, they might just not have the confidence or competence to embrace yet another 'new' curriculum. Teachers could then easily fall into the habit of "impression management" (Giacquinta, 1998: 169), where teaching and learning is still done in the traditional way, but when visited by departmental officials or researchers, they would put on the mask of OBE and the NCS, and create a false, temporary impression that they are indeed practising it.

Hypothesis 2

Teachers who adapt their curricular practices in response to a first wave of reform are unlikely to change again when that reform is refined or altered by educational authorities. (In other words, South African teachers will stick to the requirements of C2005 and will not be influenced by the NCS.)

Some teachers might have managed, through sheer determination and monumental effort, to make some sense of the initial 'thick' C2005 stipulations and its many complexities. They might feel that they are practising it with a fair degree of competence, and be so impressed with the responses of their learners that they persist with the design and organisational features of C2005. In this case it is their

'apprenticeship of experience' with C2005 that makes them reluctant or unable to convert to the NCS. This possibility seems all the more realisable when one considers that, despite that fact that decisions have been made at national level to rid C2005 of its superfluous design features and complex terminologies, current in-service training workshops still burden teachers with expositions of range statements, assessment criteria, performance indicators, and so on.

Hypothesis 3

The extent to which secondary school teachers shift their practices in line with an official curricular reform is related to the extent to which they operate in a professional learning community. (In other words, for South African teachers, the more interactive their professional cultures, the more pronounced their shift from the traditional curriculum to C2005.)

This conjecture is firstly grounded in the extensive literature review of the enabling value of collaborative and interactive professional cultures. The depth of peer collaboration, cooperation and collective reflection could well provide the support essential for fostering understanding and mastery of C2005.

Hypothesis 4

Secondary school teachers will adopt proposed changes to a curriculum (e.g. NCS), even if such revisions have not yet been made policy, if its revisioning is more in line with what teachers regard as 'practical' and 'implementable' in their classrooms. (In other words, South African teachers will draw extensively on the more 'implementable' revisions embodied in the NCS.)

According to Doyle and Ponder (1977), teachers' responses to change are governed by their "practicality ethic". When an innovation, or adaptations to an existing reform, holds the promise of being more implementable within their particular competencies and constraints, teachers are more likely to transform their practices accordingly. This suggests that teachers respond to innovation in various ways, depending on their perception of three critical factors, namely *instrumentality, congruence* and *cost*,

which are closely aligned to the traditional teacher questions phrased by Fullan (1991: 79). Firstly, teachers decide on the practicality of the innovation, that is, whether it allows for the classroom realities. Secondly, teachers decide whether the innovation is congruent with their current educational philosophy and practices. Thirdly, teachers weigh the cost of implementation and decide on whether it is worth the extra time and effort.

Hypothesis 5

Secondary school teachers will alter their classroom practices in line with official curriculum policy changes, but do so in a narrow, replicative or mechanical manner, devoid of a 'deep' understanding of these changes. In other words, teachers will change the behavioural regularities of their instruction, but not the epistemological regularities that underpin historical behaviours. (In other words, South African teachers will practice C2005, and will not be majorly influenced by the NCS, but their classroom practices will show more behavioural, branch changes than epistemological, root changes.)

Some teachers may appear to practise C2005 in a pure and unadulterated manner, but would in fact only be *imitating* what they have seen at the training workshops and model lessons of colleagues. Following C2005 by mere emulation, without understanding its underlying principles and design features, is a real possibility, considering Taylor and Vinjevold's (1999: 230) report on how some Grade 1 teachers negotiated C2005 in their classrooms by simply reproducing what they saw elsewhere. From his observations of how teachers imitate new curriculum texts, Wilson (1990: 295) found that the chief factors which lead to this are lack of time, and teachers' own limited knowledge and understanding of the new framework and its instructional practices. He also felt that this often happens when teachers' existing knowledge and expertise, developed over a number of years, is not congruent with that espoused in the new curriculum. Moreover, in the South African context, where teachers are still suffering the aftereffects of job insecurity (as a result of rationalisation and redeployment), teachers might adopt "mimicry" in order "to look competent" and of value to the school (Mattson & Harley, 2001: 1).

3.3 THE REVISED CONCEPTUAL FRAMEWORK: THE THREAT OF INTENSIFICATION OF TEACHERS' WORK

As I explained earlier, while engaged in the fieldwork for this research I realised that the 'hypothesis-testing' conceptual frame was not well suited as a compelling explanation of the emerging data. I subsequently decided to abandon the 'hypothesis-testing' approach for two reasons. Firstly, the fact that none of the participants were familiar with the revised version of C2005 meant that the NCS was not really a factor in their decision-making. This narrowed the possible permutations of the curricular practices of teachers, as suggested by the hypotheses, considerably. As a result of this, the 'hypothesis-testing' framework lost its value for this study. Secondly, I began to realise that the initial conceptual lens would not be able to fully portray *how* and *why* the teachers in this study made strategic curricular decisions. During my interactions with the respondent teachers, both through classroom observations and interviews, a theme that explicitly and implicitly surfaced on a regular basis was the inordinately heavy work load that the introduction of C2005 brought to bear on them. Substantial evidence that this 'intensification' of their work played a definitive role in their curricular decision-making made it almost impossible to ignore.

In this study I therefore draw on the very topical but limited scholarship on the intensification thesis (Apple, 1989; Hargreaves, 1992; Smyth, 2001), and more particularly on Gitlin's (2001) constructs of "the threat of intensification" and "the self-regulating tendencies" of teachers. With these constructs, he puts a more classroom-based spin on the "proletarianisation thesis", based in critical theory and advanced by Lawn and Ozga (1981). The proletarianisation thesis is closely linked to the labour process view that teaching is essentially work, and that schools are workplaces. A substantial body of scholarship explores these ideas in great detail, particularly in terms of the political, historical, and social implications of such a labour process view of teaching (Smyth, 2001). However, in the context of this study, I will not go into much detail and will limit my engagement with this theoretical and conceptual framework to 'the intensification of teachers' work'. It is important to note, however, that viewing teaching as work, as in this study, means that teacher change needs to be considered "…from the vantage point of those who live and experience it…" (Smyth, 2001: 10).

The proletarianisation thesis essentially purports that over time, due to the intensity of their work, increasing numbers of workers are deskilled to such an extent that their conceptual skills are usurped by management. This, according to Apple (1989), invariably leads to the reskilling of workers in clerking-type skills. It suggests a form of control in that the separation of the conception and execution of tasks leads to an intensification or the speeding up of work, so that workers have less time to reflect on what they are doing. Easthope and Easthope (2000: 44) explain that this is characteristic of a post-Fordist shift in capitalism, and attempt to relate education more closely to industry. According to Smyth (2001), the implications of this change in teachers' work are an intensification of their work, deskilling of teachers to mere technicians, increased levels of surveillance ("accountability measures"), and the closing down of spaces for teacher debates on curriculum matters.

By its very nature, teaching is a challenging enterprise where teachers have to contend with a multiplicity of forces that impact and shape their practices. Citing Huberman, Fullan (1991) lists these "classroom pressures" as the press for immediacy and concreteness, the press for multidimensionality and simultaneity, the press for adapting to ever-changing conditions or unpredictability and the press for personal involvement with the students. However, the post-Fordist emphasis on competencies and corporate industrial goals inevitably leads to a massive *intensification* of these classroom pressures, a phenomenon which Hargreaves (1994: 108) conceptualises as the "bureaucratically driven escalation of pressures, expectations and controls concerning what teachers do and how much they should do within the teaching day". This intensification of teachers' work is typified by heightened expectations, increased accountability, multiple innovations, more and more administrative work, a lack of time for relaxation or professional development, chronic and consistent overload and the enforced diversification of expertise (Hargreaves, 1992). In fact, according to Connell (1985: 72), the nature of the labour or task orientation of teachers is such that their work is open to "limitless intensification", and is framed by "circumstances and demands both immediate and remote".

What I like about Gitlin's (2001) reworking of the intensification thesis is his notion of the intensification of teacher's work as an independent phenomenon, which may or not be an act of control. He takes the idea of the intensification of teachers work an

octave higher, arguing that because intensification is a subjective experience, dealt with by different people in their own way, one should rather talk in terms of "the threat of intensification". In essence, intensification does not affect all teachers in the same way (Hargreaves, 1992). This means that whereas certain forces create the likelihood that teachers' work becomes intensified, their particular responses may alter the effect of these forces. This implies that one should focus on the ways teachers attempt to sustain their work and the kind of pedagogical decisions they make to challenge the threat of intensification. Gitlin's (2001) qualitative research showed that in many cases teachers made curricular decisions that limited the busyness of their daily routine and that allowed them to confront the classroom press of immediacy, simultaneity and multidimensionality (Fullan, 1992). So, for example, they would oversimplify lessons, follow the recommended textbooks and national curriculum, or keep learners occupied with menial tasks to get administrative work done. More importantly, this classroom pressure has the debilitating effect of limiting teachers' personal reflections on their practices, which is crucial in reforming teachers' classroom practice (Hinde, 2002). In the context of my broader focus on curricular decision-making of teachers, Smyth (2001: 8) adds a different dimension when he proclaims that:

> … from a sociology of work perspective, styles of teaching are not so much an outcome of "pedagogic choice", so much as they are a response to the environmental circumstances in which teachers find themselves.

The threat of intensification could explain the phenomenon where teachers, despite being afforded a considerable degree of autonomy and flexibility to make pedagogical decisions based on the needs of their learners, still opt not to make the effort. For this Gitlin (2001) invokes that concept of "self-regulation". In essence teachers would minimise their planning time by underutilising their freedom to use a variety of learning material, teaching strategies or assessment techniques. Moreover, they teach to the average learner instead of the unique needs of each learner in his/her class, or follow prescribed texts to the hilt. Teachers then also spend a great deal of physical and mental energy in ensuring that classroom disorder and learner ill-discipline do not add to this threat of intensification, creating a more answer-oriented, structured and control-heavy pedagogy. My contention is that all these speak of "defensive

teaching" (McNeil, 1983) where teachers adopt particular *coping strategies* to help them cope with the 'threat of intensification' of classroom life. McNeil (1983) coined the term *defensive teaching* in reference to the practices of the teachers in her study, who deployed a number of defensive strategies in order to maintain control over their students. Their defensive teaching strategies were not really in response to an intensified workload, but more in order to ensure that students did not become disruptive or non-compliant. The main concern of the teachers in McNeil's study was "control" over students, and they ensured this by trivialising the course content, employing simplistic forms of representation, limiting their teaching strategies and omitting controversial or difficult topics. In this study, I provide evidence that defensive teaching is not necessarily the result of teachers' concern with student control, but that the broader intensification of their workload also triggers defensive teaching strategies.

A number of studies point to the fact that teachers respond defensively when too much is expected of them. Hawthorne (1992) relates how his respondent spoke about "being creative", but that in his mind this creativity played out, not as innovative practices, but as "subversive self-defense strategies" that enabled the teacher to cope with the overwhelming organisational demands. Easthope and Easthope (2000: 12) report that in their study "some teachers adapted to the increased workload by reducing their commitment to professional teaching, through reducing their input into the teaching task". In the same vein, one of Randi and Carno's (1998) respondents stated unequivocally that "I try to stagger my curriculum out of self-defense". Edwards (2000) also details the defensive "tactics" of teachers in his study on the effect of a comprehensive new state-wide curriculum initiate in Victoria, Australia. Interesting metaphors that he quotes, and which correspond well with what my respondents were saying, include: "cut and paste", "playing the game" and "business as usual, with tack-ons" (p.14).

The notion of intensification to help explain teachers' inertia to change is limited to studies in First World contexts (Hargreaves, 1994; Easthope & Easthope, 2000; Gitlin, 2001). There is very little, if any, scholarship on the relevance and potential of this powerful explanatory tool in Third World ecosystems. One significant consideration, for example, is the fact that the idea of the 'threat of intensification' has

its roots in Apple's (1989) notion of the "deskilling" of the workforce. In most Third World contexts, however, especially in ones where the shift now is towards more progressive pedagogies, one cannot really talk about the deskilling of teachers simply because the vast majority have never been 'skilled' in this approach in the first place. Put more succinctly, one cannot deskill what has never been skilled. In that case, perhaps one should then explore the notion of the *stifling* of the skilling process.

Just a cursory glance at what the curriculum policy shifts in South Africa expect of teachers should convince anyone that there is a real threat of intensification of their work. More qualified teachers in better resourced classrooms in more developed countries have had difficulty in making sense of an outcomes-based pedagogy which effectively requires an overhaul of one's entire pedagogical repertoire. Compounding the matter in South Africa, as proven by the C2005 review (Chisholm, 2000), is the host of other complexities and verbosities that C2005 weaves into this new way of teaching and learning.

3.4 CHAPTER SUMMARY

In this chapter I provided a narrative account of how the conceptual framework used in this study developed over time. I explained how I started the fieldwork with a number of preconceived, though flexible, 'working hypotheses' which I intended to test against the emerging data. Once in the field, however, and following the 'voices' of the respondents, it became apparent that by looking at their decision-making through the lens of 'the intensification of teachers' work' would be far more illuminating than the 'working hypotheses'. The last part of this chapter is therefore devoted to a critical synthesis of the scholarship on the intensification of teachers' work.

In the next chapter, I provide a comprehensive and detailed narrative of the data collection process and the strategies that I employed in garnering insight into how the two teachers in this study understood the critical differences between the three curricular strands, and how they made the decisions that impacted on their classroom practice.

CHAPTER 4

RESEARCH DESIGN & METHODS

It wasn't curiosity that killed the cat
It was trying to make sense of all the data curiosity generated.
Halcolm (cited in Patton, 2001: 440)

4.1 INTRODUCTION

This chapter describes the research process that framed this study. I explain my choice of research design, retrace my steps to the sampling of respondents, and provide a detailed statement of how the evidentiary base for the study was established, that is, the data collection process and strategies. I also give an account of how I attended to issues of validity and reliability.

Consistent with the notion of "fitness for purpose" (Cohen, Manion and Morrison (1997: 1), the design and methodology of this research were largely decided by its broader purposes. Since my intention was to explore how teachers understand and make meaning during complex curriculum change, as well as *how* and *why* they make the strategic curriculum decisions that shape their classroom practices, I felt that the conventional positivistic or quantitative approach would give a rather skewed and one-dimensional view of the complexity and multi-dimensionality of teachers' classroom and decision-making realities. What was of particular concern about the positivistic tradition was its mechanistic and reductionist view of reality, its disregard for the forces of choice, intention, freedom and individuality, and its discounting of man's ability to interpret and represent his or her experiences (Silverman, 2001; Denzin & Lincoln, 2000).

This research is cast in a **qualitative-interpretative** frame, in line with the advice of Bascia and Hargreaves (2000) that the best way to investigate the subjective experiences and thinking of teachers is through an in-depth, contextually based interpretative design. In the light of my broader interest in how and why teachers

change their classroom practices, I was drawn to Guba and Lincoln's (1981: 124) finding that "human behaviour, unlike that of physical objects, cannot be understood without reference to meanings and purposes attached by human actors to their activities".

Informed by my personal epistemological stance that there are multiple truths, that people have multiple realities that are socially constructed and that their behaviour can only be clearly understood in the light of their contexts, I found the qualitative-interpretative design appealing for a number of reasons. This includes, among others, its ultimate goal of deepening our understanding of complex phenomena instead of making simplistic predictions or quantified measurements, its studying of respondents in their natural settings and its ability to provide rich descriptions and explanations from the perspective of the respondents (Denzin & Lincoln, 2000; Cohen et al, 1997). In this regard, Eisner (2000: 67) commends its virtues as follows:

> In education, qualitative research has a great deal to offer, provided researchers seek a more complex understanding of education. There are multiple ways in which the world can be known, which is particularly relevant, since qualitative researchers pay attention to the nuanced quality of the particular, and not the general. Through the nuances and subtleties, qualitative researchers draw the attention to particulars and in so doing they slow down predisposed human perceptions, and invite human exploration.

On a more pragmatic level, qualitative research also found favour because of its inherent flexibility and malleability. Based on my own experience as a high school teacher, I was familiar with the unpredictability, fluidity and sheer complexity of everyday teaching, and knew that I could not enter into teachers' classroom and decision-making spaces with a rigid and unalterable blueprint. It was also during these twelve years of teaching that I developed invaluable skills and attitudes which stood me in good stead in the challenge of negotiating access 'into teachers' heads', to understand the decision- making processes and frame factors that underlie their teaching practices. According to Merriam (1998), these personal skills that I am referring to, such as tolerance for ambiguity, sensitivity, empathy, and the ability to communicate and listen effectively, are indispensable qualities in qualitative research. Within the qualitative paradigm there are a number of possible methodologies, including historical research, ethnography, case study, action research, ex-post-facto

research and so on. Anderson (1990) likens methodology to fine cooking, suggesting that there are various ways to prepare a particular product, and that this invariably depends on personal taste and the purpose of the product. I opted for the **case study** approach because of its potential for thick, rich and context-heavy descriptions of real people in real situations (Stake, 2000). Furthermore, a case study approach allowed me to get a sense of "what it is like" (Cohen et al, 1997: 181) to be a teacher having to make curricular decisions during complex curricular change, and to portray the "fine grain detail" of their resultant practices. Also, in the light of Gomm, Hammersley and Foster's (2000) counsel that the case study opens up a window to causal links in real-life interventions that are too complex for the survey or experimental methods, I thought that this particular approach would enable me to get an idea of why teachers do what they do in their classrooms. I was also attracted by the case study's fundamental concern with "how things happen and why", as well as its potency to be "process-oriented, flexible, and adaptable to changes in circumstances and an evolving context" (Anderson, 1990: 157).

Given the nature of this study, I could not even consider exploring whether and how teachers make sense of and implement complex curriculum changes with a single data collection tool. The case study allowed me to use multiple sources of evidence, and to string together a tight, interconnected 'chain-of-evidence' to support my concluding findings in a reader-friendly case report.

Case studies are accused (especially in positivist circles) of being weak on external validity or generalisability, and that they consequently do not offer sufficient insights into how generic education problems can be resolved (Cohen et al, 1997: 1). This argument did not deter me as my intention was not to find generalisable answers, or "*grandes généralisations"* (Stake, 1995: 8) to curriculum change problems, but to deepen my understanding and insight of a bounded phenomenon, that is, the curricular decision-making of the three respondents in this study.

4.2 SAMPLING

I started my fieldwork with the intention of conducting an intensive, in-depth qualitative investigation of three Grade 9 Natural Science teachers at three different

schools in the Pretoria East area. This deliberate decision sprang firstly from the fact the Grade 9 teachers were in their second year of implementation of C2005 and were the highest school grade expected to operate in the C2005 vein. Given that primary school teachers (Grade 1 to 7) had been engaging with C2005 for a longer period of time, Grade 9 teachers were the most optimally suited for my inquiry into teacher change and decision-making *at the interface of curriculum change*.

Secondly, in order to build a rapport with the teachers and to engender a better understanding of the curriculum decision-making of my participant teachers, I confined this study to the learning area with which I am pedagogically and professionally most familiar, namely *Natural Science.* Having been a Grade 9 to 12 science teacher for twelve years, I assumed that this was the one learning area in which I could connect best with respondents. My recent experience with a small-scale evaluation of the support for Grade 1 teachers implementing C2005, which I did as part of my Master's studies (Stoffels, 2000), persuaded me that I would probably not be able to sustain my own levels of interest and excitement for the prolonged period of engagement that I sought for this study. Furthermore, my restriction to teachers in the Pretoria East area was born out of practical considerations. I live in this area, and realised that moving between three schools on a particular day for a prolonged period for classroom observation, necessitated their close proximity to each other and to my residence. In line with departmental policy, I could only interview teachers outside normal school hours, which meant that with their extracurricular activities and personal commitments immediately after school, this often took place in the late afternoon or at night. It was these very same practical concerns that prompted my decision to limit this qualitative research to three teachers, for with more than three teachers to observe and interview for almost a full academic year, often on the same day, I would have had to compromise on comprehensivity and depth, the hallmarks of good qualitative research.

In my initial design I proposed to employ *purposive sampling to* identify three articulate Grade 9 teachers in the Pretoria East district, particularly ones who were familiar with the traditional curriculum and the two versions of C2005. In the vein of reputation sampling, I intended to purposively seek out experienced teachers who were known among their peers as active, knowledgeable and forward looking with

respect to curriculum change. Ideally, these teachers were to be active, dynamic and expressive, affording me easy and intelligible access to their deepest thoughts and decision-making processes.

Unfortunately, I hit a brick wall. Teachers were not really queuing up to have their classroom practices and particularly their grasp of OBE scrutinised and exposed for all to see. Maybe it was a design flaw, maybe it was my timing (November 2002, January 2003), or maybe it was the way that I marketed the project to potential respondents – I am still wrestling with why I had such difficulty in getting access to teachers' classrooms. With the departmental letter of approval in hand, I knocked on the doors of countless schools, marketing the value of the research, its highly confidential nature and my sincere intentions, but had little success.

Since it was my aim to commence with fieldwork for this study right from the start of the new academic year in January 2003, I intensified the search for potential respondents towards the end of November 2002, after having received the Gauteng Provincial Department of Education's (GDE) letter of approval to do the research in schools under its jurisdiction. During this period, two teachers agreed to serve as respondents, but when I tried to finalise the details of the project with them, a few days before the schools closed for the December recess, they withdrew.

In many schools I did not even get past the principal's office (the secretary's office, in some cases) to speak to teachers personally, for they deftly and persuasively cited their teachers' struggles with the new curricular demands and a host of other administrative overloads. Numerous letters to different principals, requesting teacher participation, went unanswered. One principal unreservedly told me that he did not think that any principal in his immediate area would sanction this kind of intrusion into his school and into their 'poor' teachers' classrooms.

At the time, this protectionism reminded me of the institutional theory of "loose-coupling" (Elmore, 2000: 6), which purports that modern-day school leadership exists precisely for that reason, that is, to "buffer" the weak technical core of teaching from public scrutiny, instead of providing good instructional leadership. Apparently, this is done to protect teachers from outside intrusion into their highly uncertain work, and to

create the “logic of confidence” (p. 6) that all is well within their classrooms. Although this attitude seemed prevalent among principals in the Pretoria East area, I must admit that a few were extremely receptive and benevolent to my cause, and agreed that I could use their school as a base, provided that their Grade 9 Natural Science teachers were willing to participate. Unfortunately, not many of them were.

The overriding response from the Grade 9 educators themselves was something akin to “I’m not ready for this, sorry” or “I have too much on my plate, maybe next year!” Four teachers initially committed themselves to opening themselves and their classrooms for this inquiry, but withdrew a few weeks later. Two of them said that after due consideration of the full extent of their duties in this research, they would not be able to cope with this “extra work-load”, while the other one cited the fact that he wanted to apply for the vacant head of department (HOD) post at his school later on in the year, and felt that an investigation into his classroom practices might jeopardise his chances.

Having been a school science teacher for a number of years, I was familiar with the kind of classroom pressure that they had to face under ‘normal’ circumstances and could therefore understand this cowering away from the scholarly spotlight. In the light of the complexity of teacher change underlying C2005, and the well-documented struggles that teachers have with assimilating it into their practices, I could understand why they would perceive academic probing into what they do and why as suspicious and intimidating. What was disconcerting was that teachers did not seem to see any value or benefit in classroom curriculum research, either for themselves, or more broadly, for education in South Africa. Perhaps this lack of a research culture is a remnant of the autocratic curriculum decision-making processes of the apartheid educational system, and the passive, non-participant role teachers played in those days.

Perseverance finally paid off a few weeks after the supposed start of fieldwork, when I managed to secure three respondents. One was very willing, especially after discovering that we were from the same town and had been acquaintances as university students. The other two were initially somewhat reluctant, but with the right mix of cajoling and incentives finally relented.

In the end, I studied three Grade 9 Natural Science teachers in the Pretoria East district. By sheer co-incidence, these teachers were all males, and were teaching in schools that were, in the traditional terms, in predominantly 'white', and 'coloured' suburbs. I will formally introduce and contextualise two of the respondents in the respective case study narratives that follow in Chapters 5 and 6. Although I studied the understandings and decision-making of all three teachers, for the purposes of this thesis, I will henceforth confine myself to only two teacher cases. I purposely disregard the third case study, primarily because I came to realise that there were so many commonalities among the three participants that a third comprehensive case report would not have added significant value to my arguments. At this point I need to highlight that though my intention was to have a continuous and unbroken year-long engagement with each of the participants, this continuity only materialised for one of them. Thabo was doing his first year of part-time study for an MBA degree at Wits University, and asked to be excused during the second term. In an effort to compensate for this loss, I held retrospective interviews to determine what they had done, how they had done it and why.

Having identified the two teachers that were to form the backbone of this study, I proceeded with the data collection process. In the next section, I provide an account of the data collection strategies I employed for each of the two research questions.

4.3 DATA COLLECTION

How do secondary school teachers understand the critical differences between the traditional curriculum, C2005 and the NCS?

This question presumes that for successful implementation, it is important that teachers have some understanding and conceptualisation of how the traditional curriculum differs from the outcomes-based version. I accept that meaning making and clarity of understanding are not an instantaneous revelation, but change and develop over time as teachers engage in various aspects of the innovation. However, I assumed that at the end of the C2005 training workshops and the extensive reviewing and revising which followed, as well as the fact that they were in their second year of

C2005 implementation, they had some understanding of C2005 and the NCS. Data collection for this particular research question was not confined to a single incident at the beginning of the research process, but occurred iteratively and very often "serendipitously" (Patton, 2001: 436) throughout the period of engagement with the three respondents. The main instrument designed for this question was:

Semi-structured interviews

Two in-depth *semi-structured interviews* were held with each of the two Grade 9 Natural Science teachers from the two schools, each interview lasting about 90 minutes. The one interview was held at the beginning of the project, before I had even been to their classrooms, while the other was held at the end of the research process, as one of my last official contacts with them. The rationale behind this was to get a picture of how their understanding of the three curricula might have changed or developed over the 10-month period. These 'curriculum understanding' interviews were held after normal school hours, and at the request of the respondents, either at my home, or sometimes theirs. The teachers preferred the interviews to be held 'away from the classroom', and 'away from the school', as they found it more relaxing and conducive to open communication to be in a more homely environment. Moreover, due to the fact that these interviews were audio-recorded for later transcription and analysis, we had to be in a relatively quiet venue, with little or no distractions.

In both the 'curriculum understanding' interviews, I was particularly focused on the teachers' understanding of the critical differences between NATED 550, C2005 and the NCS's *planning, teaching* and *assessment* expectations and directives. A series of *open-ended questions* afforded me a great deal of flexibility to pursue and extend interesting responses. Some of the core questions revolved around the participants' *understanding* of curriculum in general, the strengths and weaknesses of each of the three South African curricula policies, its degree of prescriptiveness, and what they understood the expectations and directives of each to be regarding planning for lessons, content selection and sequencing, classroom organisation, teaching strategies, assessment protocols and so on.

Validation of the data generated through interviews was done by means of *member checking*. Firstly, the interview transcriptions were given back to the participants for them to check whether their responses were captured accurately, and to refine or rephrase, on the transcription sheet, anything that needed further clarification. Secondly, after I had completed my analysis of their understandings, I convened a meeting with each of the teachers, and discussed with them my inferences and findings. As they freely helped me refine, elaborate and, at times, discard some of my thoughts on what had transpired in the interviews, I managed to get a clearer portrait of their perceptions and understandings of the planning, teaching and assessment differences between NATED 550, C2005 and the NCS.

How do teachers make curricular decisions at the interface of the traditional curriculum, C2005 and the impending NCS?

My focus on why teachers in Third World contexts do what they do, necessitated an in-depth, multifaceted look at what Cohen and Ball (1990: 351) refer to as the "finer texture" of their practices. This "fine grain" refers to the particular topics they taught, the content, their pedagogy, classroom organisation, classroom discourse and interactions, as well as the origin of and the relations among all these. This meant that I needed to gain access 'into teachers' heads' to follow their thinking and pedagogical decision-making. I employed multiple methods of data collection, including questionnaires, interviews, observations and stimulated recall, as a way of enriching and triangulating the data. The process of refinement of the draft schedules for these instruments included intensive scrutiny and useful recommendations by my supervisor and a number of colleagues. Needless to say, the instruments were not fixed, for as the actual research unfolded, modifications and adaptations were effected when necessary.

Biographical questionnaire

As an introduction to the data collection process, each teacher was asked to complete a five-page questionnaire, which contained both closed and open-ended questions. The purpose of this instrument, which they returned to me after two days, was to ease the participants into the more intensive sessions to follow, and to get, in writing,

crucial biographical information on their teaching qualifications and experience, personal strengths, family contexts and their scholastic history. Moreover, based on the extensive literature that states that teachers' classroom practices are often a reflection of their personal and teaching identities (Kennedy, 2004), I wanted this study to be as holistic as possible.

Biographical interviews

Following the extensive scholarship on the powerful influence of teacher identity, beliefs, epistemology, life history, and pedagogical content knowledge on the classroom practices of teachers (Black & Halliwell, 2000; Spillane et al, 2002), I supplemented the biographical questionnaire with a two-hour, semi-structured biographical interview session with each teacher. In this more conversational approach, I could gain more nuanced responses into interesting issues emanating from the questionnaire. Additionally, I gleaned important information regarding their beliefs and understanding of the nature of teaching in general, the nature of science, Science teaching and how they saw themselves as teachers.

Classroom observation

Commencing in February 2003, I observed and video-recorded 30 lessons that each teacher gave to (or facilitated with) one particular Grade 9 Natural Science (NS) class. I restricted myself to observing the same class throughout the year to avoid the influence of inter-class differences on teacher decision-making and practice. The selection of the class to be observed was uncomplicated. Whereas I was under the impression that the participants would be more at ease if they nominated and worked with a class of their own choice, they were not really bothered about which class formed the context of the observation. Both teachers felt that I should do the selection of the Grade 9 class to be observed myself, and on the basis of my own lecturing responsibilities at university, I selected the classes to fit my timetable.

The purpose of these *non-participant observations* was threefold. Firstly, I wanted to capture various dimensions of their actual classroom practice so that, together with the respondents, we could establish how it relates to traditional curriculum, C2005

and the NCS. Secondly, I wanted to explore how the teachers' planning and decision-making before the actual lessons compared with what they subsequently and actually did in the classroom. Thirdly, I wanted to investigate the extent to which the respondents made interactive decisions while in the process of teaching. A *semi-structured observational schedule* was followed, in which I noted particular classroom interactions such as teacher talk, learner activity, the frequency and use of the learner support material (LSM), the frequency and use of other teaching aids, the teaching methods used and so forth. Needless to say, in having to handle the video camera at the same time, the observation schedule took a minor role during classroom observation, with much of it being completed during the post-lesson interview and video replay. During the classroom observations I made careful notations of what, in my opinion, were critical incidents of interactive decision-making by the teacher. These issues were later taken up with the teachers during the post-lesson-interviews.

Because my focus was on their classroom practices over four schools terms, I could see how my respondents dealt with curricular and instructional issues around all four strands of the Natural Science learning programme. This was a vital vantage point since Natural Science educators are expected to facilitate and integrate aspects from four traditional subjects, some of which they might not have any experience or qualification in. These included aspects of *Life and Living* (Biology), *Earth and Beyond* (Geography), *Matter and Material* (Chemistry), and *Energy and Change* (Physics).

I need to point out that although I had predetermined foci that I wanted to examine during the classroom observations, as well as in the subsequent interviews, a number of other dimensions which I had not catered for, but were fundamental to the decision-making of my respondents, were integrated in the schedules as the research process unfolded.

Pre-lesson and post-lesson interviews

Each lesson was preceded by a two-hour semi-structured pre-lesson interview, to delve into how and what teachers were planning, how the lesson was to be facilitated and why particular instructional decisions were made. Among others, they were

questioned on the rationale behind their content selection, planned teaching strategies, use of the LSM and how the particular section was taught in the past. The chief purpose of the pre-lesson interviews was to get a clearer picture of teachers' pre-active decision-making. The pre-lesson interviews were linked with post-lesson, semi-structured interviews, which yielded invaluable data on the teachers' interpretation and understanding of how the planned lesson had actually proceeded in the classroom. These interviews also gave insight into the interactive decisions he had to make and the 'frame factors' that shaped the actual lesson. These audio-recorded interviews took the form of informal conversations before and after actually looking at the video replay.

Stimulated recall

As a subsection to the post-lesson interviews, I stimulated the teachers' recollection of their interactive thinking and decision-making by replaying the videos of the lessons back to them. The purpose of this stimulated recall (Calderhead, 1981; Woods, 1996) was to allow teachers to provide a detailed account of their interactive practices and the causative decision-making processes, as well as the feelings and frame factors they experienced during the lesson. As we watched the video replays, I allowed the teacher to interject at any time that they felt that an interactive decision-making scene was playing out, or when they wanted to make any general comment on what they were seeing. Moreover, based on my classroom observation field notes, I too periodically interjected with questions on, what was in my view, decision-making incidents that needed further exploration.

Stimulated recall has been widely used in various forms during research on teacher thinking, but has always been criticised for the underlying assumption that teachers' cognitive processes are easily accessible and articulated (Day, Pope & Denicolo, 1990). Its critics point to the vulnerability of retrospective analysis of thought processes, citing the possibilities of distortions and the inclination of teachers to "post-hoc rationalization" of their actions (Lampert, 1986: 72). Indeed, my experience was that all three teachers did make themselves guilty of fairly easily discernable justification and rationalisation of their teaching practices. In their defence, this was something that occurred during the initial stages of the project. As time went on the

respondents acclimatised to the 'interrogation', opened up and began to bare their souls with greater ease – a classic manifestation of the inherent benefits of *prolonged field-work engagement* during qualitative research. And, as stated previously, in the limited cases where this happened, they were fairly easily discernable because of it conflicted with other sources of data, notably actual observed practice, field notes, consistency checks, document analysis and so on. Furthermore, I made all efforts to heed Hanke's (1990) advice that by allowing teachers to also select critical decision-making incidents, memory problems and retrospective rationalisations are significantly reduced.

Document analysis

In order to triangulate what teachers were saying about the way they planned, what they were actually doing with learners and how they assessed learners, I examined a number of related documents. These included their lesson plans, the learners' and teachers' support material, as well as the C2005 Natural Science policy document.

Teacher diaries

In seeking more depth and scope to the portrayal of why teachers do what they do in their classrooms, respondents were asked to keep a bi-weekly reflective journal. The purpose of this was to allow them an opportunity to record their thoughts, emotions, frustrations, and so forth while planning for or reflecting on lessons. They were also asked to crystallise how they feel about their classroom practices by creative *drawing, caricature or anecdote.* I had hoped to emulate Black and Halliwall's (2000: 105) successful use of such *alternative forms of representation,* for they cogently demonstrated that it provides an excellent forum for teacher reflection and that it illuminates how teachers make sense of their teaching by grasping and revealing dimensions not always easy to verbalise. Unfortunately, despite regular encouragements from my side, the three respondents did not (maybe could not) keep up with the requirements of this instrument as I had anticipated. Data from this source was therefore minimal.

Field notes

As I observed the lessons over 10-month period, I made field notes on a wide variety of issues relating to the participants' classroom practice and decision-making. Among others, critical decision-making incidents (in my opinion), my own thoughts and reflections on what I was observing, what surfaced during the interviews and, more generally, about the vicissitudes of qualitative research.

4.4 ATTENTION TO VALIDITY

In any qualitative research, due attention should be given to issues of validity, that is, that the full extent and meanings of the responses from the participants are grasped and documented (Cresswell and Miller, 2000). According to Gay and Airasian (2003: 213), two of the main threats of validity are "observer bias", that is, when data is skewed as a result of the dominance of the researcher's perspectives, and "observer effect", that is, when the data is deformed as a result of the impact the observer has on the respondents. Considering the fact that qualitative research fundamentally has a strong human element, I have to agree with their summation that in this research mode, one cannot completely eliminate bias, nor participant reactivity. What qualitative researchers have to do, and that has been my guiding purpose, is to have a number of mechanisms in place to "recognize, minimize, record and report them" (Gay and Airasian, 2003: 214) as comprehensively as possible. On the strength of recent scholarship on validity, (Silverman, 2001; Cohen et al, 2000; Bassey, 1999; Merriam, 1998) I strove towards the following validity checks,

- *Prolonged engagement* (10 months) and *persistent observation* in the research setting. This helped me to build a good rapport with the respondents, as well as with the observed Grade 9 classes, and reduced reflexivity considerably. It would also enable me to obtain a much more holistic picture of the contextual conditions that shape teachers' practices.

- *Thick, rich descriptions*, or detailed accounts, of the whole context in which the teachers operate, including the complexity and particularities of each of the teaching situations, the availability of resources, class size, the teacher's social interaction in the school, his/her home conditions as well as personal emotions at various junctures.

- *Member checking.* I made extensive use of the participants themselves to ensure that I had fully captured their understandings and meanings, and that I had delved into their decision-making processes and frame factors as fully as possible. In this regard, transcriptions of the interviews were given to them to verify their accuracy, and to make changes where necessary. In addition, I periodically went back to the respondents to clarify any uncertainties and to hear from them whether I had interpreted and documented their realities as they perceive them. Member checking was essential in that, as Hatch (2002: 198) reminds, it was important to negotiate their understandings and meanings with them and to engage them as 'co-constructors of the findings'.

- *Researcher reflexivity.* Throughout the research, I was aware of and made known to the respondents, my personal beliefs and biases with regard to Curriculum 2005 and implementation at the C2005/NCS interface. This self-disclosure is important in order to be as objective and impartial as possible when interpreting the data.

- *Triangulation.* The multi-pronged approach of this study, whereby pre- and post-lesson interviews were supplemented with extensive classroom observations, stimulated recall sessions, field notes and teacher diaries, ensured that I stayed clear of a narrow and one-dimensional account of the teachers' understanding, decision-making and classroom practice. It essentially allowed me to peer into this 'black box' from as many angles as possible, and thereby get as a full a picture as possible.

As a final validity check, I took heed of Patton's (2001: 440) exhortation that all qualitative researchers have "an obligation to monitor and report their own analytical

procedures and processes as fully and truthfully as possible". In this next section, I attempt meet this obligation.

4.5 DATA ANALYSIS

In making sense of the voluminous transcriptions generated by the scores of interviews, observations and field notes, I took an iterative, recursive and interactional approach (Hatch, 2002) This implies that my data collection and analysis were done concurrently, interactively and cyclically, right from the start of the research process, so that with each analytical incident, emerging themes took greater significance in the subsequent data collection effort (Gay and Airasian, 2003). Smit (2001) refers to such data analysis as an ongoing and emerging process. In an effort to facilitate the data management process, I made extensive use of the computer software programme, Atlas.ti. This computer program, invaluable as it is for text storage, coding, retrieval, comparing and linking, could not do the actual analysis and theory building. Consonant with Patton's (2001: 442) thinking, the latter was painstakingly born out of "intellectual discipline, analytical rigor, and a great deal of hard work".

In broadly organising the two comparative case studies, I found the following advice from Patton (2001: 449) very useful:

> Though a scholarly or evaluation project may consist of several cases and include cross-case comparisons, *the analyst's first and foremost responsibility consists of doing justice to each individual case. All else depends on that* (emphasis in original).

I first analysed the data from each case separately (within-case), coding, categorising and noting recurring regularities and patterns with regard to how each teacher understood the NATED 550/C2005/NCS interface, and how each one made curricular decisions. Based on an intensive content analysis of each case study, I then engaged in cross-case comparisons. In Chapters 5and 6, which follow hereafter, I provide comprehensive case study narratives for two respondent teachers, particularly with regard to how each relates to the central research questions. In Chapter 7, I present my findings with regard to the cross-case similarities and differences. In all, my aim with this within-case and cross-case analysis was "to build a general explanation that fits

each of the individual cases, even though the cases will vary in detail" (Yin, 1994: 112), and to "'develop more sophisticated descriptions and more powerful explanations" (Miles & Huberman, 1994: 172)

At another level I also made extensive use of *Guided Analysis* (Freeman & Richards, 1996), meaning that the a priori dimensions/categories of teachers' classroom practices (e.g. classroom organisation) and decision-making (e.g. the planning, frame-factors), with which I provisionally entered the fieldwork, served as preliminary and adaptable guides to the unfolding analysis. Freeman et al (1996: 372), in reference to guided categories, explain that "while springing from a priori categories that previous knowledge and experience might suggest about the topic, they respond to what the researcher finds in the data". This process was augmented by *constant comparison* (Silverman, 2000; McMillan & Schumacher, 1993), that is, the qualitative comparing and contrasting of different categories, and eventually patterns, both within and across the two cases. Such a cross-case analysis was essential in terms of deepening understanding and explanation (Miles & Huberman, 1994) of teacher decision-making at the interface of multiple curricula. This computer-aided activity was done in a cyclical and iterative manner, meaning that there were multiple phases in which I periodically returned to the texts to further refine the coding, categorisation and pattern-seeking, and to intensify the constant comparisons within and across the two case studies. It is on the basis of this labour-intensive, multiple-phase analytical process that I was able to come to the findings that form the core of the next three chapters.

4.6 Ethical Considerations

Due to the highly personal nature of the qualitative case study approach of this study, I made every effort to ensure that the rights, confidentiality and dignity of the respondents, as well as their colleagues, were protected. Towards this end, I was uncompromising in upholding the most fundamental ethical considerations, such as informed consent (renegotiated as the research unfolded), confidentiality, honesty and respect. Towards the end of the research process, both respondents consented that their real names could be used in the final text. However, after careful consideration of the comprehensive (and at times unflattering) reports of the teachers' practices and

the institutional cultures in which they operate, I decided to mask their identities through the use of pseudonyms. Finally, the findings and conclusions encapsulated in this thesis were thoroughly communicated to both respondents.

4.7 Summary

In this chapter, I demonstrated that the qualitative-interpretative research design, and more particularly, the comparative case study, fitted the purpose of my research into teachers' understanding of complex curriculum change, and the decision-making that frames their classroom practice. I illustrated how I constructed a 'chain-of-evidence,' drawing on and integrating multiple data collections strategies. Issues of validity and ethics were also addressed. In concluding this chapter, I gave a comprehensive description of the systematic and rigorous process of data analysis I followed, which entailed a multi-phased process of coding, categorisation, comparing, pattern seeking and interpretation.

This chapter then forms the pillars on which the following two case study narratives rest. In the next chapter, I discuss the main themes that emanated from the case study on Martin Stevens's understanding of the critical differences between the three South African curriculum strands, and his decision-making at the juncture of these strands.

CHAPTER 5

THE CASE OF MARTIN STEVENS

COMMITTED TO THE NEW, DOMINATED BY THE OLD

5.1 INTRODUCTION

This chapter represents the first of two teacher case studies with the objective of exploring teacher understanding and decision-making during complex curricular change. This case study report begins with a biographical description of the first teacher, Martin Stevens, as well as the institutional context in which his teaching unfolds (Section A). In Section B, I present the evidence generated by the multiple instruments deployed in this study to illuminate, firstly, his understanding of the critical differences between the traditional curriculum, C2005 and the NCS, and secondly, the curricular decision-making that he engages in and that frames his classroom practice. I then conclude with a synthesis that draws out the main themes that characterise Martin's understandings and decision-making with respect to the changing curriculum.

5.2 SECTION A: A BIOGRAPHICAL AND INSTITUTIONAL SKETCH

5.2.1 Finding a Grade 9 teacher

Traditional sampling methods applied to a 'random' number of willing subjects simply do not apply in volatile and politically charged contexts such as those found in Greenfield, a predominantly 'coloured' suburb in Pretoria, South Africa. As mentioned earlier, my initial strategy of first speaking to school principals in the hope that they would be able to secure the participation of their Grade 9 teachers had largely been unsuccessful. Therefore, when I first arrived at Greenfield High School, just as the school was closing, I asked a few learners to identify the Grade 9 science teachers. When they pointed to Mr Stevens, I promptly went over to him and introduced myself. As I spoke about my intended research, and my efforts to find

willing Grade 9 science teachers, to be observed and interviewed for an extended period of time, I detected an openness and excitement not seen in any of the teachers I had previously approached. As we stood there at the front gate, which I was subsequently to enter and exit on numerous occasions, he pledged his unreserved support of and willingness to participate in my study – it was almost as if he felt 'honoured' that I was showing interest in what he was doing. It was certainly encouraging to hear him remark that he would also be able to learn a great deal from having his classroom practice and his decision-making 'scrutinised', particularly with regard to C2005 and OBE implementation. I remember that as I thanked him and promised to return the next day for a more official and detailed outline of the research, I thought that he looked rather familiar.

The next day I returned to the school, and presented an outline of my intended research to the principal. She was initially reluctant, but when I informed her that I had taken the liberty of speaking to Mr Stevens, and that he was more than willing and excited about participating in the study, she took a slightly more positive stance. She noted that before I could commence with the classroom observations, my request would unfortunately have to be approved by the school governing body (SGB), which was to meet a full two weeks later. Despite strong intimations that I would ideally like to start with classroom observations sooner than that, she noted that in the light of recent unpleasant experiences with the school board and the nature of the politics of the school, it was too risky for her to grant approval without due consultation. I could understand this logic, but found it frustrating that this was the first and only school where the principal was insistent that the whole school board first had to first decide on whether they would allow me to do the research or not. Although I did not realise it at the time, this was my first bit of insightful evidence about the broader context and institutional culture in which Martin was teaching.

Needless to say, I made sure that an appropriately worded letter, together with all the supporting documents, were handed to the principal a few days before the scheduled meeting. When I had not heard from her a few days after the all-important meeting, I phoned the school and was told that the meeting did not take place because not enough parents had turned up. The principal then gave me permission to start with the

classroom observations, indicating that she would just inform the school board of my intentions when next they met.

In the interim, while we were waiting for the SGB meeting to take place, Martin and I commenced with the "after-hours" interviews in order to glean biographical data and insight into his understanding of the curriculum changes. It was at the very first interview, when Martin noted that he did his graduate studies at the University of the Western Cape (Cape Town), my alma mater, that I realised that we had indeed met a few years before as university students. In fact, we rediscovered that we were both born and schooled in Port Elizabeth, and regularly took the same bus back home to Cape Town for the university recesses. We fondly reminisced about how I had on one occasion, just after his father had bought him his first car, taken a lift back to Port Elizabeth with him. I am certain it was this connection and familiarity that further ignited Martin's enthusiasm for my research, and led to him to become the most consistently supportive respondent in this study.

5.2.2 Introducing Martin Stevens

Martin Stevens is a 39-year old teacher at Greenfield High School, one of two high schools in a predominantly 'coloured' suburb, known as Greenfield, in Pretoria, South Africa. I refer to him as the 'first respondent' and 'the main case study' because he was chronologically the first respondent to commit to the study, and also because he was the participant who was the most available and reliable for after-hours interviews and classroom observations throughout the year.

While at the University of the Western Cape, Martin completed a BSc (Ed) degree, a four-year science-oriented teaching qualification. He majored in Mathematics and Education, and did Chemistry and Physics up to second-year level. Towards the end of his matriculation year, he decided to become a teacher because he enjoyed working with children. Owing to the fact that science was his favourite subject at school, he specialised in science teaching, believing that he could make science interesting for learners. He admits, however, that the general ill-discipline and disinterest of learners, coupled with the non-involvement of parents, has over the last few years taken its toll on his levels of enthusiasm.

At the commencement of this research (2003), Martin was in his third year of teaching at Greenfield High, and was responsible for teaching Natural Science to three Grade 9 classes, and Physical Science to three Grade 10 classes. Although his home language is Afrikaans, most of his teaching has been in English-medium classes. In fact, he now feels more confident in and prefers teaching English-medium groups. He started off at the Greenfield High on a temporary basis, but was appointed as a permanent teacher during 2002, his second year at the school. In the uncertainty and anxiety that characterised the education department's policies of redeployment and rationalisation, this permanent appointment was a great relief to him. This is understandable given that prior to this appointment he had worked for a full year as a security guard (12-hour day and night shifts) for a Pretoria company, just to make ends meet. Before relocating to Gauteng, Martin taught in Cape Town for ten years; he taught General Science, Mathematics and Physics from Grade 8 to 10 at Bellville South Secondary School and Guguletu Comprehensive School.

Martin indicated that he had always favoured Physics, as he found it the most fascinating and challenging strand of science, and that he always found doing the relevant 'practicals' with learners very interesting. He had never taught Biology and Geography which, in line with the C2005 policy directives on the Grade 9 Natural Science learning programme, he is required to deal with in two of the four strands, namely *Life and Living*, and *Earth and Beyond*. At the first interview he stressed that he knew 'nothing' about Biology, and that he had been open about this to his colleagues, and particularly his Head of Department (HOD). He referred to this deficiency on a number of occasions throughout the year, as well as at a district meeting (where there were scores of teachers), where he publicly confessed to this lack of background knowledge and experience in Biology; Martin recalls how the district coordinator advised him that he should enrol for special further development courses in the areas in which he felt underprepared.

I soon learned that Martin is very open and honest about his own abilities, and thinks nothing of pointing out his pedagogic shortcomings, nor of asking for advice on how to improve his practice. After classroom observation sessions, Martin would invariably ask me what I thought of the lesson, and how I thought he could improve it.

For me, this is characteristic of two fundamental features of his teaching identity. Firstly, he is a hardworking and ambitious educator who is committed to finding better ways of teaching and learning. His mantra is *'when I enter the school gates, I tell myself I am here to work, not to impress anybody – for this is my calling.'* He attributes this single-minded focus, and his work ethic, to observations of his father, a bricklayer by trade, who would even in the worst of weather conditions go out in the morning to ply his trade.

Secondly, he fully identified with the principles of outcomes-based education (OBE), and seemed eager to learn as much as possible about it, and to translate such learning into his classroom practice. He was very vocal about the value and benefit of OBE, convinced that it could work in his school. He also seemed to utilise every opportunity to learn more about it. For example, he completed a one-year OBE course at the University of South Africa (UNISA) the previous year. Funded by the provincial department of education in Gauteng (GDE), this particular course was free of charge for all educators in Gauteng Province, and focused on, among other things, the differences between the traditional curriculum and C2005, the design of learning programmes and the development of teacher portfolios. Although over two-thousand teachers attended and completed the course, Martin was one of only three teachers at Greenfield High. He spoke highly of the value of the course, particularly that enabled him to be *"well-armed"* for C2005/OBE implementation..

Furthermore, halfway through our research project, Martin enrolled for another two-year OBE-oriented further development course at UNISA. When he excitedly showed me the relevant documents, I pointed out to him that he was in fact overqualified for the course, specifically designed for non-degree teachers (with three-year teacher's diploma) who wanted to improve their Natural Science competence in the OBE mould. My veiled suggestions that he should rather enrol for an honours course fell on deaf ears – he wanted to get to grips with the current thinking on teaching Science in an outcomes-based framework.

5.2.3 A portrait of Greenfield High School

Greenfield is a relatively small suburb on the western outskirts of Pretoria, the administrative capital of South Africa. It is, in traditional terms, the 'coloured' township of the city, but African learners from the adjacent Siklova township constitute close to 40 percent of the high school population. As in other black townships, the coloured community of Greenfield was severely brutalised by the debilitating policies of apartheid. Nine years after the first democratic election, a substantial section of this suburb, and particularly the immediate primary school feeding area of Greenfield High, still bears the stains of this apartheid scourge, most notably in the form of high levels of unemployment.

Greenfield High School first opened its doors to 522 learners and 23 teachers in July 1989. Since then it has grown to a staff complement of 38 teachers, with the learner population standing at 1230 (Grades 8 to 12). The majority of the learners have English either as their second (mostly coloured learners) or third home (mostly African learners) language, which means that almost 70 percent of the class groups are taught through Afrikaans-medium. The staff is predominantly coloured, with 1 African male teacher and two white female teachers.

When I first entered the school premises, it was apparent that the school building was in desperate need of general maintenance and repair, with flaking paint, rusted or worn gutters, and graffiti abounding in and around the 65 classrooms. Towards the end of the year a mammoth effort was put into renovating the schools, and it now looks much better. The administration block, as well as the front five rows of classrooms, known as the A and B blocks, are fairly solid prefabricated units, while the one furthest from the entrance gate, the so-called C block, consists of a 20-classroom, double storey, face-brick building. Although a more recent addition, the latter had also fallen prey to vandals, with a number of windows broken, blackboards hanging loosely from their hinges, and door locks removed. The school has five laboratories, although, as I observed, these are not well-equipped and much of the apparatuses, such as the Van der Graaf generator, is not functioning. I also got the idea that some of the chemicals in the laboratories were past their sell-by-date when a practical demonstration failed because the acid Martin was using turned out to have lost its acidity. On enquiring why, in the post-apartheid climate, a previously disadvantaged school still does not have basic Science equipment, he indicated that

the education department, erroneously taking its cue from the fact that under apartheid the benefits of coloured schools exceeded that of African schools, categorised Greenfield High as "well-resourced" and summarily and substantially cut its allocated budget. In his words:

> *… we are classified as a Section 21 school, which essentially means that our subsidies have been severely cut, and that we have to find alternative ways of sustaining ourselves. Everything is now channelled to the so-called black schools.*

These cuts were exacerbated by the fact that, consistent with its low socio-economic situation, many of the parents were unemployed, or earned relatively little, and could therefore not meet the R400 annual school fee. This sounded all too familiar to me, for I too had taught at a coloured school in a very low socio-economic area in Port Elizabeth, and had witnessed the irrationality and debilitation of this directive.

By all accounts Greenfield High had over the years been the pride of the community, consistently producing excellent matriculation results, and maintaining a vibrant extramural and community involvement. As documented in a 1998 school brochure, a considerable number of its graduates went on to become medical doctors, advocates and accountants. However, teachers generally referred to this glamorous period as "the good old days", as they referred to the tell-tale, glaring signs that the previous five years had seen a steady decline and weakening in the institutional culture, and in the morale and performance of both learners and teachers.

It was apparent that many learners at Greenfield High have a *laissez-faire,* unconcerned attitude towards their school work. The school seemed to be plagued by high absenteeism, bunking and senseless loitering by learners. On any given day, at least five learners would be absent without permission from Martin's class, while a few more would casually stroll into the class a few minutes after he had already started with a lesson. Without fail, on my way to school for classroom visits, green uniformed learners (both boys and girls) would be jumping over the fence, or nonchalantly walking either to (arriving late) or away from (bunking) the school. What added to the problem was the fact that it seemed that a number of teachers (Martin, definitely) had given up on trying to stem the tide. Martin, for example,

argues that “you can do nothing to these learners” as there are no disciplinary and rehabilitation codes of conduct in place at the school. Both class leaders and the teachers do keep daily registers of learners that bunk, but the will and the mechanisms needed to follow up and discipline them appear to be absent. At another level, learner ill-discipline is aggravated by the ill-discipline of a few teachers, particularly those in the so-called “low block”, where teachers are “a law unto themselves”. In fact, one could argue that there are actually two distinct schools within Greenfield High, with completely antithetical cultures of teaching and learning. On a number of my visits to the school, I observed that certain teachers were not in the classes during teaching periods, a tremendous amount of learner noise, and a high degree of aimless loitering of learners in the “low block”. As the year progressed I slowly came to understand Martin’s predicament and his complaint that whenever learners come from that particular section of the school for his class, it was a struggle to get them to settle down.

5.2.4 Martin’s classroom context

Martin’s classroom is situated in the first row of classrooms as you enter the front entrance gate of the school. It is not one of the three school laboratories, where learners sat or did experiments around a number of the traditionally long “lab” desks. These laboratories are apparently reserved for those teachers responsible for the senior secondary Science classes, that is, Grades 11 and 12. Instead, his classroom is a standard 5 x 6 metres, with a green 4 metre blackboard occupying almost the entire the front wall. On either side of this blackboard is a wooden cupboard that he primarily uses to store learners’ portfolio files, duplicated activity sheets and other documents. A single, fixed and elongated demonstration table in the front of the class, the only hint that it is a Science classroom, has a water tap with sink, but both were not in working order for the entire year of this research. The bulk of the floor space is taken up by 20 loose wooden tables, with about 40 bright-orange plastic chairs loosely arranged either around a set of tables (for groupwork) or in pairs at a single table (facing the front).

Although there are ample windows, with almost the entire western wall consisting of ‘opening’ windows, one had the feeling that the room was not well ventilated. I think

it could be the prefabricated construction, but during the winter days it is very, very cold in Martin's classroom, while on warmer summer days it is invariably very humid and hot. Martin usually does his classroom administration, such as speaking to learners, roll call and marking, at a standard teacher's desk, which is a little bigger than the learners' desks, and which he locates in the front of the class, about a metre away from the demonstration table. On the back wall of the classroom is a large periodic table, while the eastern wall has a number of colourful Science-related charts, as well as a few interesting examples of learner assignments. No chemicals or scientific equipment is kept in this classroom, and whenever Martin needs to use them for experiments or practical demonstrations, he fetches them from, and of course returns them to, the Biology laboratory, which is about two classrooms away from his.

Martin is responsible for three Grade 9 Natural Science (NS) classes, and three Grade 10 Physical Science classes. The teaching periods are on average about 45 minutes long, and on most days he teaches single-period classes. Within the school's 7-day timetable cycle, Martin had three 'free' or administrative periods. He felt that this lack of preparation time severely hampered effective planning and administration. As indicated earlier, Martin gave me a free hand in selecting a particular Grade 9 class to form the basis of my classroom observations. With the only deciding factors being that the class should ideally be taught in the English medium, and that their NS periods were to fall in time slots that aligned well with my own timetable,[1] I settled on the Grade 9 B class.

There were 39 learners in this 9B class (20 girls and 19 boys), with all but two of them having been in Grade 8 the previous year. Furthermore, the class consisted of 25 coloured and 14 African learners. I make mention of this simply because Martin often referred to the language barrier and differences in this class in terms of the ethnic

[1] While doing the fieldwork in 2003, I had a reduced teaching load at the University of Pretoria, South Africa, where I was a lecturer in Science education. I had to arrange my school visits and classroom observations around my schedule there.

composition, essentially suggesting that many of the African learners in the class had difficulty understanding and responding in English.

Hitherto I have given a comprehensive introduction to the Martin Stevens case study by providing a detailed biographical narrative, and by describing the institutional context in which he is operating. On the strength of this introduction, I now discuss the main findings of the two research questions.

5.3 SECTION B: RESEARCH FINDINGS

5.3.1 How does Martin Stevens understand the critical differences between the traditional curriculum (NATED 550), the new outcomes-based curriculum (C2005) and the revised C2005 (NCS)?

As indicated in Chapter 3 (Research design and methods), data for this question was primarily derived from, though not restricted to, the semi-structured 'curriculum understanding' interviews I had with Martin at the start and end of the project. On the strength of extensive scholarship that 'teacher understanding' is not fixed and static, but changes over time and space, the findings were therefore informed by all the semi-structured interviews, stimulated recall sessions and casual conversations we had throughout the year. In presenting the evidence, I draw on my investigations into his understanding and perceptions of the origins of the traditional (NATED 550), new (C2005) and the revised (NCS) curricula. Moreover, I expand on his understanding of their level of prescriptiveness, design features, aims and objectives, content sequencing and selection, strengths and weaknesses, and the various directives of each on lesson planning, teaching strategies and assessment.

It is important at this juncture to point out that when I refer to NATED 550 as the old or traditional curriculum, it is in terms of it having been phased out in Grade 1 to 9, and replaced with the new outcomes-based C2005. However, it is equally important to remember that for Grades 10, 11 and 12, NATED 550 was effectively still in force during the research period. Martin, like so many Grade 9 teachers across the country, was in the unenviable position where he was expected to operate in C2005/OBE vein with his Grade 9 classes, and then switch into NATED 550 mode for his Grade 10

Physical Science classes. As I will show later, this Janus-faced nature of his daily teaching routine had a determinant influence on his sense-making and decision-making experiences.

Curriculum

I firstly wanted to get a sense of Martin's views on what is meant by the curriculum of the school, and how authoritative he thinks it should be for teachers. This was an important inquiry since I worked on the assumption that the way in which a teacher relates to and interprets curriculum policy, depends to a large extent on his understanding and conceptualisation of 'curriculum'. Martin initially responded that he was not sure what is meant by the curriculum of the school, stating that he would first like to read up on it. I assured him that I was not looking for 'correct' textbook answers on the interview questions, and that I was more interested in the way he perceived or understood the issues raised. I rephrased and simplified the question to: *What if someone asked you what the curriculum of your school is?* At this stage he replied he was of the opinion that the curriculum of the school refers to the subjects and subject choices that learners within that school have available, as well as the content that they need to be taught. This traditional view of 'curriculum' as the subjects and content that are taught by teachers was evident throughout the research period. He also added that as with the current C2005, the curriculum of the school should not be prescriptive and authoritative for teachers.

Critical Differences between NATED 550, C2005 and the NCS.

Much of my arguments in the earlier theoretical chapters are premised on the proposition that the revised NCS, despite not yet being official policy, might impact teachers' decision-making and classroom practice. In the light of the commotion that characterised the implementation and resultant streamlining of C2005, and the almost unanimous call from teachers for a simplification of the new curriculum, I was under the impression (illusion) that most teachers would have a fairly substantial idea of the frailties of C2005, the reasons for its reconstruction, and the most important changes contained in the refined NCS. However, right at the start of my communications with Martin, it was apparent that despite his interest in, allegiance to, and studying of the

curriculum changes in South Africa, he was not at all familiar with the finer details of the NCS. Considering that the first draft of the NCS had been issued six months prior to my contact with him, and had been extensively outlined in the local newspapers, I found this lack of knowledge rather surprising. I provide a more detailed explanation of this phenomenon in Chapter 7. At this point it will suffice to insert his comment on the following question, which was really a response from my side to his unfamiliarity with the NCS.

Interviewer	*:*	*So that would also mean that you are not using any part of the NCS?*
Martin	*:*	*I might be, that I'm not aware of.*

As the year progressed, Martin's understanding of the NCS improved slightly, if only in terms of the broad macro-features, such as that the number of assessment criteria had been reduced to three and that the more complex design elements of C2005 had been dropped. Martin later acknowledged that his participation in this research, and particularly his inability to answer the relevant 'curriculum understanding' questions at the beginning, had energised him into getting a copy of the NCS and reading through it. However, he maintained that this had no conscious bearing on his classroom practice and decision-making.

In the light of this acknowledged detachment from the NCS, I limit the rest of this discussion to his understanding of the critical differences between NATED 550 and C2005, particularly in terms of general perceptions, the design features of each and his understanding of how they differ along three curricular dimensions – planning, teaching and assessment.

(i) General perceptions of NATED 550 and C2005

Martin's experiences and general perceptions of the traditional curriculum is vividly captured by his very first utterance that, "…in a nutshell it was a nightmare, because we were sort of treated as robots". In qualifying his negativity, he enumerated a number of weaknesses, with a central theme that NATED 550 was overly authoritarian and prescriptive for teachers and that in translating it to learners "they

would imprint knowledge in you, and you were expected to reproduce it without basically thinking or evaluating it".

I was curious to know whether the enumerated limitations were inherent in the NATED 550 policy documentation or departmental enunciations, or whether the problem was with the teachers who interpreted and practised it in such a narrow and somewhat skewed way. Martin energetically replied that NATED 550 was a product of the apartheid regime which encouraged such an authoritarian, subjugating mentality. In Martin's mind there was a powerful relationship and connection between the traditional curriculum and the apartheid government. He was adamant that the curriculum changes in South Africa were absolutely crucial in order to break away from the restrictive 'Fundamental Pedagogic'[2] orientation that was the hallmark of teacher education and school practice in those days. He made no secret of his belief that the shift to OBE and C2005 was as a result of the desperate post-apartheid need for 'transformation' of a system that produced myopic citizens who did not mean much for society.

At one point, in a sudden surge of activist passion, he made his allegiance to the demise of NATED 550 known in the following way.

> *I was at UWC. We threw rocks to get our freedom. OBE was instituted because we wanted to break away from the former apartheid educational system. We had to design a system that moves away from teaching students in a way where they mean nothing to society. But that is the reason why so many people criticise OBE, its mainly people that still want to cling to the previous system, that it was right.*

It was clear that the fact that Martin associated NATED 550 with the apartheid system, and his belief that OBE was an apposite transformational response to it created significant tensions and conflicts in his mind and in his sense-making. In the initial few interviews, he was inordinately careful to stay faithful in his comments on the 'evils' of the old curriculum, ensuring that he extolled the 'virtues' of the new

[2] The notion of 'Fundamental Pedagogics' which drove the apartheid curriculum, reduced teaching and learning in South African classrooms to an authoritarian, teacher-centred transmission exercise. In this culture, learners were taught to accept uncritically and unquestioningly the teachings of the teacher, and to regurgitate these in high-stakes examinations

curriculum. For example, in response to my inquiry into the strengths or positive dimensions of NATED 550, Martin hesitated before answering, "I'd have to rack my brain, if there were, I'd have to think hard, they were probably a few". Although he did not expand on the 'few' positives during the 'curriculum interview,' it transpired during subsequent pre-and post-lesson interviews that t he was referring to and felt positive towards the traditional curriculum's emphasis on content.

As can be inferred, Martin was, on the one hand, very positive and enthusiastic about the possibilities of the underlying OBE principles, citing its emphasis on learner-centredness, the greater flexibility and the holistic approach to preparing meaningful citizens. On the other hand, although he was similarly positive about the South African construction of OBE, namely C2005, he admitted that a number of practical realities militated against its successful and widespread implementation. These included extraneous variables such as a lack of resources and large class sizes, as well as intrinsic policy-specific factors such as its complexity, lack of training and support, and the haste with which it was introduced into schools.

Recent literature (Taylor and Vinjevold, 1999) documents the inability of many South African teachers to distinguish between OBE and C2005, and the fact that many saw the two as synonymous. However, Martin was very clear in his mind and in his articulation that OBE was the underlying learner-centred teaching and learning philosophy, while C2005 is the South African curriculum framework that is built around the principles of OBE. As he himself admitted, his insight into the fundamentals of OBE, C2005, and NATED 550, as well as the critical differences between them, was not really a result of the few training workshops that the GDE had proffered. Instead, his understanding was deepened by the GDE funded OBE/C2005 course that he attended and completed at UNISA the previous year.

(ii) Design features of NATED 550 and C2005

Martin was unable to comment substantively on the broad technical design features of NATED 550, such as its aims, goals and objectives, policy instruments, assessment directives, as well as issues of progression, sequencing and integration of content. It appeared that although he had been teaching in line with NATED 550 policy for more

than ten years, he had either forgotten, or had not given much thought to its particular design features, that is, how the different components and dimensions fit together. All I could glean from him was that he knew that there were aims and objectives to be pursued by teachers, that subject syllabi formed the actual NATED 550 documents that teachers worked from, and that it was very comprehensive and prescriptive as to what to teach, and what skills and attitudes to engender in learners.

On the other hand, Martin was much more voluble on the design features of C2005. He demonstrated understanding of most of its structural and constituent elements by explaining eloquently the conceptual shift from subjects to learning areas (LA), the overarching role of the seven generic critical outcomes, how each LA has its own set of specific outcomes (NS having 66 SOs), and how, instead of the prescriptive syllabi of the previous system, teachers were now required to design their own contextualised learning programmes. He confidently showed that in designing these learning programmes, teachers were supposed to identify a phase organiser (e.g. Environment), a programme organiser (e.g. Life and Living), a theme (e.g Aids), the specific outcomes to be pursued, the classroom outcomes, a set of learner and teacher activities, and the relevant assessment criteria. While Martin indicated that within this design the teacher also had to give serious consideration to another two structural elements, namely range statements and performance indicators, he could not really explain what these were, how they related to each other, and where exactly they fitted into the overall construction of the learning programme.

Martin was extremely well versed in the broad design features of C2005, no doubt a result of his allegiance and interest in the underlying outcomes-based pedagogy, and his recent completion of the one-year C2005/OBE course at UNISA. Nevertheless, I did notice that he had difficulty in verbalising the detailed specifics, struggling to identify more than three critical outcomes and two Natural Science specific outcomes. It later became apparent that he felt no need to commit the substantial design information to memory as he had all the C2005 policy documents in which the specifics are neatly, though not simply, outlined.

With this portrayal of Martin's understanding of the architecture of NATED 550 and C2005 in mind, I now turn to his perceptions of how planning, teaching and assessment under these two curricula compare.

(iii) Critical differences between NATED 550 and C2005

Planning

Martin's expressed his understanding and experience of planning under NATED 550 and C2005 in the following way:

> *In the past we did not really consider the learner. It was basically an introduction, middle part or content, and a conclusion, that was it. That was the lesson. Now we talk about programme organisers, SOs, classroom outcomes, etc. geared at the learner. We used to write it out on a weekly basis. On a Monday we would hand in our planning books, and the principal would sign it. But if you look at reality… you know after a while I stopped doing it, because it never used to work out. In those days learners were unpredictable, with the political climate the way it was, learners would on a day just burn tyres etc. and your whole plan would be thrown out the window. But now, fortunately, we have a lesson programme, and time is more flexible. It makes it better.*

When asked to clarify the above statement and to elaborate on the planning directives of NATED 550, it became apparent that he thought that there were no definite and uniform prescriptions of how teachers in South Africa were to plan their lessons. However, in line with his own teacher training, and the expectations of the previous schools that he had taught at, planning was essentially done on a daily basis, written out in a preparation book, and framed around four planning elements, namely the objectives of the lesson, the introduction, content and conclusion. The two instruments that formed the basis of his planning and practice were the syllabus and the prescribed Science textbook that learners in the school were working from. With regard to the defining role of the syllabus, which gave a comprehensive account of the objectives and content to be covered, Martin answered:

> *Yes, the HOD expected you to have those syllabi in your files, and tick off when you finished with a chapter. He could walk into your class any time and check up on you, even the principal.*

With regards to the specific planning directives of C2005, Martin spoke along the lines of its design features discussed earlier. He believes that according to C2005 policy commands as well as GDE workshop training, teachers are expected to plan their own flexible learning programmes, based on the needs and interests of his learners, and that these learning programmes then formed the core of their lesson preparation. In this context, teachers are supposed to identify the phase organiser, programme organiser, theme, classroom outcomes, learner and teacher activities, assessment criteria, range statements and performance indicators. He added that the GDE did provide teachers with planning sheets on which the essential elements of the learning programme were to be recorded.

Asked about his perceptions of the various design features of OBE, Martin noted:

> *In reality, those are all well set on paper, but for us in reality it is actually very difficult – it gives a great deal of paperwork, and many of those forms you have to complete for each learner. We are sitting with plus minus 40 learners, and to reflect on each and every one in that way, I can say it is almost impossible.*

As can be inferred from this statement, Martin's approach to planning for his NS lessons differed quite remarkably from the above-mentioned C2005 and GDE expectations. I present evidence to this effect a little later under the section which describes his curricular decision-making.

Teaching

Martin expressed himself very strongly on how C2005 and NATED 550 compare with regard to actual teaching variables such as content selection and sequencing, classroom interaction patterns, learner and teacher activities, selection and use of textbooks or learning support material, and classroom organisation. In sum, five main themes of comparisons emerged. He understood and verbalised these five themes as follows:

- NATED 550 encouraged a transmission, expository kind of teaching, where learners just had to accept what the teacher was telling them, and discouraged "two-way communication and questioning by learners". On the other hand, he spoke highly of the emphasis of OBE and C2005 on the "teacher as facilitator", where learners are allowed opportunities and activities to construct their own knowledge. This insight was well articulated when he gave the following animated response to a question on how he saw his role as teacher:

> *No, No, No. You're not teaching, you are not teaching. Remember you're a facilitator. You give them a task and you go around in groups. The reason why is that should they need you, you first have to assess whether they actually really need you. This thing about you being a teacher is not applicable any more. Those learners must accept responsibility for their own work. You must actually tell them that even if they go out into the world outside, for me to earn money, I have to take responsibility for my job. If I connect the machine wrong way around in a factory, the whole place blow up, he's responsible. So now he should start taking responsibility. So the emphasis is more on the learner than you* as *a teacher. That's why they call you a facilitator.*

- Under NATED 550, teachers placed a heavy emphasis on the inculcation of content knowledge, with the expectation that this should be regurgitated in examinations. He noted that this occurred in spite of the fact that the policy documents also referred to the development of appropriate Science skills, values and attitudes. A classic example of his conception that the traditional curriculum is more content loaded than C2005 surfaced when he spoke about a few learners who were performing exceptionally well in his class,

> *Those are the ones who will obviously proceed and go on to Grade 10, where we will deal with NATED 550, where the method of teaching will be very much different than the OBE approach. It will be more content based. And it is then that they can really now enjoy themselves.*

Martin contrasted this with the C2005 policy signals that teachers should diminish their focus on content, and pay more attention and time to the development of the skills, values and attitudes outlined in the critical and specific outcomes.

Additionally, Martin phrased his understanding that C2005/OBE advocates a greater relevance and locality in the kind of learning content or experiences learners are expected to deal with in the following way :

> *Clearly now it shows that OBE is there to help learners to get more familiar with everyday life. Now we are talking here about car lights, we are talking about street lights. So, that is actually things that they get involved with every day. Now really, I think the emphasis of OBE is to teach things to learners that are relevant, whereas in the past we were taught things that we didn't really need, and which were quite irrelevant … now things should be done that are quite relevant and they can become interested in whatever we decide to do in the class room. And this clearly demonstrates that everyday experiences play a very big role in their lives. So if we include everyday experiences in any topic in the future, we can improve very much on the implementation of OBE.*

- Teaching under NATED 550 was generally textbook oriented. On his own practice, he confessed, "*I used the textbook a lot, followed it chapter by chapter'*. Martin then praised the C2005 and OBE inspiration that teachers should move away from the dependency on one textbook, and that they should ideally draw from all possible and relevant sources to design appropriate lesson and learning programmes. In this regard, with the following comment Martin makes it patently clear that he recognises a fundamental shift in the way teachers and learners employ textbooks in the new curriculum era:

> *Well, if I have to compare the two system.… It was more sort of knowledge orientated, syllabus orientated. You know, where a learner was provided with a textbook, and told this is what you have to do inside the textbook and the learners didn't get the idea that there is a scope beyond this particular textbook. My knowledge is not limited to this textbook; this is not my bible. The textbook, it gives actually a wrong message to learners that this is the only source that you can get your information from. Instead of letting them go and do research to make them aware that there are other sources of information.*

- Classroom teaching under the content-heavy NATED 550 was characterised by a tense atmosphere, where "'*learners were not as relaxed as today, to ask the teacher questions"*. What added to this autocratic mentality was the fact that many teachers depended on and extensively used corporal punishment to ensure that learners stayed on course. In his own words, learners were effectively "*forced to study"*. On the other hand, when teachers genuinely operate in the spirit of C2005, "*power- sharing"* with learners, it stimulates a much more casual classroom atmosphere, which is more conducive to effective teaching and learning.

- Under NATED 550, teaching was typically a persistent race against time, and this he attributes to the fact that the prescriptive syllabi were loaded with content, and that learners had to be sufficiently prepared for the high-stakes examinations. In this regard, Martin ventured:

> *… time hampered good teaching. Because you were told that, look, those chapters have to be completed by such and such a time, for learners to be tested on it.*

On the other hand he expressed strong views that, with C2005, teachers are not so pressed for time, and its non-prescriptiveness, continuous assessment, and emphasis on the unique needs of learners 'theoretically' affords teachers greater flexibility in time management. In one of the post-lesson interviews, in response to a question on whether the particular group work activity that he had used in the observed lesson was not too time-consuming, Martin explained:

> *In a way yes, but then again I must disagree with you because in OBE we are not bound by time. We shouldn't tell ourselves that this should be finished within this period of time – what we are looking at is that we are looking at the outcomes. If the learners achieve the outcomes, that is what we should look at, and set aside a time frame.*

- Under NATED 550, the dominance of the transmission style of teaching meant learners invariably sat quietly at their desks, and passively faced forward to imbibe what the teacher said. There was little, if any, attention given to the use of group work or co-operative learning. On the other hand, in response to a question on how classroom organisation patterns differ under C2005, Martin revealed:

> *Very much different. Now it is less formal. Learners are now seated facing each other. The mere idea here is that when it comes to discussion they will then face each other. Since I'm teaching Science, and there's a lack of equipment, it is sometimes necessary for learners to work in groups, cause there's not enough apparatus for each one or even pairs to work. That's another reason why. But it is much less formal.*

When I probed a little more and asked whether C2005 meant group work, Martin replied:

> *Not necessarily. But .. the essential idea of group work is for learners to exchange ideas when needs be.*

It was apparent that Martin saw marked differences between the teaching demands of NATED 550 and C2005, and that these included new patterns of classroom interaction, an instructional reorientation of the teacher to that of a facilitator, different and variegated teaching strategies and a diminished concern with time. The last curricular dimension that I probed, and to which I now turn, is that of the critical difference between the *assessment* design, strategies and application of NATED 550 and C2005

Assessment

When asked about his understanding of 'assessment' under NATED 550, Martin quickly pointed out that,

> *I don't think you can use the word assessment for the old curriculum. In the old days we had evaluations – class tests and exams. Only now assessment is taking place, a continuous process and that is essentially what OBE is all about.*

It was clear that he problematised the determinant role played and the high-stakes position held previously by examinations. Furthermore, in citing his own practice, where sporadic class tests and practical tests were the only evaluation precursors to the high-stakes examination, he complained about the lack of continuous, diagnostic assessment throughout the academic year. On the other hand, Martin summarised the essential principles of assessment under C2005/OBE as follows:

> *Assessment should be done on a continuous basis. Transparent, as well. And also, before you even start a lesson, or lesson programme, you should tell learners. They must be informed … listen, this is what is going to be assessed. So it must be transparent. They should know where he or she will be penalised.*

He regularly noted that under the new curriculum dispensation, teachers did not only base their assessment on simple recall in written tests or examinations, but considered a much broader array of assessment criteria. On one such occasion he said:

> *If we can once again compare the two. Learners were not told, … I do not think they were told. Teachers were just… You know, they write a test and it is marked solely by that teacher. And marks are then given. But now, in practical work, we look at your participation in that group, we look at whether you can take readings, and so on. Neatness as well, is another aspect that we also look at.*

Martin also spoke freely about the C2005 expectation for teachers to use an array of both formative (practicals, group-work activities, tests, class discussions) and summative (tests, examinations) assessment strategies. In this regard, the GDE stipulates that each NS learner should build up a portfolio of 20 assessed items, which include assignments, research projects and translation tasks, as well as a control test and examination completed during the year. This formed a continuous assessment mark which translated into 75% of the learner's end-of-year mark. The other 25% came from an external examination referred to as the CTA (common task assessment). Martin explained the CTA as follows:

The CTA last year comprised of two sections. Section A and B. Section A was work which students had to do over a fixed period of time. It's some sort of external exam, if I can put it that way. So it is work that they had to do in class, and also at home. They get marks for that through the teacher. And then section B was a two-hour paper, like a formal exam. Also set up by GDE.

Synthesis

I have thus far given voice to Martin Stevens's understanding of the critical differences between the three curricula, which currently form the backdrop of educational change in South Africa. I have shown Martin's lack of knowledge and understanding of the NCS, and noted that there is a legitimate reason why, despite the significance of the revised NCS, he was still not familiar with even the broad design features.

I have also shown that Martin associated NATED 550 with the evils of apartheid, and C2005 as a crucial and indispensable hallmark of post-apartheid curriculum reconstruction. He was committed to the ideals of C2005 and its underlying OBE tenets, and believed that it was a necessary vehicle for bringing about transformation in the new South Africa. Nevertheless, he was torn between his loyalty to the new curriculum that "*we fought for*", and its complexity and disconnection with practical classroom realities.

In this elucidation of his understanding at the interface of curriculum change in South Africa, I showed that Martin has a fairly clear conceptualisation of the considerable critical differences between NATED 550 and C2005. I showed how he has a fairly positive stance towards C2005 and OBE, but that NATED 550 conjured up negative and 'nightmare' images in his mind. I also showed that although he could not verbalise in detail the finer architectural features of NATED 550, he had an empirical idea that the prescriptive subject syllabi essentially prescribed to teachers the objectives to be pursued and the content to be taught. In contrast, and on the strength of a recent one-year training course, he gave a clear and confident description of how the various design features of C2005 fit into each. I finally gave a portrayal of how

Martin was quite familiar with the radical shifts that C2005 demanded in respect of the new planning, teaching and assessment aspects.

In the next section, which deals with the various aspects of Martin's curricular decision-making, I link his understanding of the critical differences between NATED 550 and C2005, to the curricular decisions he made. In reading through this next section on the findings on Martin's curricular decision-making it is important to continuously bear in mind the above portrait of his understanding of the critical differences between C2005 and NATED 550, as well as the fact that he was not familiar with the NCS. Fullan (1991) asserts that it is vital to look at the phenomenology of change, that is, how teachers understand and experience it, and that the way teachers implement policy changes hinges to a large extent on how clearly they understand what those changes entail. This point is unmistakably crystallised in the following response from Martin to a question on how he experienced his first year of C2005/OBE implementation:

> *My first experience of OBE/ C2005 teaching was in 2001, with the Grade 8s. To be honest with you, I wasn't actually teaching in OBE, I was still in the old traditional way. Somehow I thought that I didn't have to teach, that I just have to keep them busy and oversee them, that there will be chaos etc. I didn't know much about this assessment criteria, performance indicators, etcetera. All I knew was that I had to keep them busy. Also, I didn't know how to keep a record of assessments etc. it was done very informally, loose pages, that year it was a mess, last year it was much better. I couldn't understand e.g. Do you know that learners can assess themselves – that didn't make sense to me, for learners would give themselves full marks. But then I gradually realised that that does make sense for in that way the learner can actually reflect on himself.*

With this evidence that Martin's perceptions of the critical features of NATED 550 and C2005 played a crucial and determining role in his classroom practice, and that over the previous two years he has managed to acquire a clearer understanding of the critical differences between them, I now present my findings on his curricular decision-making.

5.3.2 How and why does Martin Stevens make strategic curricular decisions at the interface of the three curricula?

Introduction

In Chapter 1 I gave a brief outline of the large-scale curriculum changes in South Africa, and noted that whereas the traditional curriculum had a more rigid and authoritative nature, C2005 theoretically affords teachers greater flexibility and decision-making powers on a number of crucial curricular and instructional issues. In the previous section, I demonstrated that rhetorically Martin is familiar with this particular dimension of the new curriculum. In line with the notion of teachers as decision-makers, I made it my purpose to gather insight into the various types of curricular decision Martin engaged in, his rationale for making those decisions, and to a lesser extent, the cognitive processes that underlie those decisions. To this end, the following presentation of the findings is structured around two main themes, namely, the *planning (pre-active and post-active) decisions* he made with regard to lesson planning, content selection and sequencing, teacher activities, learner activities, degree of integration, practical work, homework, assessment etcetera; and the *interactive decisions* that he engaged in while teaching. Furthermore, in an effort to explore the correlation, if any, between Martin's curricular decisions and actual classroom practice, I also provide evidence of the distinctive patterns of his classroom practice, as well as deviations from these patterns. I then conclude with a synthesis of the main themes emanating from this.

The data presented here emanates from numerous pre- and post-lesson interviews, stimulated recall sessions, document analysis, as well as classroom observations of lessons spanning all four of the prescribed programme organisers, namely *Life and Living*, *Energy and Change, Earth and Beyond,* and *Matter and Materials.*

A range of different factors, to various degrees, framed Martin's thinking and decision-making on issues of planning, content selection and sequencing, teaching activities and assessment to various degrees. Drawing on my observation field notes, pre-and post-lesson interviews and the stimulated recall sessions, I will demonstrate that these decision-making frame factors included learner cooperation, the availability

of resources, and departmental (GDE) directives. However, I will also demonstrate that the overshadowing and single most influential force that defined Martin's decision-making and classroom practice was undoubtedly the learning support material (LSM). In fact, the latter was so overwhelming and pervasive in his teaching and thinking, that in contemplating the most concise and elegant way of structuring the subsequent findings on his planning and interactive decisions, I thought it best to centre my presentation around the defining role of the LSM in Martin's decision-making. I then identify the *other* decision-making frame factors by providing evidence of instances where these factors led Martin to deviate from the LSM. In the frankest acknowledgement of the primacy of the LSM in his decision-making and practice, Martin had the following reply when I asked him about the degree to which he consults and integrates other material in his lesson preparation:

> *No, I haven't. Like I say so far I have been following the Wonderboom series slavishly and did not make an attempt to change it, because that is what my colleagues also do – simply take and make photocopies and then let the learners answer those questions.*

On another occasion, when I asked him about the rationale behind the sequencing of a particular section of the work, and whether it was any different from the way it was done the previous year, he noted:

> *No, we are using it differently, because last year we were using the My Clever book, and this year we are using the Wonderboom series, so the approach is slightly different. And if I should compare the two I find this one, the Wonderboom series much better. It is more comprehensive than the other one.*

As can be gathered, Martin was using the *Wonderboom* series, which consists of a teacher manual and a learner support workbook. The *Wonderboom* Learner Support Workbook comprises six chapters that deal with different topics that cut across the four strands or programme organisers of the Natural Science curriculum.

Each chapter consists primarily of worksheets (with questions and dotted line spaces for learners to fill in the answers) and an assessment task and/or rubric. In contrast to

the traditional content-oriented textbook, this LSM does not have copious explanatory notes on the different topics. The *Wonderboom* Teacher's Manual, apart from providing model answers for all the worksheets in the LSM, also provided the teacher with a breakdown of the specific outcomes, assessment methods and lesson activities for each chapter. As to the availability of the *Wonderboom* LSM, Martin explained that due to the high cost implications, learners were not given their own individual copy, nor were they expected to purchase it themselves. In fact, the school purchased the CD-Rom version of and the copyright to the *Wonderboom* series – each teacher was then presented with a single photocopied version of the entire Learner Support Workbook and Teachers' Manual, and instructed to make copies for learners as the need arose. When completed, these worksheets were filed in learners' portfolio files, which Martin kept in his classroom cupboard. It is instructive to note Martin's version of how the *Wonderboom* series came to be the selected and purchased LSM for Grade 8 and 9 learners at Greenfield High.

> *I mean it is not just in the Natural Sciences. I do not know, like I have said in the beginning of the year, who decided on behalf of all the teachers at our school that for Grade 9 we are going to use the Wonderboom series, not just in Natural Science in all the other learning areas, they use the Wonderboom series. So once again there I should say… Like my one colleague has criticised this by saying that the decision was taken by some people, members of staff. I do not know who they are, that this is the best book that we must use, and it was just decided that we will use it. So for the sake of uniformity we are using it, we don't have a choice.*

For Martin, this lack of consultation in the selection of the LSM was a great source of frustration, and this came through on a number of occasions, as exemplified by the following statement he made:

> *The person responsible for LSM, learner support material, he's my best friend. And he approached me to ask me which learner support material we'd like to order for the following year. You know it strikes me now that I ordered what I thought would be best. And I got some other samples of other books – I got it at home, and can refer to it from time to time. And that one was never ordered. Personally, I don't know who was responsible for ordering this Wonderboom series for the whole school. My colleague can echo that as well. He's quite outspoken, that*

> *man. He even asked me if I was consulted, and I said no, I was not consulted. Now, we are developing a democratic South Africa, but there even isn't consultation on the ground. Which means we still have that authoritative dictatorship.*

As to his perceptions of the format and quality of the *Wonderboom* series, Martin had mixed thoughts. On a few occasions, he spoke about its relevance and ease of use, while on other occasions, particularly during the third term, he expressed grave reservations about its quality. His main gripe centred on the lack of explanatory notes, which often led to him having to having to "spoon feed" learners with the answers to the LSM worksheets:

> *… but I have just thought of another problem now, in the middle of the worksheet there is written out in words, a metal plus an acid then? So then they had to fill in that, but I mean previously I didn't teach them about that. And I think that some of these worksheets should go along with additional notes… so I opted to give them the answer …*

On the other hand, it seemed that for the most part the worksheet questions were quite simplistic and made few cognitive demands on the learners. During a post-lesson interview on a lesson on *Abiotic Factors,* during which learners were expected to draw a graph from a table indicating the air temperature during different times of the day, I asked Martin:

> *One of the questions is: At what time of the day is it the warmest? I have just got a little note here wanting to ask you if you don't think that there are a question or two that are too simple for Grade 9 learners?*

Martin then responded:

> *Yes, it is because they could even see from the graph that at one o' clock it is the highest temperature and at eight o' clock the lowest temperature, so I think it was quite a simple question. Yes very much, it is quite simplistic, quite simple for Grade 9 learners. Even the questions that, for them to see the pattern that there is an increase, a gradual increase in temperature, so that are quite straightforward questions."*

He also lamented the incoherence in the sequencing and consistency of the *Wonderboom* LSM in the following way:

> *… in the "*Wonderboom*" book they sort of jumped the gun, they will go in depth and then suddenly start with simple terms again, it is not actually a gradual process. That is why I took the initiative to do it my way. And in fact I must admit, it is the first time that I feel that I shouldn't slavishly follow what is in that "Wonderboom" series… I could see that there is not actually a pattern that they follow. They, for example, start off with the scientists, their ideas, give the development of the atomic theory and so on, and then they would go to…I can't remember what it is, but it is something in depth and then go to something simpler after that, so it is not actually a gradual process.*

> *Those worksheets are drawn up in such a way that the author assumed that the learners already know those terms and there is a lot of other thing that I have also picked up previously that is the same. You know when you have a textbook like we know a textbook, there should first be a definition of the word exothermic and then doing a practical the learners could then remember, that is the definition of the words exothermic and endothermic.*

According to Martin, this was exacerbated by the fact that since the inception of C2005 implementation, Natural Science teachers at Greenfield High had decided not to issue learners with the traditional content-oriented textbooks which learners had been using the previous years. This meant that Martin's Grade 9 learners did not have any Science-related books or LSM to take home to read through, or study from. Admittedly, a few days after Martin complained about their poor performance in a control test, written at the end of the first term, he collected a number of the General Science textbooks which learners had used two years before and issued them to his learners. He explained:

> *I think that learners should be provided with some learning support material. I managed to get hold of Grade 8 textbooks today that was just lying around in the storeroom and I gave it to my Grade 9s for them to keep for the rest of the year, because many of them, really, if you tell them to go to the library or to go out and read some books, they wouldn't … I*

> *have learned that because from the first test they did very badly, and after I gave them their portfolios to take home there was quite an improvement. And I feel now that there are some of them that are quite eager to read and would make use of those textbooks, I gave the Grade 8s textbooks today and I think I could also give if there are additional books, I could also give it to them because it is just packed up there in the storeroom and no one is using it.*

It was striking that Martin gave them a traditional Grade 8 General Science textbook at a time when he was busy with *Biotic Factors*, a section with which he did not feel competent and comfortable. In fact, outside of the two-week period when he dealt with this section in the *Wonderboom* book, he never again referred to or encouraged learners to use that particular book.

With this background to Martin's perceptions of the origin, nature and usefulness of the *Wonderboom* series, I will now outline the determinant role it plays in his thinking and decision-making.

Planning (pre-active and post-active) decision-making

During my interactions with Martin, I detected five main ways in which the *Wonderboom* series, despite him bemoaning its limitations, defined his curricular decision-making and classroom practice. These included planning style, content selection, sequencing and scope, selection of outcomes, instructional activities (teacher and learner) and practical work. I wish to illustrate that, in spite of the following insight demonstrated by Martin, the *Wonderboom* books do in fact play a much greater part in his decision-making than what he would like it to.

> *Martin: The textbook is basically merely a guideline. You shouldn't follow it rigidly. You should actually develop it as a guideline, and develop your own resources. One of the roles of the teachers is that you are a learner support material developer.*
>
> *Interviewer: And you think that this Wonderboom is a good guideline?*
>
> *Stevens: Yes.*

Planning style

A key dimension of Martin's planning that I wanted to explore, and which is fundamental to painting a complete picture of his decision-making and classroom practice, was what I refer to as *planning style*. Within this more physical notion of planning, I sought to identify and understand his planning strategy (yearly, quarterly or weekly), the level of comprehensiveness in preparing for individual lessons, the level of collaboration in planning, and the degree to which lesson plans are written down or documented.

I preface my thoughts and evidence on Martin's planning style with three extracts from two different pre-lesson interviews.

> *Martin: I am going to let them plot the graph …*
>
> *Interviewer: So your main outcomes would be for them tlearning skills of plotting graphs, and to interpret the graphs?*
>
> *Martin : Yes.*
>
> *Interviewer: So would there be questions on the graphs?*
>
> *Martin: I don't know in the Wonderboom series. I will have to check, but I think I have to somehow design one or two questions there. Now that we are on this one, I told my colleague Thyssen today that I am going to let them do the graph. And he said that we can use this as a translation task, translation task where they have given a graph, first of all, no first of all they were given a table and then they must interpret this table in the form of a graph and on top of that I can also see if I can maybe add one or two questions.*
>
> *Interviewer: But you are not sure whether the Wonderboom series have that?*
>
> *Martin: No, I am not sure*
>
> *Interviewer: So under Life and Living at this stage, do you have any idea of exactly which content you are going to use to sort of deal with those specific outcomes?*
>
> *Martin: We are busy at the moment with soil and then after that we will look at Ecology and I don't know what we will do after Ecology, I haven't actually looked at it.*

Interviewer: And where did you get those ideas of soil and Ecology to start off with?

Martin: It is in the Wonderboom series.

Interviewer: Is that the first two sections that are being dealt with in the Wonderboom book?

Martin : That is right. Well, like I said we focus now on Life and Living. I do not know until when, we would probably go on until June, the end of the term and then after that we will have to touch on … but my colleague just reminded me today that we shouldn't go off the track we should actually focus on specific outcomes here, and we should try and address all specific outcomes.

These excerpts illustrate two points that I want to make :

- Martin's lesson planning or, more particularly, the identification of work to be covered, is to a large extent shaped around the *Wonderboom* series. For example, Martin started off with Soil and Ecology for no other reason than that these were the first chapters in the LSM. Admittedly, halfway through the second term, as a result of other forces, which I shall expand on a little later, he made slight changes to the sequencing of the chapters.

- Martin at times appeared very casual about the way he employed the *Wonderboom* worksheets, very often neglecting to prepare adequately and comprehensively for lessons. For example, in the first extract Martin is not sure whether the *Wonderboom* books have questions that accompany the graph work that he is determined to do the very next day. On another occasion, Martin issued learners with a particular worksheet to complete in class, and only during the course of learners struggling to make sense of it, did he realise that "*some of the questions were quite ambiguous, and were not quite clear"*.

- During the research period, Martin did not have a year plan or a quarterly plan in place. This is borne out by the fact that he often could not say with

certainty which lessons or topics would follow next. A classic example occurred at the start of the third term when he could not identify the practical experiments that he planned to do over the first few weeks. There is strong evidence that planning in terms of deviations from the LSM (in terms of topic and content selection) often appeared to be decided on an ad hoc or incidental basis. In mitigation, Martin explains the absence of a long-term plan as follows:

> *I did have a planning for chemistry for the whole year but by the time I went to the HOD about the plan it was as if I wanted to be an HOD. I really don't want to clash with my HOD like the other guy.*

During a different post-lesson interview, the following conversation ensued:

> *Interviewer: Martin, would you agree with me that in your department there is no real planning for the quarter in terms of what is going to be done…?*
>
> *Martin: Yes, you are right 100% correct because there is very little, if not nothing at all, involvement of my HOD.*
>
> *Interviewer: So you think that your HOD has a major impact on planning?*
>
> *Martin: Yes, and also consultation. I think whatever I do I have to decide with my colleagues even if I may get negative response. But they should be part of it.*
>
> *Interviewer So how does that influence your planning, are you saying that there is not enough consultation?*
>
> *Martin: There is no consultation at all!*
>
> *Interviewer: And this brings about a sort of disorganised situation?*
>
> *Martin: Exactly.*

As the previous explanation reveals, Martin was of the opinion that the lack of comprehensive and long-term planning could be attributed to a lack of intensive instructional leadership, particularly from the Head of Department

(HOD). As he assumes in the above extracts, the HOD was not pleased when he showed some initiative by drafting a tentative plan for the year. In fact, the following response by Martin, on the question of whether this lack of interest in initiative taking and consultation is typical of teachers at the school, reveals that it is indeed endemic:

> *Exactly, persons would say who are you, you are not the HOD, who are you to come and ask me. You know that is people's attitude, and I am with them every day. People feel that they are overloaded. Really, it will be worse now if I would go and bombard them with questions, you know they would see it that way, that who is that guy. And when would I actually get time to go and speak to that person? Like in the morning people come, most of the time we have got these meetings in the mornings, information sessions. At break people see this as a time that they like to eat and be alone, and after school people rush home because they are tired. Because myself I've only got one free period, I teach thirty periods per week and I am quite exhausted. Especially if you deal with learners who have serious discipline problems.*

A recurring theme that surfaced in Martin's explanations of his planning style was the lack of intensive and structured consultation with colleagues in the Science department. Departmental meeting were few and far between, while consultations on curriculum and instructional matters were often limited to casual and incidental meetings in the passage or the car park.

> *Interviewer: Was there any reflection or any consultation or talks towards the end of the term as to what you have actually accomplished in Biology?*
>
> *Martin: No, we do not get together on a regular basis, that I can say quite frankly.*
>
> *Interviewer: But you haven't really sat down with your colleagues to find out what exercises would be given on these graphs?*
>
> *Martin: No, the problem is time. We'll just talk in the passage cause we never actually have the time to sit down, due to commitments. In the afternoon you are quite tired. People are not particularly in favour of meetings and so on. So we'd talk informally, or he'd come to me during break times. The problem is we are first of all overloaded. Our timetable is such*

> *that we don't get near each other, you know in the morning it is (sometimes) information meetings, we talk informally, during break at least. There is no time, because they have their own things to do that they cannot do during the course of the day. After school people have commitments, so we never actually get to talk to each other.*

This lack of opportunities to consult with colleagues on matters of the Science curriculum invariably led to Martin embarking on themes in isolation.

> *So then I decided on the spur of the moment, because there were not even time to consult my colleagues on what we are going to do, so I decided to start with Chemistry.*

Another prominent feature of Martin's planning style was that preparation for lessons was invariably done 'in the head'. Lesson plans were characteristically not written down, certainly not in the form of the traditional and comprehensive 'preparation book' in which a teacher would document a theme on a weekly or daily basis, as well as the critical and specific outcomes, range statements, instructional activities and assessment criteria of the intended lessons.

> *We got a learner guide and a facilitator guide. The facilitator guide is more like which outcomes you are addressing, assessment criteria and so on. And then the learner guide is more about what worksheets, basically only worksheets that you get in that learner guide. But the facilitator guide, you don't even have to write out. In fact, myself even … I don't know, we are supposed to write out a lesson programme. But everything is there. The outcomes that you are addressing, each specific topic.*

> *… sometimes I feel that there is important information that I must bring across apart from it, it might not even be part of my planning. That is why I don't think that a teacher must have a preparation book and say that this is what I am going to teach. During teaching learners ask questions and then you have to go beyond that particular topic. So there again I can criticise, even myself, I am not particularly fond of writing out lessons in full because you never know what can happen in the classroom.*

This testimony of Martin's indicates that his motivation for not writing out comprehensive and detailed lesson plans was threefold. It included his general disinclination to "*writing out lessons in full",'* and his belief that the complex and uncertain nature of classroom teaching militates against rigid and detailed written plans. Furthermore, his disclosure that *"we are supposed to write out a lesson programme, but everything is there"*, demonstrates that the predominant rationale for not writing out lesson plans was his perception the most important dimensions of lesson planning required under C2005 were adequately covered by the *Wonderboom* series. Another piece of evidence of his reliance on this series as a form of physical lesson planning is that Martin had in his possession a GDE tick-off sheet on which teachers could simply tick off which Specific Outcomes, Assessment Criteria and assessment types they intended to pursue over a period of time. Martin, however, never employed this guide for lesson planning.

Content selection, sequencing and scope

The above selection of quotes suggests that Martin largely depends on the *Wonderboom* books for deciding on what content to cover, the depth and scope thereof, as well as the sequence in which different themes are dealt with. This is further evidenced by the following conversation that formed part of a pre-lesson interview on *Abiotic factors*.

> *Interviewer : So this whole content of Abiotic Factors and the ones that you are doing now, humidity, light and temperature, what made you to decide and focus on those Abiotic Factors?*
>
> *Martin: Well unfortunately once again it is in the book that we are using, which is the Wonderboom series. And we happen to do it also in that particular order.*
>
> *Interviewer: As it is?*
>
> *Martin: As it is, but once again my HOD and myself attended a workshop where he in fact said that he has got quite a load so he cannot really come to us and give us sort of a*

> *guideline as to how we should go about. Even myself, I feel that if given more time we can actually maybe come up with our own ideas and bring up our own sort of material, learning material instead of just taking something that is just dumped on us and then followed slavishly.*

The *Wonderboom books'* decisive role in content selection is patently clear when one considers the following acknowledgements that the previous year, when they used a different LSM, they placed much less emphasis on Chemistry (Matter and Material).

> *Martin: Well actually last year in that book "My Clever" I did very little Chemistry. To be honest with you, I did more Physics … made them weigh mass pieces and so on. I was more in depth with Physics than Chemistry last year. But fortunately for me this year they have got these worksheets, wonderful worksheets.*
>
> *Interviewer: So you didn't do much Chemistry last year because the "My Clever" was not so comprehensive with Chemistry?*
>
> *Martin: Yes, and in my opinion they were not worksheets as such that we could have used.*

There can be little doubt that Martin's concomitant use of the term "*fortunately*" and the phrase "*worksheets, wonderful worksheets*", when referring to the *Wonderboom* books in the previous quotation, underscores their importance in his teaching.

Yet another indication of Martin's dependency on LSM to guide his decision-making on content occurred during an observation of a lesson on *Abiotic Factors*, when he constantly made reference to "five abiotic factors". When I asked him during the post-active interview why he limited the number of abiotic factors to five, he replied: "*Well, there could be more but for this 'Wonderboom' series there are only five*".

Decisions on outcomes

A crucial feature of the semi-autonomous decision-making power of teachers in the new curriculum dispensation is the fact they are afforded the liberty to identify and pursue any of the critical and specific outcomes in their lesson programmes. The only

caveat, according to Martin, is that teachers should ensure that they deal with all the outcomes.

In the previous section I provided evidence that Martin primarily used the *Wonderboom* series to shape his decisions on content selection, scope, depth and sequencing. As the following admission confirms, he did not adapt the outcomes that this particular LSM focused on under each chapter or theme, nor did he attempt to infuse his own.

> *Interviewer: Okay, and then the Wonderboom book does specify for a particular exercise that you are doing with them currently, it does specify what are the Outcomes?*
>
> *Martin: Yes, but not the learner guide. The Facilitator Guide – it is all clearly set out there as well, including the programme organisers and the phase organisers.*

It was also evident that, in contrast to the fundamental OBE tenet that teachers start off the lesson or lesson programme by making explicit to learners what the projected outcomes for a lesson or theme were, Martin never did.

Instructional activities

The primacy of the LSM also featured in another very important dimension of Martin's decision-making and classroom practice, namely the patterns of learner and teacher activities that dominated his teaching. Although the notion of 'instructional activities' includes a number of different aspects, I provide evidence here of only three, because (a) they demonstrate the influential role of the LSM, and (b) they are typical, or constitute the greater part of the teaching and learning activities that occur in Martin's class. These three instructional activities include the recurring teaching-learning pattern of 'filling-in-the-worksheet', practical work and homework.

The recurring teaching pattern, from which Martin seldom deviated, was that he would start his lessons with an explanation or discussion of the day's content. During this 'teaching phase', which lasted anything from five to thirty minutes, Martin would do most of the talking, but regularly tried to encourage learner participation by posing

questions to the class. During this introduction, Martin made extensive use of the blackboard, either making copious notes as he went along, or already had the notes on the board from teaching the other Grade 9 classes. Following the explanatory phase, Martin would ask learners to complete the *Wonderboom* "worksheet-for-the-day". Learners were generally issued with photocopies of the relevant worksheets, or when resources were problematic, were asked to write the worksheet questions down from the blackboard on loose sheets of paper, which they then had to file in their portfolios. This instructional pattern in which filling in the worksheets invariably formed the core of the instructional time is well substantiated by the following account by Martin:

> *… you might have noticed that at each and every lesson, programme, … that we work through worksheets, then I will always try to have copies for the next theme available. It has happened when you attended one of my lessons that, I think it was the last one, towards the end. I asked them that they had to give those worksheets back to me the previous day and they failed to do that. Then the next day they completed the worksheet and I gave them time almost the whole period, I gave them time to complete that worksheet but then towards the end of that period I handed out new worksheets.*

The dominance of the *Wonderboom* worksheets was nowhere more vividly portrayed than in Martin's approach to practical or experimental work. Although he preferred to perform the practical sections as demonstrations, even where the *Wonderboom* books presented them as learner group activities, the practical demonstrations took a rather mechanical format. In all but one of the seven practical demonstrations I witnessed, Martin would go through each of the steps on the worksheet, physically do them in front of the class, and after making sure that all the learners had made the correct observation related to a particular step or question, ask them to fill in the correct answer on the worksheets. Some of the Martin's interview statements provide evidence to this effect:

> *… most of the time I work strictly with the worksheets in the Wonderboom series and then let them fill in the answers as I do the experiment and practical work.*

> *These four types of reactions, the reaction of an acid with a metal, an acid with a metal oxide, an acid with a carbonate. So I just said to them that today we will be looking at this one, and*

> *then I started off with it. But I focused mainly on the worksheet so that whatever I was doing there in front, that they could then be able to answer questions on that worksheet. I focused very much on the worksheet. I didn't deviate too much from the worksheet.*
>
> *… also I am quite really pleased that the learners could listen to me and value the experiments that I was doing and that somehow I could manage to bring the message across that there is a worksheet to be followed and I managed to work through the worksheet as well. I think in the future it can only improve.*

This notion of Martin that *"there is a worksheet to be followed"*, resurfaced towards the end of the second term, when I asked him about his tendency to do a lot of explications and writing on the board.

> *Researcher: Some thing else I wanted to ask you is your use of the blackboard in relation to an overhead projector, why do you never use an overhead projector?*
>
> *Martin: I do use an overhead projector but mostly for the Grade 10s. Grade 9s so far I have not used it. Oh yes, only once. I used the overhead projector just to give them an idea of what they have to have in their portfolios at the end of the year, that is the last time I used it. But with the Grade 10s I use it a lot. I think it simply could be that the Grade 9s are making use mostly of worksheets that are already there and then any practical demonstrations done by me, and then for them just to fill in the worksheets.*

Intrigued by Martin's employment of the *Wonderboom* 'practical worksheets', I asked him why he preferred the mechanical and perfunctory approach of learners filling in the answers as he went (step by step, question by question) through the demonstration. As the following reply suggests, there does seem to be a rationale for this practice in Martin's mind, namely to refine learners' observational skills.

> *I decided that all the practical should be about, besides the worksheet, is that learners should sort of develop a skill where they must observe and write down what they observe. First of all, you see that that worksheet is actually leading them, they are supposed to first of all write down the colour of copper carbonate without even looking at the worksheets. It's green, it starts off with green and then we will heat it up and then see if*

> *there is going to be any colour changes, any gas that is released …*

This rationale of focusing on learners' observational skill sounds all the more plausible when one considers that in two of these practical lessons, Martin adapted his approach by asking learners to make notes on what they observed in the demonstration, and only afterwards did he issue the practical worksheets for them to complete.

Martin took a slightly different approach with a practical on "*the water retention of different soil types"*, when he asked learners do to it for themselves at home. However, as borne out by the following extract from a stimulated recall session, the dependence on the Wonderboom worksheets still persisted:

> *I gave them worksheets today, they must go out and test the different types of soil, their water retention, go and look if possible, if they can maybe get soil in the garden or a sort of ordinary clay or whatever and then test. It….I gave them worksheets and they just have to fill in the answers.*

The authoritative role of the LSM in Martin's decisions on the choice and form of experimental work comes through very clearly in another post-lesson interview, when I asked him how he would evaluate the foregoing practical lesson, and how he ideally would have done it differently.

> *Martin: I would have allowed more time … In the sense that maybe… in fact, they would set up the apparatus themselves, we might not have finished that in one day, we would have continued the next day and even the day after, until they were finished. Because the essential idea here is that the outcomes must be achieved. And then also, I do not know, they would then also familiarise themselves with the different apparatus, and then I would have also designed my worksheets in such a way that they would then have to make the conclusions themselves. Not like here, they actually, if you might have noticed here that I am guiding them towards that particular conclusion. I would have designed the worksheet such that they would see that, resistors in series, then resistors in parallel and then for them to come to conclusions. … that is what I would have done to make a difference.*

Interviewer : So you think that is a bit of a defect in your planning, your lesson planning?

Martin: Yes, especially as designed by these people. I mean this particular book that we are using, the Wonderboom one.

As can be inferred, Martin persists in using the *Wonderboom* worksheets in the way he does, despite his acknowledgment that this approach is not ideally suited for achieving the relevant outcomes, such as learners manipulating the apparatus and the procedure so that they can make their own conclusions.

A third instructional dimension in which the LSM had a fairly significant decision-making role was in terms of homework. I use the phrase 'fairly significant' simply because 'homework' in the sense of asking learners to do tasks or activities overnight or over a few days at home was not a standard or regular part of Martin's classroom practice. As a matter of fact, of the thirty-two lessons that I observed, homework was only given on three occasions. In one of the pre-lesson interviews, when it was apparent that he yet again had no intention giving learners homework, the following conversation, which sheds some insight into his thinking on homework, ensued:

Interviewer: So, do you plan specifically for homework, when you know that tomorrow you are going to give this lesson, or for this week this is going to be the topic? Does homework feature consciously in your planning and thinking ahead of time?

Martin: No, it doesn't. It is just when I give, actually when I teach. In OBE we have to teach as well. Then questions coming from learners sometimes lead me to say that, well I have to extend that. I have go into this or take that direction. So they actually give me direction. I pick up some ideas and then I can come to the conclusion that this is what they don't understand, this is what they do understand, we will have to focus more on this or that. We are not bound to a certain syllabus to say that we have to do this or we have to do it that way.

Interviewer: So you would say that the decision on homework is very impromptu, as the need arises? When you see, during the lesson, there is an interesting thing that they could do a little bit of homework. Is that would be the way that you would decide on which homework.

Martin: *Yes. I mean I am not guided by a textbook that says you must do this and this.*

Interviewer: *Does the Wonderboom book that you are using, does it give you any guidance as to homework?*

Martin: *No, not really.*

Martin certainly is correct in noting that the *Wonderboom* books do not specifically give guidance as to the homework learners should get, in other words, there are no exact subheadings to this effect in any of the chapters. However, on the few occasions that he did decide to follow the homework route, he made direct use of questions from the LSM. During the stimulated recall session on a lesson on temperature changes, I asked:

Interviewer: *Martin here you are writing homework questions for them and you asked them to write them at on back of their graph paper. These questions, did you write them out before the lesson, or during the lesson? Where do those questions come from?*

Martin: *Those questions come from the Wonderboom series, directly from the Wonderboom, so I just wrote it from that worksheet on the board, because like I have said, lack of photocopying paper.*

Based on the foregoing evidence, it is fair to say that the *Wonderboom* books, particularly the Learner Activity Book, formed an integral part of Martin's decision-making, and his resultant classroom practice. I illustrated how this LSM features in his decision-making around his casual planning style, as well as in his 'filling-in-the-worksheet' instructional style for both practical and non-practical lessons. This begs two crucial questions: Why was Martin so reliant on the *Wonderboom* LSM? Why was so much of Martin's curricular decision-making and his classroom practice shaped around the *Wonderboom* worksheets?

In an earlier quote Martin gave some insight into the answer to these questions by indicating that he drew extensively on the *Wonderboom* LSM because of its functionality and convenience. In other words, the ready-for-use worksheets, coupled with the Teachers' Manual, presented neatly packaged lesson programmes that

already had the requisite outcomes, learner activities and assessment exercises neatly spelt out. However, as the following lengthy but revealing dialogue shows, there are a number of underlying drivers or ecological frame factors to his "ease-of-use" mindset.

> *Interviewer: Steven, how comprehensive is this particular worksheet for the concept that it tries to teach these learners?*
>
> *Martin: Not quite comprehensive, like I said I would have liked to put my own in place.*
>
> *Interviewer: Knowing that there are certain deficiencies on these worksheets in terms of what you would like your learners to know and understand, did you get a chance to actually reflect on that and to jot down some notes or some reminder of having this worksheet revised?*
>
> *Martin: Yes, year after year we discovered that. But then the time factor, also here and consultation with each other that is not in place. We are so much over worked at the present moment. We are short of two teachers. Two teachers were redeployed and now we are running short of two teachers, we are overloaded. We do not find time to come together as Grade 9 Physical Science teachers to talk about such aspects of the work. The situation worsens if you have temporary teachers at your school, now that particular person, even you know and it does happen that he or she knows that he or she is in that temporary capacity. Sooner or later he or she would have to leave the school, so there is that lack of interest, poor motivation and many of them would maybe come to a meeting, if we decide let' meet today, he or she would always come up with an excuse and say that they have got this and that to do. So those are the factors, the restraining factors that really hamper our situation. But I am fully aware… I have even mentioned it to Stanley[3] as well, that given the opportunity I can revise this whole system and just write our own material. But we can still use this one and then we can just use something additionally.*

It is interesting to yet again note Martin's comment that the worksheets did not demand high cognitive skills, and that he should ideally have designed his own worksheets. Invariably, as is the case with the following conversation, he would lament that he did not have the time to do so. He also remarked that generally the staff

[3] Mr Stanley was the Natural Science Head of Department (HOD).

was overworked, and that this is the prime reason for the lack of consultation amongst the Science department colleagues. According to Martin, the recent departmental policies of rationalisation and redeployment effectively led to a loss of staff members at Greenfield High, and that this in turn led to an increased workload. When asked about the lack of consultation among the Grade 9 NS teachers, Martin explained:

> *We lost two temporary teachers last year, and this year two additional teachers must be redeployed meaning altogether, since the beginning of last year, we are going to lose four. So their workload will now be distributed amongst the remaining teachers. When then, people have commitments after school, when do we actually come together? Mr Thyssen is the one who always comes to me and say sir, how far are you now. We must talk in the passage because there is never really time to talk.*

In another pre-lesson interview later on in the year, I wanted to get an idea of whether there had been any change in the extent of Martin's isolation as far as his work was concerned. The following conversation ensued:

> *Interviewer: But you haven't really sat down with your colleagues to find out what exercises would be given on these graphs?*
>
> *Martin: No, the problem is time. We'll just talk in the passage cause we never actually have the time to sit down, due to commitments. In the afternoon you are quite tired. People are not particularly in favour of meetings and so on. So we'd talk informally, or he'd come to me during break times. Like today he came to me and just wanted to confirm whose going to do what from now till before we close.*

Another very insightful conversation transpired when I put a frank, direct question to Martin on the contradiction between his pronouncements that he was not textbook bound, and his actual practice in which the LSM was such a powerful force.

> *Interviewer: One of your things that you like saying is that you are not bound by the textbook, that you are much more flexible and so on. But going through the book question by question, doesn't it sort of contradict what you are saying?*

Martin: Yes it might be but I think that if I should make up for that then I will have to write my own material. I think that I am still a bit textbook bounded, but that will then sort of mean that I will have to write my own material and which wouldn't be a problem really.

Interviewer: But the time, is that a difficulty, I mean as a teacher with all your responsibility?

Martin: Yes. I think I am using those because we have to use a file, and I just take those worksheets from the file, make photocopies and give it to each one of them and then work through the worksheet question by question. Yes you are right. I feel that at some stage, we constantly mentioned that we should come up and write up our own ideas and so on, but it will take a bit of time.

This conversation crystallises the fact that Martin understood that the learner-centred underpinnings of the new curriculum militated against the slavish use of one or two curriculum texts. He also understood that he should ideally construct his own worksheets and activities according to the particular needs of his learners. Yet, despite these rhetorical insights, Martin still gravitated to the *Wonderboom* books.

Martin regularly spoke as if the extra workload brought about by the diminished staff was made worse by the fact that it coincided with the introduction of C2005/OBE. He was convinced that, despite its noble and agreeable ideals, the practical implementation of C2005 was hampered by the inordinate demands it made on teachers. In his opinion, it brought an almost unbearable amount of administration, most notably in the shape of the departmental requirements concerning continuous assessment. Testimonies to this effect include the following extracts from various pre- and post-lesson interviews:

And also, the department prescribes, they want too much done in a short space of time.

I feel that we are much too overworked.

My HOD and myself attended a workshop where he in fact said that he has got quite a load so he cannot really come to us and give us sort of a guideline as to how we should go about. Even myself, I feel that if given more time we can actually maybe

> *come up with our own ideas and bring up our own sort of material, learning material instead of just taking something which is just dumped on us and then followed slavishly.*

> *… what I've found is that there is a lot of paperwork. A lot. A lot. More than what we were used to in the olden days.*

> *… we are overloaded to such an extent. And the government is now busy with restructuring; it seems to me that it is happening in all government departments. But let us focus on education here. I very seldom have time to read newspapers nowadays, because when I get home I'm tired and you know the chaos in the classrooms from getting order and so on. There were mentioned about parallel medium schools – we are a parallel medium school, our school is a parallel medium school we have a critical shortage of teachers.*

In the last few paragraphs I provided evidence of Martin's subjective experience of the practical implementation of C2005, and particularly the reasons why the *Wonderboom* LSM was such a commanding force in many aspects of his curricular decision-making. By way of summary, I furnish the following extract from a pre-lesson interview in which Martin provided a succinct account of the factors that made it difficult for him to design a learning programme around the particular needs and developmental level of his Grade 9 learners.

> *Interviewer: The other thing was to design your own work programmes and your own worksheets, what prevented you from doing that this year?*
>
> *Martin: Well nothing prevents me, but like I say. It will then need an approval from my HOD and also my other two colleagues who are also teaching Grade 9. I personally feel that we are overworked and the problem is that we never get together. And I just simply feel that I was not in a position to do it because when will I actually be able to do it, and it needs time and also access to apparatus. That is another restraint.*

Needless to say, although to a lesser degree, a number of other frame factors also influenced his thinking and decision-making. These include the availability of functional resources, his own pedagogical routines, consultations with colleagues, the

learners, as well as departmental directives. It is to these frame factors that I now turn to exemplify how each one affects Martin's decision-making.

The impact of departmental directives

Apart from the LSM, the second most persuasive force in Martin's decision-making was the instructions and directives from the Gauteng Department of Education, particularly the District Office. This was evident on two planes – firstly, in defining his assessment practices, and secondly, in the tensions created by the departmental directives on learner promotion.

All Martin's assessment considerations were consistently done in terms of the departmental stipulations and format of continuous assessment (CASS). Martin explained that all Grade 9 NS teachers were expected to follow the same CASS protocol, which basically takes two forms. One the one hand, learners are to be assessed throughout the year in a variety of specified formats, namely assignments, translation tasks, class tests, examinations and practicals. Teachers essentially have a free hand in deciding which translation tasks, research assignment and so on to set, but have to have a minimum number of each. So, for example, each learner has to have at least five assignments, and one examination mark. These assessment artefacts have to be filed in what is known as a working portfolio, which the department advises teachers to safeguard in their classrooms. At the beginning of the fourth term, around the first week of October, learners are given the opportunity to select their best portfolio pieces to make up a minimum of twenty artefacts in what is then known as the showcase portfolio. The marks obtained from these twenty portfolio items then constitute 75 % of the learner's CASS mark. The other 25 % of the learner's final CASS mark takes the form of an external examination, common to all Grade 9 NS learners in the GDE, in what is known as the Common Task Assessment (CTA). The CTAs are completed in the third to the fifth week of the fourth quarter, and comprise two sections. Section A comprises a number of questions, tasks and discussion points, many of which learners are to do as group activities, and which they have about a week to complete. In the year of this study, *Water* was the theme around which Section A was built. Teachers are expected to act as facilitators or guides in this section, while the responsibility really rests on learners to ensure that they fully

comprehend what is going on. Based on circulars from the department, as well as his experience from the previous year, it was Martin's understanding that Section B, a proper two-hour examination, was to be based on the questions and assignments given in Section A. Teachers were expected to mark both sections, record the marks, and to add it as a 25% subset to the 75% made up by the portfolio marks. These were then to be moderated externally, with the department requesting the full, completed mark sheet for each class, as well as the showcase portfolios of a number of learners predetermined by the GDE District Office.

As can be expected, Martin dutifully complied with the assessment edicts of the department, particularly with regard to the twenty portfolio pieces and the completion of the CTA. He put a great deal of effort into making sure that learners had the required form and number of assignments, research tasks, translation tasks and so forth, and paced himself well to ensure that he had the stipulated portfolio pieces ready by the end of the third term. As for the exact focus of each of these portfolio artefacts, Martin again took a very ad hoc approach. By this I mean that he did not have an exact predetermined programme at the beginning of the year, or even at the beginning of each quarter, of what the foci or topics of the different portfolio tasks were going to be. This seemed to be decided on an ad hoc basis, the decisions being made during the course of a particular theme.

The weight of the prescriptions on portfolios on Martin's decision-making and practice can be clearly seen in his decision to have all the *Wonderboom* worksheets that learners completed filed in their portfolios. This he did, despite the fact that many of the worksheets did not exactly meet the departmental stipulations. It certainly seemed that he wanted to make sure that the portfolios formed an active part of his daily teaching, and that the activities were added regularly. The significance of the portfolios in his thinking is also apparent in his persistence in keeping the portfolios in class, in spite of his own disclosures that it contained the material basis (worksheets, assignments etc.) from which learners could revise or study at home. As this decision to keep the portfolios in his class at all times has important curricular or pedagogical implications, I asked him whether this was departmental policy. He replied:

No, not really. But from a meeting we had during the first term, our facilitator said that if we, for example, give an assignment to the learners, and I have marks recorded in my file, but the learner does not have anything in his or her portfolio to show that that was the work done, then obviously it won't count. Also, many of our learners are very irresponsible so we feel that the work in the portfolio worksheets can get missing.

More significantly, Martin seemed to be occupied with making sure that learners were adequately prepared for the end-of-year CTA. As is evidenced by the following statements from Martin, he made significant content or lesson topic decisions on the basis of what had been in the CTA the previous year.

What I have noticed, in last year's CTA, especially in Sections A and B, but in particularly Section B, because that is the actual question paper (a two hour paper), learners were expected to balance equations let alone to know the periodic table, the different elements on the periodic table. Now that is content which we didn't teach. … we didn't. And I felt that I should be more alert this year.

Because I was under the impression that these learners were going to be busy (with exams) for two weeks, and that I was not going to teach. But then all of a sudden I was expected to teach and I just had to grab here and there. So I wasn't quite fully prepared. But then I did consult the CTA that was used last year, and I worked according to that CTA when I introduced my Chemistry.

Martin: Personally, I feel that I should go back to graphs because last year a lot of emphasis was placed on graphs in the CTA, Section B. So I never thought about it, my colleagues reminded me that I shouldn't neglect it. I shouldn't take it for granted that learners know graphs, because there are different types of graphs, like straight line graphs, bar graph and then pie chart as well, that they are supposed to know. It never struck me, so they mentioned something very good to me.

Interviewer So you think that's because you want your students to be better prepared for the CTA exams ?

> *Martin: That's right. Then I will know that if there's a question based on graphs that at least they will understand and be able to master that question.*
>
> *Interviewer: Would that give you some sort of sense on what you would be focusing on next year?*
>
> *Martin: Yes. I think I can only see myself improving because you know once bitten twice shy. Like I have made a mistake last year but at least this year there is a bit of an improvement because I have done graphs extensively, covered graphs many of them especially in my translation task. So I think that learners can be quite comfortable …*

Clearly, the departmental directives as represented by the portfolios and the CTAs played a major role in Martin's thinking. In this respect the portfolio stipulations defined his decisions on his assessments tasks and strategies. Although the *Wonderboom* books had specified assessment tasks in the shape of self-assessments, peer assessment and diagnostic assessment activities, Martin hardly ever made use of these. This is typified by the way he explained his assessment consideration during a post-lesson interview:

> *Really, to be honest with you, these worksheets they were designed in such a way that there is rubric for a learner to actually assess himself. I didn't make copies of that rubric because I am not presenting the lesson the way it should be done. That particular rubric, the learners have asked me, sir this page 14 is missing. Page 14 contains that rubric where they ask trick questions, that so and so took part and so and so set up the apparatus and so and so took the readings. That is all there on that particular page, I thought no, I cannot give this to the learners because they would ask me because that was not what they were actually doing, so it is designed in such a way that learners must each have, say a group have an electricity kit …*

The point that Martin was trying to make here was that many of the *Wonderboom* assessment activities assumed that learners performed active, well-organised groupwork, or that they had done the practical work themselves. Learners were then expected to complete the assessment rubrics on the basis of the participation of the group members. Since Martin did not go to those extents, he realized that many of the

Wonderboom assessment exercises were not relevant and consistent with his particular practices.

As for the CTAs, I have illustrated how Martin at times extended the scope of the *Wonderboom* worksheets by teaching and giving exercises on items from the previous CTA. The fact that this was done so that his learners could 'master' the CTA questions illustrates the impact of the next decision-making force, namely the learners.

The impact of learners

I mentioned earlier that Martin's learners impacted his instructional decision-making on two fronts. On the one hand, as the above quote demonstrates, he wanted to make sure that learners were well prepared for the end-of-year CTA, hence his emphasis on topics covered in the previous year's CTA. What made this concern all the more striking was the fact that it formed such a small component (25 %) of the eventual CASS mark on which learners' progression to Grade 10 was to be decided. It seemed that another 'unofficial' but influential departmental directive, that not less than 95 % of all the Grade 9 learners in the school should pass at the end of the academic year, impressed on Martin the need to make sure that learners are able to do well even in the external examination.

On the other hand, Martin was consistently considerate of whether learners understood the work that was being done. This often led to him repeating sections of a lesson to eliminate the misunderstandings that learners had. What frustrated him in this concern with learners' understanding was that they regularly demonstrated a lack of interest and cooperation in the learning process. This was evidenced by the slow rate at which the worksheets were completed, with many taking a few days to complete what could have been done in one period, as well as by the fact that only a handful of learners in the class participated actively and enthusiastically in classroom discussions. In one of the stimulated recall sessions, during which we looked at the video replay of a lesson on the periodic table, the following conversation developed:

Interviewer: So here you are asking them a very simple question; what is the symbol of Sodium and nobody seems to be able to answer you, and that would be because?

Martin That I gave them the name and symbols of the twenty elements and I asked them to study that, and that is the only way and there is no way around it so I was quite shocked here, in fact surprised that they couldn't answer that. Clearly the answer is that they don't study.

Interviewer: And why do you think that they don't study?

Martin: Really I cannot answer that question, it could be laziness or there is no motivation whatsoever. Maybe a lack of interest because Stanley asked one child in the 9A group to actually write the chemical formula for a compound on the board, using the ball-and-arm method, and the child could do it, and he was quite glad and he gave her a hug and he came to me and gave me a hug as I have told you, and he asked the child if she were going to do Physical Science next year, and she said no. So maybe it could just be a lack of interest, you know here are many of them that at the back of their minds they are forced to do Natural Science, yet they don't like the subject or it is just, you know. Now I am having a problem because I told you that I gave them the symbols of the first twenty elements, and if they really don't know the basics then they cannot proceed with the Physical Science because this is the start of it you know, if they don't know the periodic table itself then really that is a problem.

The impact of the availability of resources

Throughout the research period a number of incidents occurred which underscored the fact that the availability of resources impacted on Martin's decision-making and classroom practice in significant ways. At times the school simply did not have the required resources, sometimes they were there, but were dysfunctional, while at other times the appropriate functioning resources were available, but he refrained from using them to their full potential. As I will demonstrate, this severely influenced the manner in which he tackled practical or experimental work.

I indicated earlier that Martin expressed some frustration with the fact that scientific chemicals and equipment were not readily available in his 'normal' classroom, and that he had to request and fetch them from his HOD, who occupied the laboratory. Although this was not really a serious gripe, what really fuelled this discomfort, and his reluctance to go through with this procedure, was a comment made by this colleague early in the year that he should make sure that the Grade 9 learners did not break the set of ammeters/voltmeters that he had requested. This might seem like a rather innocuous remark, but the fact that Martin referred to this incident on a number of different occasions suggests that he took it quite personally. As the following quote demonstrates, it seems that he perceived this remark as belittling what happens in Grade 9 NS. On another occasion, he gave the impression that it reflected negatively on his ability to facilitate and monitor practical work, and that it placed an unnecessary burden on him to be extraordinarily cautious.

> *… it is a lot of inconvenience, especially if it comes to practicals where learners must work on their own. We have got enough circuits, but you know what my colleague told me, it was some time back just at the beginning of … I think the second or third week in January … there are some practical investigations that learners must do themselves, and there are enough circuits. I went to borrow the circuits and I was told that his Grade 12s are using these circuits, make sure nothing gets missing. So I left there not knowing what to say. And I asked myself when do we actually give the learners the opportunity to be exposed to the circuits. Do we wait until Grade 12, so that we can impress the department, to say that well I've got it. If they are not exposed to this foundation phase, how will they know this various components, for example? If he opens that kit will he be able to identify what is inside that kit, or do you wait until Grade 12 because they have to use it … because they are the image of the school, they have to portray the image of the school.*

On another level, Martin indicated that opportunities for learners to do experiments by themselves in a group set-up was severely limited by the fact that the school often simply did not have the necessary resources, or as in the case circuit boards, only had a small number available. This meant that he often had to resort to teacher demonstrations, as exemplified by the Martin's response to a question on why the

practical work on series and parallel connection took a demonstration format, and learners were not actively and physically involved:

> *Well, you know involvement is quite limited due to the fact that those apparatus are not freely available. They are there, but I don't want to cause any friction between myself and my HOD because he once said to Mr Thyssen that he does not know what will happen. In fact, he said to him that he suspects those children will break all the ammeters and they will break all the voltmeters, so it limits learner involvement. So basically now it comes to myself demonstrating. I have three cells now that I can make use of, the rest are all flat. Maybe I should putt my hand in my pocket and then go to the shop and buy. Otherwise I don't see my way clear here. That is a problem, so it will basically be teacher demonstrations. I would just demonstrate to them what I expect from them to observe and then give a feed back from what they have observed.*

> *It is mainly because of lack of apparatus. That particular experiment shouldn't be a teacher demonstration; I feel that learners would learn much more if it wasn't for my HOD restricting us in getting the equipment and also a lack of cells. I can bring but like you see it is quite a large number of learners and I don't even know how to pick them, …'*

It is interesting to note that Martin felt that although he was constrained to use teacher demonstrations as a result of the problems with resources, his demonstrations were done in such a way that learners could get a solid understanding of the relevant content. This is well characterised by Martin's post-lesson interview commentary following a question on how he would rate the lesson (on a scale of one to ten), in terms of outcomes-based pedagogy. What is also insightful is his opening reference to how he had to deviate from or omit the *Wonderboom* assessment rubric relating to this practical worksheet.

> *I thought, No, I cannot give this to the learners because they would ask me, Because that was not what they were actually doing. It is designed in such a way that each group of learners should have an electricity kit, … Once again I have done this as a demo, and in my opinion, I have done it quite thoroughly. Some of them could even, last time they could even take readings. The majority of them, I presume, are*

now able to. But then again, constant exposure to those electricity kits, and one can really make it an OBE lesson. Then I could talk about a scale. Because, really, I am telling you my HOD, the very first time I received this Wonderboom series, I saw there were learners "activities – I was quite happy, because I felt that the learners can now familiarise themselves, taking ammeter readings and so on. Instead of having, you know learners who see these circuit boards for the first time. Even the Grade 10, I have to chase them away constantly from my desk, they cannot connect, because they connect the ammeter and voltmeter the wrong way around. And the ammeter you could actually break it, you know. So I can really talk about rating myself if that was the case and then we can talk about OBE. But then I told you the first time my HOD said these circuit boards are for my Grade 12s and whatever those learners in Grade 9 do, make sure they don't break my circuit boards. My circuit boards because it belongs to the Grade 12s and I was quite confused then. And that explains why I mostly focused on teacher demonstrations right now.'

Another simple but potent indication of how, in Martin's mind, resource availability limited the kind of instructional decisions he could take surfaced in the following comment that the tap and sink in his classroom, which could have made the doing of experiments so much easier, could not be used. In fact, the tap did not work for the entire research period.

Interviewer: In your current situation are you able to move out and show how Chemistry should be taught in a classroom?

Martin: No, like I've said that I do not have free access to the lab but I should not use that as an excuse. Because if I had to do the practical with the Grade 10 then I can go there and do it with them. But we are supposed to be there early in the morning somewhere around 7h30. Today the person with the keys arrived there at 7h55 in the morning. Now if we all could be on time, then by 8h30 we will be done with our experiments.

Interviewer: So that is your main reason you could not do experiments?

Martin: Yes, because they took off my tap. I do not have water and I do not know what is going to happen. My HOD is aware of this, and I do not know what are they up

to. It is really frustrating because I have to get the new drain because I cannot cope without it.

No doubt one could argue that the first half of this conversation is illustrative of Martin's casual and incidental planning style, and that he could acquire and set the equipment up the previous afternoon. Although I cannot contest such an argument, the evidence shows that it only tells part of the story, and that the fact that resources are at times not readily and freely available plays a significant role in shaping his instructional decision-making.

The impact of Martin's pedagogical routines

From the very first classroom observation session it was apparent that several of Martin's instructional practices were not really the result of careful, conscious mental reflection or decision-making, but arose from the fact that it was part of his pedagogical routines established over his ten years in the teaching profession. As the following few examples illustrate, the impact of his routines on his classroom practice and 'decision-making' is well evidenced by his own admissions to this effect, most notably in statements like "I had never thought about it". Another clear indication of the potency of routines is in the fact that even after Martin had acknowledged that a certain practice was not conducive to effective teaching and learning, and conflicted with his committal to the new outcomes-based pedagogy, he still continued with that practice. Typical examples include his frequent and extensive use of the blackboard, his habit of first writing a heading of the topic of the day on the blackboard, his tendency to do a lot of talking or teaching in the class, the way he at times structures his lesson exercises, as well as his habit of reading out each and every question himself when dealing with the *Wonderboom* worksheets.

A very telling illustration of the power of routines in Martin's practice surfaced in a pre-lesson interview based on a subsequent series of lessons on graphs.

Interviewer: Reflecting back on how you conceived the lessons for the next few days, were there any critical decision-making points? Like when you decided to do graphs, why bar graphs and not block graphs to start with?

Martin: Well, there was no particular reason why I chose to start with block graphs. I initially had a small problem to decide on a suitable exercise. Until I checked with the other books that I have there. I managed to get one from the CTA Section B that they used last year, and the other one I got from one of the books that I got from here. You always try that your exercise is the same as the example that you gave them. That is what I always do.

This extract clearly demonstrates that when Martin deviates from the *Wonderboom* worksheets, and constructs his own lesson activities and exercises, he 'always' tries to give the same exercises as the example that he starts the lesson with. My classroom observation corroborates this tendency. Moreover, phrases such as "*there was no particular reason*", and "*that is what I always do*", certainly suggest that there were classroom incidents or even decision-making junctures where Martin called on that which he was comfortable with and that he had grown accustomed to, instead of venturing into uncharted waters.

The most common manifestation of "*that is what I always do*", is his persistent and extensive use of the blackboard to write down, for example, the heading of the topic of the day, extensive notes while teaching or explaining concepts, and even the *Wonderboom* worksheets, when not photocopied. A typical manifestation occurred during a classroom observation of a lesson on electricity, when Martin, on introducing the lesson, wrote down the formula of Ohms Law on the blackboard, something that the learners had been familiarised with a few days earlier. I thought that it would have been an ideal opportunity to have the learners recollect and write it on the board themselves. From the following post-lesson exchange, there is good reason to argue that at times Martin does not give enough thought and reflection to his classroom actions, and does things the way he has always done them.

Interviewer: My question is really, why not get it from them since they were supposed to know it already?

Martin: You mean why didn't I get Ohms Law from them?

Interviewer: Yes, I mean why didn't you sort of try and see if they remember it instead of writing it?

Martin: Yes, that is a good idea, I never thought about that.

Interviewer: Was it consciously that you wrote it down or was it more out of routine?

Martin: I think it was more out of routine, since I do not know, since we, I assumed too much here … I just assumed that they are familiar with Ohms Law.

In a different stimulated recall session during which we analysed the video replay of a lesson on the formation of chemical compounds, I probed his extensive use of the blackboard a little further. From the following dialogue it is clear that he realised that was not the most time-effective strategy, and that he needed to start considering other options.

Interviewer: As we come to the end of the lesson here we can see that you are writing the general formula for element of group 2 combining with elements of group 6. As you have done earlier, you write the heading on the board, general formula and notes. Obviously the learners are copying it from the board. As you are writing you are also explaining – do you feel comfortable with that situation and you feel that the learners are actively following you step by step as you write and explain, and write and explain?

Martin Yes, but the disadvantage is that I do spend a lot of time writing turning my back towards learners not knowing if they follow or not and I don't know I should weigh up what is the best way, the most effective way of teaching, because like I say I am standing with my back towards them not knowing.

During a stimulated recall interview which followed a lesson on the periodic table, and particularly the symbols and atomic numbers of different elements, I asked Martin why he had decided to write a sizeable table on the blackboard, for learners to copy, instead of writing it on a transparency. He replied:

Martin: Yes I could have done that as well and it could have saved me a lot of time, really.

Interviewer: But you didn't think about that for this lesson?

Martin: I didn't think about it.

In a conversation around a very pertinent question on his extensive use of the blackboard as teaching medium, he sheds some light on this practice, suggesting that it may have its roots in the nature of the subject.

> *Interviewer: My perception, and you can disagree with me, my perception is that it is in your routine, it characterises Martin as a teacher. Over the years you have come to get into the habit and that marks your teaching style of writing on the board. Would you disagree with me? It is part of your pedagogical style … somebody else would prefer only to work with transparencies. Your style is writing on the board.*
>
> *Martin: That is right. Yes, I write on the board, I don't know maybe it is because I am a Science teacher and that includes Maths, now in order to teach a learner, let's take a physics problem or a Maths problem, for a learner to understand that problem there are certain steps involved.*

Martin's propensity to read aloud each and every question of the *Wonderboom* worksheets when checking learners' responses is yet another indication of how routines at times shape his practice. After witnessing this habit over a few months, I enquired from Martin why he did the reading himself and did not follow other options, such as asking different learners to read out different questions. The following response cast this practice in the 'I have always done it this way' mould.

> *Well, to be honest I never thought about it, it is something that maybe I should think about, a change in strategy to give them perhaps the opportunity to read the questions, which can be again now I would support that idea because the idea will improve their reading skills as well. That is a good idea and I think that I should look at that one and change my strategy.*

Martin indeed followed this path for about three observed lessons after the latter conversation. However, he soon went back to reading out the questions himself.

The impact of Martin's subject matter knowledge

> *I am expected to teach Biology at school. What if I am in a situation where a learner would ask me questions that I cannot answer? And I cannot fully explain it the way that it should be explained in order for that leaner to understand, because I know just as much as that learner sitting there listening to me?*
>
> *I am lost. I am completely lost. At the Chemistry part of it, where you test the acidity of it and so on, there I can come in a bit. But to look at the different layers, structure of the different layers, you get the plant and then the layer of the compost and so on. I feel that I should read up there ... I didn't do Biology, not even at first-year level. I tried to do it at first-year level, but I failed.*

These two introductory comments by Martin shed some light on the impact of Martin's subject matter knowledge on his instructional decisions and classroom practice, which emerged most clearly during the Biology and Geography aligned sections of the Grade 9 NS learning programme. As the following set of excerpts from different pre-and post-lesson interviews further suggest, his lack of knowledge, teaching experience and confidence in these sections resulted in him 'teaching' it with a considerable degree of uncertainty, anxiety and discomfort. The impression that I gained during the classroom observation sessions is that he rushed through the Biology and Geography sections, touching on them very superficially. In contrast to the Chemistry and Physics aligned sections, he did not venture into supplementary questions or exercises outside what was asked on the *Wonderboom* worksheets. In fact, following consultations with his colleagues, he skipped a number of *Wonderboom* worksheets dealing with the worrisome sections. The following lengthy extract from a post-lesson interview illuminates a number of interesting facets of his dilemma:

> *Interviewer: A last question before we close off has to do with the way that you practised your teaching, the way you made decisions, the way that you planned your teaching of ecology of the last few weeks. In comparison of the way that you have done it in electricity, is there any marked difference in the way that you felt about these themes?*

> *Martin: Yes, exactly. Confidence, number one. Because I was just, you know, afraid. I must put it this way to you, that I feared the situation and fortunately I had you around because I was going to direct questions to you if there was something that I didn't know. I even told them right from the start that I am a Science teacher and my knowledge about Biology is limited. So I just feared the situation whilst I was teaching the subject, that what would happen if a learner asked me a question that I cannot answer, not simply one question but more than one question. Then they will start to lose confidence in me as their Science teacher. So I feared that and the difference between the two is that I had much more confidence when I was teaching electricity than when I was teaching ecology. … In fact, I could really demonstrate there to them. I mean I lived myself into that particular topic, but with ecology especially with the different soil types. And there was one sketch that they had to label the sketch and gosh I didn't know the answers myself, I had to consult the Teachers' Manual to look up the answers. And I also just gave them as it appeared in there not knowing if it is right or wrong.*

From this quote it is evident that Martin is very candid about his shortcomings, to both his colleagues and his learners. What is also very revealing is his admission that he did not know the answers to a particular sketch himself, and that he furnished the answers to learners as they stood in the *Wonderboom* books, not knowing whether the answers were completely accurate. This uncertainty was also palpable during a classroom observation on a lesson on temperature changes during the course of a day, when learners gave oral feedback on their completed *Wonderboom* worksheets, particularly to one of the questions: 'What is the reason for the difference in temperature change during the day between the two towns? Learners' responses varied with many of them bordering on the ludicrous. Some correctly referred to the difference in 'climate', while other spoke in terms of 'weather'. What was striking was that Martin confirmed all as correct. In the subsequent post-lesson interview, I asked him about this and he replied:

> *Even myself I wouldn't know, I do not know if the weather is determined by the climate or if it is the other way around, … I will have to ask someone I know who should be able to give me an idea. I don't know myself I will have to find out.*

Apart from the fact that Martin's lack of subject knowledge constrained his interactive options, it is understandable that it also had an impact on his broader decisions on content, those of theme selection and sequencing. This is evident from the following extract, which also illustrates that Martin's colleagues were also constrained by their subject knowledge:

> *Interviewer*: *So the four themes …, do they run as a sequence? Like you'd start off now with matter materials, and then follows earth and beyond, by second term, or do you alternate between them?*
>
> *Martin: Well, it entirely depends on us, for the Grade 9, for example, Natural Science teachers. If we feel that, we have just go up to that far with Energy and Change, and then we can go to Life and Living. Because the other two guys are more biologically orientated… they are much stronger on Biology. I'm the Science person. If they feel that, let's say before June or before even the end of this term we should do a little of Life and Living. And which I feel that might happen because the other guy he feels quite uncomfortable. I don't know his science background. So we might even decide to do that, to do a little bit of Life and Living.'*

The impact of Grade 10 Physical Science

Martin's thinking and decision-making was to some extent also influenced by the fact that he was also teaching Grade 10 Physical Science, and was therefore familiar with what his Grade 9 learners were going to do, and were expected to know, the following year. He was naturally also familiar with the performance and shortcoming of the Grade 10 learners in Physical Science, and somehow tried to prepare his Grade 9 learners more solidly. As the following pre-lesson interview demonstrates, these insights occasionally influenced his decisions on content selection, scope and depth, as well as on how to extend classroom exercises beyond the *Wonderboom* worksheets.

Interviewer: Martin, what are you planning to do with the Grade 9's tomorrow then?

Martin: I was thinking to do what I planned to do for today. That is, to give them that table, and actually it is an attempt to let them understand those concepts much better. Because I could pick up from the Grade 10s that many of them, I gave them the notes, but they couldn't do it. You know, I get the impression that they don't go home and read the notes. So by doing the table I could clearly see where the problem lies. Many of them didn't know that the neutrons and the protons are called nucleons. I had to drill it today.

Interviewer: With the Grade 9s?

Martin: No, the Grade 10s. And I was quite surprised and I gave it to them nicely in the form of notes, and I feel that if I could do that with the Grade 9s as well it would give them a better idea.

Interviewer: Okay, and the reason for having so much similarity between the Grade 10 and the Grade 9 programme of doing the atom structure?

Martin: Because they are in Grade 9 and they will have to do this work again next year. And it will be a bit easier, I feel they will have a background of the work and it will be easier for them it wouldn't be something completely new. And I feel that it is not too difficult.

It is clear that Martin's concern with the Grade 10 syllabus and laying a more solid foundation with his Grade 9 learners was limited to those sections in which he felt comfortable and experienced, namely Physics (Energy and Change) and Chemistry (Matter and Materials). It was only in these dimensions that he felt competent enough to occasionally go beyond the *Wonderboom* worksheets. By way of example, note his response to my question on why he chose to spend two periods on the concepts of ions, something not dealt with at all in the *Wonderboom* book which forms the greater part of his instructional activities:

Interviewer: Where does your intention to steer away from the Wonderboom book into doing things that are a little bit broadly come from?

Martin: I felt that it is not a difficult concept perhaps it could be seen as sort of enrichment. But then again learners

> *would have to know it in Grade 10. They would have to know the positive ion and negative ion.*

The central theme underlying Martin's occasional infusion of concepts scheduled for Grade 10 Physical Science was his concern about the lack of content in the Grade 9 *Wonderboom* book on which he based his instructional decisions, as well as the misconception that had that OBE implied less content. He explains:

> *I feel that somewhere, somehow content must be taught to learners because next year these same Grade 9s will go back to NATED 550 and I don't want them to be victims like I have seen this year. So I do incorporate it. It doesn't mean that I solely teach content, I do incorporate Curriculum 2005, OBE you know outcomes-based education in my teaching but I always try to balance the two. What I do is that I don't want to do something to the disadvantage of the learner, I feel pity for the learners of this year, a lot remains to be done but I am there for them. You know I am there for them to make up for what I have done wrong because I solely focused on; I never actually taught so much content last year. … I thought that I shouldn't teach content, but not to say that I didn't teach content at all but not as much as I should have, that is what I am trying to say.*

I have hitherto provided evidence that Martin's curricular decision-making, more especially his pre- and post-lesson decision-making, as well as his classroom practice, are shaped by a number of different forces. The overwhelming influence is undoubtedly the LSM that is currently being used in his classroom. I demonstrated how he employs the *Wonderboom* Learner Activity Book and to a lesser degree, the Teachers' Manual, as the central framework around which he decides on curricular issues such as lesson outcomes, content selection and sequencing and instructional or classroom activities. I also illustrated how other factors such as his pedagogical routines, departmental directives and the Grade 10 syllabus and learner performance, to various degrees impact on the way and the type of curricular decisions he makes before and after lessons. The one crucial dimension which I have not yet touched on, and to which I would now like to turn my attention, is Martin's interactive or 'during-the-lesson' decision-making.

Martin's interactive decision-making

In Chapter 3 I explained that the principal purpose of the stimulated recall sessions, during which we analysed and reflected on the video replays of preceding lessons, was to illuminate Martin's thinking and decision-making while in the process of teaching. The stimulated recall interviews provided instructive data on the extent to which the actual lessons were consistent with the way Martin had planned them, the identification of critical decision-making incidents, the general nature (type) of the interactive decisions that he made, as well as the forces or influences that shaped them.

A critical question that I asked during the stimulated recall session, and which formed the substance to ferret deeper into his interactive decision-making, was something to the effect of: Were there any deviations in the lesson from the way that you had planned it?

The following extract crystallises Martin's most regular response to this question:

> *Interviewer: And how do you feel, I mean just looking at the lesson now on the information on cations and anions. Did the lesson go as you have planned it, were there any changes any sort of decisions, deviations that you had to make whilst teaching?*
>
> *Martin: No. Initially I knew where I was going to; the idea was to give them an exercise. At first I gave them a table simply on neutral Atoms then I decided to include … ions.*

In practice, most of the observed lessons followed the broad instructional plan as Martin had anticipated and projected in the pre-lesson interviews. This is not very surprising, considering that in most cases he had a very straightforward and uncomplicated instructional plan of action, namely a short introductory teaching or expositional period, followed by learners completing the *Wonderboom* worksheets (sometimes with supplementary exercises), and a consolidation phase during which answers to the worksheets were discussed and corrections were filled in.

The single most pronounced critical decision-making incident occurred at the start of a lesson on *Soil (Abiotic Factors)*, when Martin confidently asked the learners to take out the *Wonderboom* worksheets that they were supposed to have done as homework, only to learn that he had forgotten to hand them out to them the previous day. He had indicated in the pre-lesson interview the previous day that his intention for that period was "to go through the *Wonderboom* worksheet" by asking learners, in a whole-class set-up, to call out their answers to the different questions and to provide the correct answers where necessary. With learners not having been issued with the said worksheet, Martin had to decide which new course to take. He decided to issue the worksheets to learners and instructed them to look for the answers in the traditional Grade 8 textbook which he had given them a few days earlier. He added that they could either do this activity individually or in a group context. During the stimulated recall interview I asked him what went on in his mind when he made this decision:

> *Yes, I thought that the only sort of source that they could get answers from would be the textbook… because that in fact is the only learning support material available at present. Also I wanted to avoid the situation that they would ask me questions. Not that I would be afraid of questions since I have already discussed it with the Afrikaans class if I can remember. So I didn't want them to confront me with questions, rather let them read up first, if they get stuck, them I am there… So I thought that they could look up and read up on soil, different types of soil since there are some clues in that textbook, that in fact is why I asked them to take out their textbooks.*

Martin's recourse to the textbook as the "*only sort of source that they could get answers from"* is understandable given his earlier acknowledgement that he was "lost" when it comes to the Biology and Geography oriented subject matter. More importantly, what this entire critical decision-making incident, as well as Martin's post-lesson explication, verify, was the defining and almost indispensable role that LSM plays in his classroom practice.

Furthermore, in analysing all the transcripts of both the stimulated recall and post-lesson interview sessions, I discovered three distinguishing patterns about Martin's interactive decision-making. These include minor 'in-flight' deviations or alterations to (i) stimulate learners to be more attentive and participative, (ii) explain concepts or

principles which he found learners were not sufficiently familiar with, and (iii) decisions about homework.

Stimulating greater learner attention and participation

Most of Martin's interactive decisions revolved around getting learners to be more attentive and participative during the course of the lesson. This makes sense, given my own observations and Martin's consistent reference to the fact that many of his learners were uncooperative and quite boisterous. As the following extracts illustrate, learners would often "do their own thing", like talk while he was busy teaching, or not cooperate when required to do group work. He invariably had to resort to 'shock treatment' such as rearranging where learners were seated, or calling the offending learners to the front of the class to explain their answers to the class in an effort to refocus their attention on the task at hand. The following three extracts from three different stimulated recall sessions are provided as evidence:

> *Interviewer: Here you can see Martin that you gave this exercise and the learners are given a few minutes to do it on their own. Then, all of a sudden, you called up these two girls to do it on the board. This particular approach of calling people to the front, is that something that you consciously think about, beforehand?*
>
> *Martin: Yes it just comes up. Because I see it as a way that if I could call these learners to the front, you know just merely being in the front makes them nervous and makes them realise that gosh I don't want to be there any more because the rest of the class will see that I don't know my work. It is a way of putting some pressure on them to put in more effort into their work. And it is actually a way, if I could put it like that, to expose them to the whole class…. So far you know it is difficult, I do not know I have run out of ideas how to encourage learners to study. Because this really is OBE which means that learners must take responsibility for their own work.*
>
> ---
>
> *Yes, once again, it was just to get them involved in the lesson itself because you do get those who sit and they are basically sleeping. So the reason why I actually asked them to come to the front is to let them wake up and become part of what we are doing now, and once again it was not to embarrass those who did not know the answer. But it was rather to make them feel guilty.*

Interviewer: That group at the back there, at this particular point, you seem to be doing something with them, what was your thinking there?

Martin: Get them involved, because I could see that they were quite passive there at the back and that is why I have moved to the back. Normally they are the lazy ones, maybe it is like that in every classroom. The lazy ones always tend to go to the back so that they cannot be seen easily.

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It is evident that the thread that runs through Martin's interactive concern and efforts to engender more effective learner participation, apart from his need to have a disciplined environment, was to infuse elements of learner-centredness and activity-orientation into his classroom practice.

A very interesting variant of Martin's interactive efforts to stimulate greater learner participation took place during a lesson on *Temperature changes during the course of the day*, when for the first time he took the innovative step of asking learners who had completed their class activity to go around in the class to assist their classmates. When I asked him about the rationale behind this innovation, which he had not mentioned in the pre-lesson interview, he replied:

Martin: Yes well, there I actually wanted to create a relaxed atmosphere. I wanted to show those who think that the work that they are doing is not interesting, I wanted actually to show them that there are those who make an attempt to work. I sort of wanted to embarrass them, those who were slightly behind, I wanted to embarrass them by using their class mates to assist them with the work. I wanted to give them credit for having done the work quite speedily and being able to understand. And then also for them to learn to share their knowledge with others.

Interviewer: So it was like a multiple purpose. Did you think about this particular strategy before the lesson or was it something that you thought of then?

Martin: On the spur of the moment. Because I thought well let me show the others in the class that what they are doing is not that difficult, that some of their classmates could handle it and could do it quite well, and also for them to share

their knowledge, and also for the others like I said, inverted commas, to feel embarrassed.

Interviewer: Is it the first time that you did this, this year?

Martin: Yes, it is the first time.

Despite the fact that this strategy seemed to work well in that a relaxed but participative atmosphere was realised, Martin only employed it on this one occasion.

Explaining concepts/principles that learners show they are not familiar with

The second most common interactive decision-making incidents were those where, while learners were busy with a worksheet, or while Martin was explaining some theory, learners would indicate that they were not familiar with the concepts or terminology he was using. In such cases, Martin would customarily stop with what he was busy with, and take some time to explain the relevant and necessary terms. A classic example of such an interactive decision occurred during the lesson on *Temperature changes during the course of the day*, when he asked learners to draw a graph of *Temperature versus Time*. I cite this conversation here because it simultaneously illustrates three other dimensions of his instructional decision-making, namely the perennial learner indifference, his interactive efforts to stimulate learner participation, as well as his affinity for using the blackboard:

Martin: Yes, and also I am aware that some learners, while I talk they will have their own petty discussions, you know, something that is not even relevant to what we are doing now. And from experience now, even if I go back to them and ask what they must write, they will say I don't know sir. That is why I go to the board.

Interviewer: So you have not really thought about writing the heading on the board before this point, it was a decision that you made on the spur of the moment?

Martin: Yes, especially when I thought of the word "versus". I was wondering if they would be able to spell this word correctly. This might sound like a new word to them, and even when I said graph of temperature versus time this was when I thought that I

must rather go to the board. Besides the fact that I know that some of them know, some of them might not listen to me.

Interviewer: But that was an instantaneous decision?

Martin: Yes.

Decisions about homework

As stated earlier, homework in the traditional sense of giving learners assignments to do overnight, did not feature prominently over the research period. The few times that Martin did give homework, it was not really preplanned, but sprung from an interactive decision when he ran short of time and did not have sufficient time to allow learners to complete the worksheet or supplementary exercise in class, or where learners were simply too slow and needed more time to complete it. Martin articulated it as such during a stimulated recall conversation on a lesson on *The Periodic Table*.

Interviewer: And as we come to the end of the lesson here Martin, you tell them that you want them to take the table home and have it completed by the following lesson. Did you plan to do that particular assignment as homework, or was it on the spur of the moment?

Martin: Well, to be honest with you, there I felt there was some time left because I could notice that they have finished that one quite quickly. And then just to give them an extra sort of exercise, I decided to draw another table. That table actually was meant to be done as class work but since they couldn't finish the table itself, so I said to them that they can do it as homework.

This account demonstrates that the *learners* in Martin's class formed the main consideration or influence in his interactive decisions, most notably with regard to strategies to arouse their attention, interest and participation. This is furthermore underscored by the ease and willingness with which he suspended his instructional activities to explain concepts or terms which learners indicated they had problems with. Another prominent feature of his interactive thinking was that at times it seemed that interactively (during the lesson) he regularly assessed the progress of the lesson, realised that it did not meet OBE expectations of activity-orientation and learner-centredness, and then injected something that forced learners to become more

involved. This was indicative of his lack of comprehensive and detailed pre-lesson planning, his slavish following of the LSM, and also his inability to efficiently plan for and implement the new outcomes-based philosophy. In all, it surfaced that Martin did not do much interactive decision-making, particularly not to an extent where it would alter the usual course or content of his intended lesson.

5.4 CHAPTER SUMMARY

In this chapter I provided a case study report on one of the Grade 9 Natural Science teachers that I studied, namely Martin Stevens. After an introductory description of how Martin became a participant in this research, I provided an extensive biographical description and a portrayal of the institutional context in which he is teaching. I then identified the main themes and patterns that emerged in my investigation of his understanding of the critical differences between the traditional curriculum, C2005 and the revised NCS. The last part of this chapter was dedicated to an analytical narrative of his decision-making at the juncture of the three curricular strands, and I particularly focused on the main frame factors that shaped his planning (pre-and-post-active decision-making) and his interactive decision-making.

In the next chapter, I turn to the second Grade 9 NS teacher, and provide a comprehensive case report of the main patterns of his understandings, meanings and decision-making that emerged in this study.

CHAPTER SIX

THE CASE OF THABO BILLIANA

"I am a human being, not a machine which can just be programmed…" Thabo Billiana

6.1 INTRODUCTION

In this chapter I report on the second case study of my research into teacher understanding and decision-making during complex curriculum change. As with the first case report, I commence with Section A, in which I provide a biographical portrayal of the respondent, Thabo Billiana, as well as a description of the institutional and classroom context in which he is teaching. In Section B I then give an account of the main findings, as well as the supporting evidence, with regard to the second respondent's understanding of the critical differences between the three curriculum designs, as well as the factors that impact on his curricular decision-making and classroom practice. I conclude with a synthesis of the relationship between his understanding of the complex curricular changes and the curricular decisions that he engages and that frame his classroom practice.

6.2 SECTION A: A BIOGRAPHICAL AND INSTITUTIONAL SKETCH

6.2.1 Finding Thabo Billiana

I met Thabo Billiana about two weeks after the start of the school academic year in 2003. As explained earlier, in an effort to enlist willing, confident and knowledgeable Grade 9 Natural Science teachers for my research, I contacted numerous schools, either in person or by mail. However, more often than not, I met with unwillingness and apprehension from both teachers and principals. One of my few pleasurable encounters took place at Pendle High School, a prestigious and prosperous school situated in a predominantly 'white' suburb in Pretoria, South Africa. I had never before been to this particular school, and did not know anybody there. Therefore, on

the afternoon that I went to the school to make an appointment with the principal, I enquired from learners who the Grade 9 science teachers at the school were. They spoke about a Mr Billiana and another female teacher. Probing a little more about these two teachers, I was quite excited to hear that Mr Billiana was in fact a 'black' teacher. This excited me not so much because I thought that he would be more sympathetic or responsive to a black researcher's cause, but because I felt that it would be immensely interesting to get a sense of a 'black' teacher's curricular understanding and decision-making at a predominantly white school with a predominantly white staff. Nevertheless, in the light of the little success I had had with other teachers, I took care not to be too confident. With departmental letter of permission in hand, I met with the principal the next day, explained to him the scope and extent of my intended research, and asked that he speak to the relevant Grade 9 teachers about my need for committed respondents. I found him very agreeable, helpful and professional, despite the fact that he noted that with the extra workload that followed in the wake of C2005 implementation, he could not guarantee that his appeals to the relevant teachers would yield much fruit.

When I contacted the principal a few days later, he indicated that he had given them a comprehensive description of what the research entailed and what their particular responsibilities would be. Sadly, he noted that Mr Billiana did not show much interest as he was also busy with further tertiary studies, while the other teacher indicated that she would think about it. I returned to the school the following day, and met with Mr Billiana in the staff room after school. I gave him a more personalised outline of the research, as well as the intellectual, pedagogical and 'psychic' benefits that it would potentially hold for him. Following a spirited plea, Mr Billiana thankfully agreed to participate in the research with the proviso that since he had just started a Masters in Business Administration (MBA) at Wits University, Johannesburg, he might at times not be available for after-hours interview sessions. Bearing in mind that by this stage my unproductive search for three willing respondents had reached desperate proportions, I was very pleased with this commitment and immediately made the necessary arrangements with the principal for the long-term classroom observations that were to follow.

6.2.2 Introducing Thabo Billiana

Thabo Billiana is a slender, relatively young male teacher, with four years of teaching experience. At the time of this research, Thabo was twenty-seven years old, and had been teaching at Pendle High School for two-and a half years. During that period he had been responsible for Grade 8 and 9 Natural Science. Before his permanent appointment at Pendle High, he had spent two years at Shenau Secondary School in Burgersford, a small peri-urban town about two hours drive from Pretoria. That was his first teaching position, and he spoke with delight of how he taught Grade 12 Physical Science with much success at this school.

Thabo grew up in a rural Sotho community. His home language is Sepedi, but he is very proficient in Venda and English. He remembers that his love for Science and Science teaching was spawned during his high school years when he was "*very close*", and "*friends*" with the Physical Science teacher he had from Grade 10 to 12. He particularly enjoyed the special knack this teacher had with explaining difficult scientific concepts in the most enthusiastic but simplest of ways. Thabo also gleefully reminisced about a remarkable experience which undoubtedly shaped his choice of career. One day, while he was in Grade 10, this particular teacher came to call him to attempt a problem (on the blackboard), which the Grade 12 class that he was busy with could not solve. He was "*so proud*" that he "*miraculously*"' got the answer right, and subsequently became known as the Science prodigy at the school. These positive experiences, together with a desire to "*pay back to the community*", led to his resolve during his matriculation year to become a Science teacher.

Owing to financial constraints Thabo could not immediately pursue his studies at a university, as he wished to, and settled for Sekhukune Teachers' College, situated in his village. Here he completed a 3-year Secondary Teachers' Diploma, specialising in Mathematics and Physical Science. Thabo concedes that the quality of the training, especially in terms of content, was "*very shallow*", and "*mostly matric stuff*", while greater emphasis was placed on practical teaching aspects such as classroom management.

As soon as he started with his first teaching post (temporary) in Burgersford in 1999, he immediately began working part-time towards his BSc degree at the University of South Africa (UNISA). He completed the BSc Ed degree in 2002, with Mathematics I, Physics I and II, and majoring in Psychology and Northern Sotho. He explains that apart from the fact that he wanted to a get a more solid conceptual and substantive science base, he also wanted to make himself more "*productive*" and "*marketable*". When asked about the quality and scope of his Science training at UNISA, Thabo remarked that though it was definitely more comprehensive than his college training, he found it "*very bookish*", in the sense that "*the more you know your books, the better your marks*".

There can be little doubt that the pace at which Thabo embarked on and completed his undergraduate studies, and his expressed desire to be more marketable, speaks of an ambitious and self-possessed character. Further evidence to this effect is that barely two years into the teaching profession, Thabo applied to and was permanently appointed at Pendle High School, a prestigious and high-achieving school which, at the time, had an all-white staff. This was remarkable, especially bearing in mind that one of the enduring legacies of apartheid education is that teacher demographics at former "whites-only" or "Model C" schools, such as Pendle, were still skewed along those lines. Thabo readily admits that he felt "*very proud*" and "*excited*" to be "*the first black teacher*" at Pendle High, which, in his words, is "*a big, well-resourced school*" much different from the Burgersford schools which felt like a "*graveyard*". In this regard, he made no secret that for him it was a tremendous relief to come to a school where you had "*almost everything*" and where "*you did not have to crack your head to improvise, because everything was there*". Responding to a question on how he was received at the school, Thabo wryly spoke about the mixed reaction from learners, noting that in the main, learners had the perception that he must be a highly intelligent scientist and extremely proficient Science teacher to have been appointed at Pendle High. Paradoxically, a minority apparently shared similar sentiments, as one African learner audaciously told him: *"You know Sir, I have never been taught by a black person in my life and I can't come to your class now to ruin my good record"*.

For all the advantages that teaching at Pendle held, Thabo acknowledged that with time he had become "*used to it*" and that he had come to realise that Pendle High was

a "*normal one*" with both positive and negative aspects. He furthermore conceded that over the previous two years at the school he had started to "*relax*" and "*taking things easy*". It could well be this uncharacteristic sense of complacency that led to Thabo applying for Head of Department posts at a number of schools during the latter stages of the research period. Interestingly, he applied to schools in some of the most prestigious and affluent areas of Pretoria, as well as to less resourced schools in the predominantly 'African' township of Siklova.

Yet another indication of Thabo's ambitious character lies in the fact that during the research period he was in his first year of a challenging MBA course at Wits University. He explained that he embarked on the MBA study in order to be more marketable, and particularly to get involved in the business world.

Going back to Thabo's teaching experience, it is instructive to note that he had never really taught Grade 9 science under the traditional curriculum. His personal experience with the traditional curriculum was restricted to the traditional teaching he himself received as a school learner, the teacher training he received, as well as his first two years of teaching Grade 12 Physical Science at the Burgersford school. The year that Thabo started at Pendle (2002), was therefore also the first year that teachers had to implement C2005 in Grade 9. This means that during the research period (2003) he was in his second year of C2005/OBE implementation. With his teacher training at both college and university level having been directed at Mathematics and Physical Science, Thabo had no tertiary training in Biology and Geography. I make this point because under C2005, Natural Science teachers are expected to facilitate a substantial amount of Biology *(Life and Living)* and Geography *(Earth and Beyond)*. As I shall demonstrate later, this gap in Thabo's subject matter knowledge and competence had a marked influence on his curricular decision-making and classroom practice. This could explain why Thabo registered for and had started to study towards a Basic Certificate in Biology at UNISA in January 2003. This course was sponsored by the GDE, specifically to enhance teachers' knowledge, competence and skill in Biology, and was therefore free of charge. However, a few months into the year, Thabo gave up this particular study.

Having been an avid soccer player, as well as a provincial 400-metre athlete during his school days, Thabo's extracurricular responsibilities at Pendle High were primarily soccer and athletics coaching. As with a host of other sport codes at the school, soccer and athletics were in a healthy and vibrant state of operation, which meant that Thabo very often had to do duties in the afternoons. Most of my interviews with him were therefore held in the early evenings, or on weekends. What helped a great deal in this regard was the fact that Thabo was unmarried and that he stayed right next to school, which was in close proximity to my domicile. As I prepare to provide a descriptive picture of Pendle High, it is insightful to note that the considerably large house that Thabo and two other colleagues were occupying was in fact the property of the school.

6.2.3 A portrait of Pendle High School

The following account is based on my own observational field notes, the school's Internet website (www.pendlehighschool.co.za), as well as commentary from Thabo.

Pendle High School is located in Humewood, a leafy upper middle-class suburb situated in Pretoria, South Africa. Since its inception in 1976, which incidentally was also the year of the great Soweto uprising by black school learners and university students, the school has developed into what is described on the website as " … *a modern co-educational school using English as medium of instruction and a vehicle to appreciate our cultural heritage …"* In working towards a really insightful depiction of the school and its immediate location, I must of necessity point to the fact that in the heyday of the apartheid policies of separate development and white privilege, Humewood was one of the more prestigious 'whites-only' residential areas. It follows then that the school was similarly reserved for white, English-speaking learners. According to Thabo, as the wheels of the apartheid machinery slowly ground to a halt, Pendle was one of the first 'whites-only' schools to actively and visibly welcome non-white learners into its ranks. In 2003 the school had 998 learners, with a considerable number of non-white learners – mostly African, with a few coloured and Indians learners. At the time of the research, the school had 46 teachers, of which four were non-white. Furthermore, consistent with the worldwide trend towards the feminisation of the teaching profession, there were only ten male teachers on the staff.

Thabo also made mention of the fact that only 30 of the 46 teachers at the school were in fact permanent, GDE appointed staff members, while the rest were SGB appointed teachers paid from the school funds. On the one hand this was indicative of the healthy financial state of the school, while on the other it underscored the efforts and resources the leadership put into maximising the learning process by keeping class sizes relatively manageable and increasing the subject options that learners have. It is also useful to remember that although much of the school's current affluence could be attributed, either directly or indirectly, to the benefits afforded by apartheid, the school to a large extent thrived on the school fees, which were R7000 per annum per learner. Considering that Pendle High's immediate catchment areas are all upper-middle class, it is understandable that Thabo remarked that most parents do not have difficulty in meeting this obligation.

On entering the school premises, after signing in at the security guard that patrols the entrance gate, one immediately gets the sense that great care and pride is taken in creating and maintaining an appealing learning environment. The school grounds with their expansive lawns and numerous trees, two cricket pitches and 25-metre swimming pool, are always well maintained. The administration block houses a beautiful entrance hall sporting various artefacts that depict the rich tradition of the school, as well as its countless academic and extracurricular achievements. Adjacent to the administration block, and leading from the entrance, is a spacious school hall, in which the school's weekly assembly and regular fine arts productions are held. The school has a total of sixty-seven standard-size classrooms, housed in six double-storey structures made of a neat orange-red face-brick. Over the years, due to the steady increase in the learner enrolment, ten pre-fabricated classrooms have also been added. Apart from the standard-size classrooms, there are also five science laboratories, accurately described on the school's website as being '*large, well equipped and well stocked'*

Pendle High has some of the best sport facilities that one is likely to find at any school in South Africa. In addition to the swimming pool and the two cricket pitches, which double as soccer fields in winter, it has three tennis courts, a shooting range and a pavilion which overlooks the beautiful school oval. The pride of the school is undoubtedly the spectacular Indoor Sports Centre, which has a gymnasium (for

gymnastics, basketball and volleyball), three squash courts, four change rooms, three sports storerooms, a kitchenette and hospitality facilities.

Based on the fact that I did not specifically focus on a comprehensive and detailed investigation of the institutional culture at the school, I am not in a position to describe it in great length, nor with great conviction. However, based on my own incidental observations during my many visits to the school, as well as my interviews with Thabo, I wish to discuss two institutional aspects that I think are pertinent to a study of the curricular practices of teachers at this school..

Leadership : At the time of this research Mr West had been the principal of the school for two years, having been promoted from deputy headmaster after the retirement of the previous principal. In all my personal communications with him, such as when I first approached him for my intended research, he was highly professional, courteous and responsive. It was apparent that he was a level-headed individual, who cared for the welfare of his staff, and demonstrated a determination to maintain the proud traditions and successes of school. Thabo always spoke highly of the way Mr West managed the school, and readily acknowledged that he "*trusts*" and "*is fond of*"' him. In qualifying his positive perceptions of the school leadership, which by all accounts could be described as transformational, Thabo explained how Mr West had personally taken up the task of mentoring him during his first year at the school. The principal also appears to place a high premium on teacher collaboration at the school, with those teaching the same subject and grades required to meet and consult on a weekly basis. According to Thabo, teachers find these weekly subject meetings very useful and in fact support them enthusiastically. On the other hand, Thabo regrets that very little, if any, specific instructional leadership comes from the office, and that what makes matters worse is that there is no functional Head of Department for Natural Science. As I will expound later, he mostly consults with his nextdoor neighbour, Mrs Taylor, on Grade 9 NS instructional and curricular matters. He also laments that very few staff meetings, at which matters of concern can be thoroughly discussed and resolved, take place – apparently there is an understanding or perception among teachers that they have full confidence in the teachers elected to the SGB to discuss and debate issues in that forum on their behalf. The daily staff meetings are therefore restricted to ten-minute 'information meetings' every morning before school.

Learning culture: If I was merely to look at the fact that Pendle High has over the last five years consistently achieved a 100 % pass rate in the national external matriculation examination, I would have to say that there is an excellent learning culture. Other indicators to this effect are that during my visits to the school, there were almost no learners loitering outside classrooms during teaching periods, while teachers were generally at their posts. Regarding learner commitment, it would seem that most of the problems occur at the Grade 8 to 10 level, with Thabo drawing attention to the fact that disciplinary problems such as late-coming and indifference to academic work had escalated over the previous few years. By all accounts the school has a functional demerit system whereby learners lose merits for different misdemeanours, so that when a certain minimum is reached, disciplinary actions such as the summonsing of parents, detention and so on, are effected. However, Thabo was quick to point out that although most learners are in fact compliant and take the loss of merits seriously, there are a few recalcitrant learners who do not attach much value to it. As I shall demonstrate later, Thabo at times had great difficulty in maintaining learner discipline and attention while teaching the Grade 9B class.

6.2.4 Thabo's classroom context

Thabo teaches in a standard 5 by 6 metre classroom in one of the prefabricated units. A long demonstration table, which is fitted with a tap and sink, is the only sign that it is a Science classroom. As is customary at many schools, the proper Science laboratories with their numerous learner workbenches and attendant storerooms for science equipment and materials are occupied by those teachers responsible for the more senior classes. Whenever he intends to do an experiment, he timeously sends a list of requirements to the full-time laboratory assistant, who then prepares and sets up the materials as needed. In the case of a demonstration lesson, the lab assistant sets the practical up in Thabo's own classroom, but when he wants learners to do the practical themselves, he asks her to set it up in his colleague Mrs Taylor's class, which has numerous learner workbenches specially designed for that purpose.

Thabo's classroom is equipped with a large green chalkboard and two wooden cupboards, thirty-five loose, single-learner tables, and forty beige plastic chairs. For

most of the observed lessons, the learners' desks were arranged in pairs, facing the front of the class, while they were rearranged into groups of 5 or 6 on only two occasions. On the back wall and the east wall, a number of learner-designed charts and posters, mostly of animals, are displayed. The entire west wall of the classroom is fitted with windows, which cross-ventilate with a narrow strip of opening windows situated on the upper side of the east wall.

During the research period Thabo taught three Grade 9 and two Grade 8 Natural Science classes. He did not want to prescribe to me which Grade 9 class to use as a base for the classroom observations, declaring that it made no real difference to him which class I observed, as he essentially did the same work with all three classes. I decided to observe his teaching of the 9B class, purely because their NS time-slots fitted best into both my own schedule of lecturing, and that of the classroom observations of the other two respondents in this study. This 9B class had a total of 35 energetic learners, 24 girls and 11 boys.

Thus far I have endeavoured to describe a broader and more detailed view of the context of the research by providing a biographical sketch of Thabo Billiana, as well as the institutional context in which he is currently teaching. On the strength of this orientation, I now turn to my research findings of how this teacher understands the critical differences between C2005, NATED 550 and the NCS.

6.3 SECTION B: THE RESEARCH FINDINGS

6.3.1 HOW DOES THABO BILLIANA UNDERSTAND THE CRITICAL DIFFERENCES BETWEEN THE THREE SOUTH AFRICAN CURRICULUM STRANDS?

In the following construction of how Thabo understands and articulates the critical differences between the traditional (NATED 550), new (C2005) and the revised (NCS) curricula, I draw on evidence from the initial semi-structured 'curriculum interview' I had with him, as well as a number of other post- and pre-lesson interviews. I begin by providing an account of his perceptions of what 'curriculum' entails. This is then followed by an exposition of his understanding of the three

curriculum strands in terms of the level of prescriptiveness, design features, aims and objectives, content sequencing and selection, strengths and weaknesses of each, and the various directives of each on lesson planning, teaching strategies and assessment.

Thabo's understanding of 'curriculum'

As part of the initial 'curriculum interview', I sought some insight into Thabo's conception of 'curriculum'. That is, whether he saw the curriculum of the school as, for example, all the learning experiences in the school, the official documents from the education departments or the set of subjects offered by the school. This inquiry was necessitated by one of my principal suppositions that a teacher's perspectives on 'curriculum' might well affect the way he or she deals with curriculum policy documents as well as his day-to-day curricular decision-making.

Thabo did not have a classic 'textbook' definition by which people often verbalise exactly what their conception of the school 'curriculum' is. Instead of a succinct explication, he spontaneously spoke in *broad terms* about the defining features of a good curriculum. What seemed to weigh heavy in his mind and what certainly abounded in his response, was that the curriculum should be "embracive" (inclusive) in that it should acknowledge and give due respect to different cultures. In this regard, he articulated his thoughts as follows:

> *I think curriculum has to be very much embracive because we're dealing with different learners, different people. As such when we design a curriculum we design it in such a way that we bear in mind the social economic factors and also the cultural backgrounds. Let's take an example of the previous curriculum where you find that some cultures were being confined to a particular type of curriculum and others other type of curriculum and all those things. But with regard to the new curriculum now, I think it accommodates almost everybody.*

When I purposefully brought the conventional notions of the school experiences and subjects into the discussion, he reiterated his conviction that "*'culture"'* is of paramount importance. However, as can be seen in the following extract, he added that the curriculum should also reflect "*'what we want to achieve out of the children",* and *" what we want the learners to know"*. In line with this, he believes that school

subjects and extra-mural activities such as sport do, in a sense, constitute the 'curriculum' of a school.

> *I think the curriculum has to do with culture, how a particular society lives. That is what we must base our curriculum on when designing a curriculum, what do we want to achieve out of the children. I can say something like sports deserves to be in a curriculum. Our subjects as they are – if we surely know what we want the learners to know out of natural science and we put it in such a simple form so that it can be attainable.*

The importance of diversity and culture in Thabo's understanding of the curriculum also came through very strongly when he explained why curriculum policies should not be prescriptive, and why teachers should be able to make curricular decisions based on the unique needs of their particular learners. He phrased these sentiments in the following way:

> *What the department has is just a general guideline which should not be very much prescriptive. If it becomes much restrictive and prescriptive, then it would be problematic because what is happening in Cape Town, the circumstances around there are not the same as those in Mpumalanga and those in Jo'burg. You as a teacher, I could say you are the one who sometime have to decide what is good for your learners, bearing in mind the circumstances that surround them. But at the same time, it's the department's duty to give the broader guidelines, the parameters that you have to work within, but not how. The how part of it should be left to the teachers, they are the ones to decide they can do this and that in this way. I don't think the department should have too much say on the daily activities in the classroom.'*

What was very interesting in the latter conversation was Thabo's suggestion that "*culture"* is of paramount importance. However, as can be seen in the following extract, he added that the curriculum should also reflect "*what we want to achieve out of the children"*, and *" what we want the learners to know"*. As such, he believes that school subjects and extramural activities such as sport do, in a sense, constitute the 'curriculum' of a school.

> *I think the curriculum has to do with culture, how a particular society lives. That is what we must base our curriculum on when designing a curriculum, what do we want to achieve out of the children. I can say something like sports deserves to be in a*

> *curriculum. Our subjects as they are – if we surely know what we want the learners to know out of natural science and we put it in such a simple form so that it can be attainable.*

What was salient in the latter conversation was Thabo's suggestion that the departmental "curriculum" stipulations should only serve as "guidelines". Furthermore, he believes that even if the 'what' of the curriculum is prescribed, teachers should have the autonomy to decide 'the how'. On another occasion, he expressed the same ideas in the following way:

> *… how you do it should be up to the teacher, because the moment you become very much prescriptive, it's going to be a problem because you find that the resources, some of the schools don't have enough resources. Some of the schools you find that they have learners from a particular background and they can only understand this thing if you do it in a particular way.*

It was evident that Thabo did not have a clear, preconceived notion of what the curriculum is. However, after significant sufficient prodding, he noted that it essentially comprises that which a society holds as important for individuals to know, and that this is traditionally represented by the subjects and activities proffered in schools. He was furthermore very vocal on his understanding that a curriculum should be inclusive in terms of its regard for learners' varying cultures and backgrounds. It could well be that Thabo's personal experience as regards his own assimilation into Pendle High, a school that had a completely different cultural orientation and history, had sensitised him to the powerful relationship between curriculum and culture.

Critical differences between NATED 550, C2005 and NATED 550

As stated earlier, there was a vociferous outcry from teachers and teacher unions against the complexities and implementation challenges of C2005, and this led to a comprehensive review process and an eventual draft Revised National Curriculum Statement (NCS). I hypothesised that teachers would be familiar with the mooted changes and would in some way draw on the NCS for their curricular decision-making and classroom practice. However, from the moment I posed the first of a battery of questions meant to probe his understanding and perceptions of the NCS, it was apparent that he was not at all conversant with it, and had not kept track of the

recent developments. Some of his responses, most notably on whether he was familiar with or had heard of the NCS, were in the vein of:

> *No, I'll be lying, it's the first time. I knew that there was criticism and they were still looking at how to reshape it and all that stuff, but I was not aware if there's anything that has been implemented. No, I don't even know what is in that Revised Curriculum Statement, to be honest with you.*

I was obviously curious to know why, despite the fact that the revision process had been going on for over two years, he effectively had no idea what it entailed. When I questioned him on this, he replied:

> *I didn't have enough time to start to read the original and the revised versions. But up until they come up with something final, then I will take the trouble trying to read it.*

This certainly was a telling statement, for it exposed two significant reasons why Thabo was not conversant with the NCS. Firstly, the *"I didn't have enough time"* phrase, which resurfaced a number of times throughout the research period, indicates that he perceives his day-to-day teaching tasks too time-consuming and demanding to deal with issues that were not yet decreed as official policy by the education department. As I will show later, for Thabo this was a very real perception that impacted on his curriculum decision-making and classroom practice in significant ways. One the other hand, his admission that he had deferred attention to the C2005 revisions *"until they come up with something final"*, seemed to indicate a kind of policy cynicism and frustration with the forceful way that the advocates of C2005 suggested that what teachers knew and had done under the traditional curriculum was irrelevant. This second inference, that he had become a bit cynical about the curriculum reconstruction attempts in South Africa, seems all the more plausible when juxtaposed to his response to the question of whether he thought that it was necessary to refine and streamline the original C2005 version:

> *That's why I've initially said that the main criticism for this thing was that it was somehow saying to teachers what you knew was irrelevant, that was the main thing – even myself I had a problem with it. I have a confidence in such a way that most of the things that I'm doing, I feel that they are still relevant. They just need some adjustments here and*

> *there. I think it's a good thing because they were causing unnecessary confusion. Teachers were starting to say, where am I going learn about range statements, because I've never done them at college. I've never done them at university, only to find that he has done them they are just being put in a new dimension which he is not used to and they are putting it in such a way that he has to start over again.*

Later on in the conversation, while reflecting on some of the critical changes encapsulated in the revised NCS, he made another illuminating statement:

> *I could say right from the beginning I've just regarded OBE to be another way of coming up with new terminologies, but the way of doing things might not be much different. That's why when you told me that okay some of those have been removed, I said okay I think that's how it should have been done a long time ago. But I could say also it didn't surprise me. It didn't surprise me much, even though I did not know it. It didn't surprise me, because I could say I've been expecting it that some of the things are not as realistic as they should be.*

Clearly, Thabo is of the opinion that much of what teachers had been doing in the pre-C2005 dispensation just needed "*some adjustments here and there*", but that C2005 had brought "*unnecessary confusion*" by infusing an unnecessary complexity and verbosity into teachers' daily lives. This, together with a sense of being time-constrained, seemed to be at the heart of his disinterest and detachment from the policy discussions and initial drafts of the post-C2005 (NCS) reform attempts.

On account of Thabo's unfamiliarity with the NCS, I limit the rest of this discussion to his understanding of the critical differences between NATED 550 and C2005, particularly in terms of general perceptions, the design features of each and his understanding of how they differ along three curricular dimensions – planning, teaching and assessment.

General perceptions of NATED 550 and C2005

Interestingly, Thabo did not articulate major aversion or objection to the traditional curriculum. In fact, he steadfastly expressed a belief that the new curriculum, more particularly its OBE foundations, does not differ all that much from the old curriculum. As can be seen from the following response to a question on what his

perceptions of the new OBE policies were, he is of the opinion that OBE and C2005 was erroneously introduced as a "*threat*", and as something completely different from what teachers had been doing, but that essentially teachers had largely been following and implementing the most crucial dimensions thereof.

> *I think it's a good thing. It's just that, maybe it hasn't been well explained to teachers, to learners. It came in such a way that it was introduced as if it's a threat or is a substitution of what we've been doing all this time, instead it's a supplement. We just have to make minor adjustments. I don't think that there's a huge difference to an extent that as teachers we have to go for another training, specifically for outcomes-based education. I think it's a formal way of what we've been doing for some time. Most of the things we've been doing them but not knowing that they are of importance. Now in outcomes-based education the emphasis is on them.*

Later on in the same interview, he rephrased this perception that the newly introduced OBE structure was just a "*supplement*" to the traditional curriculum that only involved "*minor adjustments*" in the following way:

> *That's why I'm saying, if you look at it with a positive eye, all what it is are just adjustments, not the whole phasing out of the thing. It's to be able to tell teachers that this has been done in this way, now we just want you to turn around and do it in this fashion, which is not different from what you've been doing.*

Admittedly, this was a puzzling position for me, especially in the light that he was a fairly young and vibrant teacher who had never really taught solely under the NATED 550 policies decrees, and that he came from an educational environment which decidedly bore the brunt of the old educational dispensation. I subsequently asked him whether his perception that teaching under NATED 550 was to a large extent the same as the new curriculum was true for all teachers. He hesitated before answering:

> *I'm not quite sure of that, but I think you just always think of an education, we are specifically referring to something that is more or less common because it's about experiencing things, it's about changing behaviour, I therefore think… I can say all those teachers that have been applying them unawares… maybe they were not putting much emphasis on them.*

Thabo then continued by making a statement that most succinctly sums up his general perceptions of NATED 550 and OBE/C2005.

> *Even though you were doing the outcomes-based education things, sometimes you never noticed that this is outcomes-based education related because the concept outcomes-based education didn't exist by then.*

In a further extension of his perception that there is a marked resemblance between NATED 550 and C2005, Thabo provided some insight into his own understanding of why many teachers are supposedly not in agreement with the new curriculum policies. In essence, he believes that the 'deficit approach' that South African curriculum change administrators took, that is, that what teachers had been doing under the traditional curriculum was wholly amiss, resulted in a "*resisting mechanism*" in some teachers:

> *One more thing was that the training, the emphasis was on the fact that what we were doing in class was wrong – all that we had been doing all the time was wrong and we had to change. In a way it created a resisting mechanism in some of the teachers. To do away with what you had been practising for some time is not easy, instead of putting it in a more positive way, like "guys don't worry about this, this is just going to change a few things, building on what you already know".*

As can be inferred from the following extracts, Thabo had a strong affinity to NATED 550, and felt that the fact that it privileged content to a far greater extent than C2005, was commendable:

> *Definitely, I could say the old syllabus produced lots of academics, whilst this new curriculum it's going to produce a lot of business people, business minded people who don't have a good knowledge of the subjects. They will just know how to apply their science to maximise their profits. But as far as the actual content of the subject is concerned, you will find that it doesn't have it. Because if you look at our learners, you will find that … – let me give an example of Mathematics, at Grade 9 learners don't even solve any quadratic equations… Therefore the old syllabus has been good because the people were very bookish, they were very good in learning facts, memorising and all those things.*

On the other hand, as can be seen in the following quotations, Thabo had a number of scathing criticisms of NATED 550 and the manner it had been implemented in classrooms across the country. He believed that it was too prescriptive, too abstract and detached from learners' life world, and that this often led to learners not enjoying the learning process. In addition, he also took issue with that fact that the traditional curriculum placed such high stakes on examinations, without a genuine interest in what learners knew and could do.

> *What I can say about it is that it was very much abstract in a way to such an extent that until you go to university you don't realise what Maths is for, what is Science for. Because you are just told about Researcher's Laws, you don't have an idea of where you're going to use these laws. You don't have the context to place all those Researcher's laws. I could say the system was very much abstract, in a way there was more strain on the learners. You just had to tell yourself that you wanted to be educated without really enjoying the whole learning process.'*

> *The emphasis was more on examinations. They were not interested in what you as a learner are capable of, what you were interested in, there was no time for that. Therefore we can go back to the point where we said they were very much prescriptive, therefore a teacher was forced to do this in a way the departments wanted him to do it. I can say that's how you can characterise it – it was very much rigid in a way – you either follow in or fall out. There was no in betweens.*

In sum, it is evident that Thabo did not have a strong aversion to the traditional curriculum, and identified both positive and negative aspects of it.

Turning to C2005, and particularly its underlying OBE tenets, Thabo noted that he felt positive about the new curriculum, but quickly cautioned that it is not easy to implement in cases where classrooms were poorly resourced, or where there are veteran teachers who had been teaching the traditional curriculum for years. For example, on the question of whether he thought OBE could be successfully practised in schools, he replied:

> *It's not very easy, but it needs teachers to be very positive towards it. It's not easy in the sense that you find that some of the things that you have to do in an outcomes-based education class, you find that in some schools it's totally impossible. Think of a school where there are no tables, therefore all those teachers, when working in groups, you find*

> *that they are doing their work on the floor. It depends on how well equipped the school is and also the level of education of teachers at that school. If you go to a school that is mainly run by old people, obviously it's not going to be very easy for them to implement the Outcome Based Education , they don't have the energy, they won't have the eagerness to experience new things. As you know, old people usually are not willing to change, they already have their own ways and standards. It will depend on the formation of the school. But generally it can be applied in every school.*

Later on in the same interview, Thabo reiterated his affiliation to OBE. However, as is evident in his next statement on its apparent "*general knowledge*" nature, he has serious reservations about whether it is the appropriate pedagogy for the senior secondary phases.

> *I'm positive, especially in Form I and Form II, as it is now. But beyond that I don't think it can work because it is then that they will have to change a lot of things, because I feel that it's good in building a learner's general knowledge, it's good at that – the basement assessment, I call it that because it's assessing a lot of things about he learner and of which when we go higher in education, sometime we tend to be more specific. You will therefore find that, as I've said it's going to produce those people who knows everything, they will be Jack of all trades, but they will be mastering none of those.*

Thabo's perception that OBE fostered a "general" and "undemanding" kind of education which lacked sufficient substance found voice in another interview when I asked him about his understanding of one of OBE's fundamental principles, namely learners must construct their own knowledge.

> *The learners themselves might feel it's easier for them to construct their knowledge, but the value of that knowledge you'll find that it's useless, because as a teacher you must be concerned of the ultimate result. You might engage them with funny things, you'll find that the whole lesson they are busy. But at the end of the day what is the real thing that these learners have gained? Nothing. But you have been there and you have achieved all those requirements from the Department that learners should do this percentage of talking; that they should do this percentage of doing things. Yes, you've achieved that, but what is the real thing that these learners can at the end of the day say we have achieved? You'll find that it's almost nothing. It leads us with a situation where you'll find that there are some learners from the primary now who are coming to the secondary but they cannot*

even write. They are even unable to write. They aren't able to read properly'

Another aspect of Thabo's understanding that I investigated was the extent to which he differentiated between OBE and C2005. From his initial few responses in the 'curriculum interview', it seemed that at times he conflated the two concepts and used them interchangeably. This was especially evident in the way he explained that there is not much different between the traditional and the new curriculum. On the face of it, he seemed to be referring to the C2005 as the new curriculum, but he was actually referring to the fact that under the traditional curriculum, many teachers were in fact practising outcomes-based principles such as learner-centred teaching and 'extensive group-work'. Nevertheless, when I got to the very direct question of the relationship between the C2005 and OBE, he responded in the following way:

Interviewer: Curriculum 2005 and outcomes-based education, how do you see the link between the two, is it the same thing?

Thabo: I could say Curriculum 2005 is delivered through outcomes-based education, there is a very strong link between the two. If you look at Curriculum 2005, states most of the things that are in outcomes-based education. It is almost one and the same.

Although he ended this response rather abruptly and did not give a very comprehensive explication of exactly how C2005 and OBE connect, the latter extract sufficiently demonstrates that although he believes that "*it is almost one and the same"* and that "*there is a very strong link between the two"*, his comment that "*C2005 is delivered through OBE"* reveals a perception that OBE is the underpinning pedagogic principle of the new curriculum.

Despite Thabo's expressed perception that there is not much difference between NATED 550 and the new curriculum dispensation, and despite the fact that he felt positive about the C2005 fundamentals, he complained that it created a much greater workload for teachers. When I asked him what his perceptions of C2005 were, he replied:

My perception is still positive, but the only thing is as far as the paperwork is concerned, I think it's where teachers are getting it tough, especially with their assessments, the point that is almost next to

> *impossible to keep all those records that they need. …You find that they must keep all those learners profiles, learners portfolios, all those things. All those dynamics, that's the stress that's put on teachers. That's why many teachers feel that this thing is rubbish. It's putting extra load on them and without taking away some of the responsibilities that they've been doing. They're still expected to teach the whole 10 lessons but still do extra work on that, that's the main thing, it's a lot of work. Those people who were criticising it, they are criticising it not on the basis that it's bad but because it's almost impossible to cope with all these demands.*

In all, it was a real challenge to construct a clear and coherent picture of Thabo's general perceptions of NATED 550 and C2005. This difficulty was brought about by the fact that some of his responses to crucial interview questions appeared to contradict each other. Moreover, on the one hand, he confidently and consistently maintained that there was no real difference between the two curriculum strands. On the other hand, he was at pains to point out how difficult it was to implement OBE in poorly resourced schools, suggesting that there it is significantly different from the traditional curriculum. In the end, there is sufficient evidence to suggest that at the time of this research, Thabo himself was not clear in his own mind on what his position and disposition to each should be. It could well be, and I am particularly drawn to this alternative explanation for his 'fuzziness' of perception, that he is reluctant to be too critical of the traditional curriculum and its predominant form of implementation simply because his own classroom and curricular practice is still dominated by the traditional curriculum.

Design features of NATED 550 and C2005

As borne out by the following extract, Thabo appeared not to be knowledgeable on the design or structural features of NATED 550.

> *As far as I remember, they were designed in such a way that, as I've said, the emphasis was more on examinations. They were not interested in what you as a learner are capable of, what you were interested in, there was no time for that. Therefore we can go back to the point where we said they were very much prescriptive.*

What I could gather, after revisiting the question in a number of different ways, was that he knew that the traditional curriculum was built around a set of goals, aims and

objectives, but that he could not recollect their relationship, nor could he verbalise any one of them. Thabo's lack of knowledge of the architecture of NATED 550 was understandable considering that most of his short teaching experience had been under the directives of C2005. Based on the fact that he had taught NATED 550-oriented Grade 12 and Grade 10 Physical Science, albeit only for one year and with one class for each, and that his three-year teacher training course had been NATED 550 aligned, I thought that he would be slightly more conversant with its design features. Thabo's inability in this regard suggests that he had never consciously and deeply reflected on the architecture of NATED 550, or that he had done so in the past but had forgotten them. My own impressions were that he just could not remember, and that this lapse in memory was no doubt brought about by two factors. Firstly, the broad design features of NATED 550 were not integral to his day-to-day planning and pedagogical style, even when teaching Grade 10 and 12 Physical Science. Secondly, the intensity and complexity with which C2005 was introduced, and the degree to which the traditional curriculum was defamed by curriculum officials, gave him the impression that attention to the finer details of NATED 550 was superfluous. Perhaps a third reason could be that he is by nature a pragmatic teacher who does not trouble himself with broad structural design, but instead focuses on day-to-day practical teaching aspects.

Similarly, Thabo conceded that his knowledge and understanding of the broad design features of C2005 was also severely limited. He certainly was familiar with most of the C2005 design terminology such as critical outcomes, specific outcomes, range statements, performance indicators and assessment criteria, but as the following extracts from the extensive 'curriculum interview' illustrate, he did not have a clear understanding of the exact purpose and composition of any of them.

> *…I cannot say that I know all those specific outcomes and all those ranges and all those performance indicators. sometimes, you find that most of those things just happen automatically without you as a teacher saying "I am now dealing with this, I am now ..", they just happen during the lesson. As I've said, it's going to take a while for us to know that I've been doing this. For now as long as you have a broader guideline of outcomes-based education, most of the things you just find that you are doing them.*

Interviewer: Things like performance indicators and the way in which it was explained, and all these technical concepts. You yourself, do you feel that you've got full understanding of how they differ from each other?

Thabo: Not necessarily. Because I remember attending a course, during the course we were speaking of those range statements and performance indicators. But some of them, I can just say they are just evaluation methods sometimes and how to evaluate your evaluation, how successful was your evaluation and of which sometimes we do .., we've been doing, when we bank items, in the old syllabus when you have to bank the successful items.

Interviewer: Last year, and also this year, are you consciously thinking about and worrying about what the performance indicators are and what your range statements are?

Thabo: I am not worrying so much about that.

Interviewer: Is it because you don't really understand what it's all about?

Thabo: I can say partially so, and partially because I just believe in what I'm doing, I'm doing them even though I might not be aware of that. I just believe that I might be doing them not being aware that these are those range statement and this are those things.

In the last quote Thabo acknowledges that he does not clearly understand the technical design features of C2005, and that this partly explains why he does pay attention to it when planning and executing his lessons. However, what filters through in all three quotes as probably the most compelling reason for his unfamiliarity and detachment from the broad design elements of C2005, is his belief that "*we've been doing them"* and "*I'm doing them even though I am not aware of that"*. These disclosures underline his belief that, in principle, C2005 does not differ much from the traditional curriculum and that over the years teachers have always "*… been doing"* new organisational and design elements of C2005, but in a less informal and decreed manner.

In the following statement Thabo provides some insight into why he has not yet come to grips with the C2005 design concepts.

> *… I just regard them to be the topics and the theme. Because you'll just find that they say program organiser is Environment. It doesn't make sense to me sometimes. Ja, sometimes it doesn't make sense to me.*

His concession that the design detail of C2005 does not make sense to him is understandable when one considers the wider research evidence that teachers in South Africa generally found it complex and verbose. As Thabo also rationalised, much of this sense of complexity is attributable to that fact that the few cascade training workshops that he attended were presented by individuals who themselves could not explain the essential features of the new curriculum adequately. Moreover, many of them had been never been classroom teachers and therefore tended to make abstract generalisations which were not rooted in the realities of classroom life. What was strange though, was that in spite of these shortcomings, Thabo revealed that he did not have either the generic C2005 policy documents or the Natural Sciences documents in his class or at home. He further noted that it had been some time since he last consulted either of them. In fact, he had the following response when I asked him if that meant that the policy documents and the design features inherent in them did not feature in his planning and instruction:

> *Not so much. It's like initially when it was introduced it was then that we had to worry much about what are these things and tried to understand as much about it, but lately it doesn't. It's just like giving me a lot of unnecessary studies, while I have my own studies. I don't bother myself looking into it.*

A further indication that Thabo was not conversant with the architecture of C2005, and did not “bother” himself too much with it, lies in his response to my question on whether he knows the four strands of the Natural Science curriculum. Although he had dealt with them in both Grade 8 and 9 over the previous two years, he could only recollect one of the themes during the ‘curriculum interview’. In his own words:

> *I just remember them usually when we're studying that chapter I can say I am, usually for now we are doing energy etc. I can say sometimes I do try to relate what I am doing with those strands, but sometimes, it's human, one forgets and concentrates on the content.*

Planning

I noted earlier that Thabo's experience of teaching under the mantle of NATED 550 was limited to two years of teaching Grade 10 and Grade 12 Physical Science. This, together with his three-year teacher training, which was also done in the vein of the traditional curriculum, formed the experiential foundation from which he recounted how teachers were expected to do comprehensive lesson planning under NATED 550. Such a lesson plan, which had to be written out, had to specify the aims, objectives, teaching methods, resources, consolidation exercises and assessment strategies. What was interesting about Thabo's account was the following statement, which crystallises his understanding that there are there is not much difference between C2005 and the traditional curriculum:

> *The plan was like you had to show the main topic and the subtopic and from there you had to show the aims. What is it that you want to achieve, the aims of the topic and the objectives of the subtopic, more specific – like general outcomes and specific outcomes.*

He further reported that he was not sure how prescriptive the syllabuses of the traditional curriculum were in terms of content, aims and objectives, but noted that even if they were not very prescriptive, it seemed that most teachers willingly and conveniently accepted them as being prescribed by the education department.

Thabo articulated an understanding that C2005 affords teachers considerable flexibility and autonomy to design their own learning programmes, in which they design and shape the expected critical and specific outcomes, content, teaching methods and assessment criteria around the needs and developmental levels of their learners. As can be expected, given the fact that he was not conversant with some of the other design features, such as phase organisers, programme organisers, performance indicators and range statements, he did not refer to them at all during his explication of the planning dimensions of C2005. Understandably, he also did not or could not explain how the various dimensions and design features connect to each other in terms of establishing a NS learning programme. What he did underline was that under the new curriculum dispensation, lessons should be open-ended, that is, not cast in stone. Apparently, this was to allow for learners to explore issues that interest

them and which they raise in class. He also made mention of the fact that teachers were expected to integrate other learning areas with their own. The following extract, in which he once again conveys the notion that essentially C2005 is not much different from NATED 550, provides some clarity on why his understanding of planning under C2005 was rather limited. In response to a question on what the department officials wanted to see when they came to look at his planning, he replied:

> *I think these guys like the specific outcomes so much that I think some of them if you can just write SO1 and SO 7 they will go without even checking anything. It's more or less the same. If I was doing those daily lesson plans I will do it, not very much different from the old one which we have discussed. But now as I'm saying, I will just have to check on those specific outcomes, general outcomes. I want to achieve this and somehow include some of the assessments that they have now come up with. You will find that now they have translation tasks which we were doing but we never had those terminologies. I think what they've changed is the terminologies, mostly but the content is still the same.*

Clearly, Thabo's belief that there was not much difference between C2005, and that "*what they've changed is the terminologies, … but the content is still the same"*, feed into his understanding that much of the planning and design features of C2005 are mere synonyms for NATED 550 planning and design terms.

Teaching

A major anomaly in Thabo's understanding of C2005 and NATED 550 is that, on the one hand, he maintains that there is not much difference between the two curricula. On the other hand, he enumerates a number of ways in which they diverge along teaching or instructional lines.

- In Thabo's mind, outcomes-based C2005 differs from NATED 550 primarily in terms of the new or more prominent role of the teacher as facilitator of the learning process. As can be gathered from the following response on how teaching expectations have changed, he understood this to mean that he was now expected to be a "*director"* or "*referee"* in his class, to build on what learners already knew

or "*come up with*", and to be more responsive to the needs and wants of his learners.

> *I think it has changed drastically because teachers now plan to be the referees or the facilitators of the learning process, where the learners themselves are the active players during the whole process… Not the one who's always doing all the talking – he is just directing. Today we are going to deal with this, and if we deal with this the learners will come up with all that they know on the topic and you just have to put them in a way that is going to, at the end of the day make it easier for all of them to understand. After all you are working on what those learners will have come up with, that's why the role has changed because the teacher now will need to be more open, will need to have an ear to learners, listen to them and be able to simplify some of the things, put them in such a way that every learner would be able to identify.*

Integral to his notion that C2005 required teachers to be facilitators of the learning process was his understanding that under NATED 550 teachers were not particularly inclined or encouraged in this way, but that they largely adopted a transmission-oriented pedagogy. In this regard, he noted that although there was no outright prescription that a transmission approach should be followed, teachers invariably resorted to such a "*telling method*". He remarked that, "*they used to say they budge, budging, just talking and at the end they employ a question and answer method*".

- Thabo linked the new 'facilitator' role with the fact that under the new curriculum format, learners were to be more 'active' and 'engaged' in the learning process, instead of, as was the case with the traditional lecturing method, passive receptacles of the authoritative knowledge of the lecturing teacher. For him, 'active learners' implied two things. Firstly, as the following quotation reveals, he equated this concept with group work.

> *The active part of the learner, it's group work, where you find that learners have a chance to communicate among themselves and also you find that learners also are given a chance, a fair chance to come up with what they know about the content. It's not just a matter of saying this is how it works, we do it the way the teacher tells us to, and if you do it your own way it's wrong.*

Secondly, it also transpired that he understood 'active' learning to mean that the teacher

> *… must work hand in hand with the learner to achieve the objective… the whole teaching is not just about the teacher, the learner must also get involved,… it must be a two way process, where you have to give the learner a chance to say what she/he understands what the topic is about – sometimes be forced to bend and accommodate his or her perspective.*

Thabo believed that this the greater emphasis on 'group work' is a marked shift away from the NATED 550 pedagogy where:

> *Learners would do the work individually, which was the main dominant feature in the old curriculum, where you would find that the learners would do almost all the work as an individual, emphasising the individual type of learning.*

- On numerous occasions Thabo expressed a belief that the greater flexibility and autonomy that C2005 afforded teachers in terms of content selection and sequencing, placed a greater challenge and demand on their sense of creativity and innovation. Of NATED 550 he noted: *"it was not challenging their abilities as teachers – you didn't have to be innovative, you had to stick to what is there"*.

- Another departure from the traditional curriculum, according to Thabo, relates to the fact that under NATED 550, objectives, aims and the concomitant subject content of lessons were often abstract and detached from the learners' life-world. In contrast, C2005 expects teachers to encourage learners to make connections between the theory and its practical application in their daily lives. He phrased his thoughts on this matter in the following way:

> *If you look at those are aims of the old curriculum and the one for the outcomes-based education, they are different in a way that in the old syllabus you will say 'I want my learners to know that Ohms Law states like this. At the end of the day they will know that but they will never how to apply it or how is it related to their daily lives. That's the only difference. There were aims, there were objectives that were stated in the old syllabus, but they were still abstract to the learners.*

- Thabo was also of the opinion that the more active, engaged and group-centred teaching under C2005 invariably led to classes which were "noisier" than in the past. After a particularly boisterous lesson, I asked him whether OBE implies noisier classes. He remarked:

> *Yes, I could say that OBE is somehow a bit noisier, because learners constantly are involved in sharing their views and all that stuff. Instead of just keeping quite and listen, but to be honest it is not what every teacher expected. You know as a teacher you always wished that your learners could be very quiet, very quiet but, that of course is something that we will have to become used to as teachers.*

- One of the most significant and instructive observations that he made with regard to the 'teaching' difference between the old and the new curriculum, was that C2005 Science was "*shallow*". He felt that it did not constitute "*real science*", as was the case with the content-heavy and often abstract NATED 550 Science. As I will demonstrate later, this perception stemmed from his acknowledgement that the LSM that his students were using, and which was supposedly aligned to C2005, was too simple and unchallenging for Grade 9 learners. In his own words:

> *The problem is they only do that shallow stuff up until Form 2. When they go to Form 3 they will have to face the real Science. Then that's where your problem starts. Yes, because I have been teaching Grade 10 myself last year. Then I knew what was happening in those classes. You'll find that most of the kids do not have even a background of basic Science in Form 2. Now they are in Form 3. They have to do real Science, but they are still in the mood of carrying on where they have stopped last year. Now you find that things are different and their marks are dropping drastically. … when coming to Form 3 now you'll find that they have to do something, which is quite different, abstract and very limited as far as daily applications are concerned. They start visualising things, taking them form an abstract level. Then to most of them now it becomes a nightmare.*

Assessment

Thabo emphatically and recurrently stressed that C2005 was "*very much different from the old curriculum*" in terms of the methods and scale of learner assessment. He noted that: "*it sometimes becomes very difficult to cover all those forms of assessment*". In his mind, the 'assessment' differences included the following:

In the first instance, under NATED 550, teachers used a limited set of assessment strategies, namely class tests, homework and, of course, high-stakes examinations. In contrast, a fundamental principle of outcomes-based C2005 was that teachers were to employ a much greater variety of assessment techniques, such as peer assessment, projects, translation tasks and examinations. Thabo also believed that the tenet of continuous assessment necessitated a more regular and continuous application of these various assessment methods, much more than the irregular and sporadic way in which many teachers approached assessment in the past. Although he was in agreement that this multiplicity and continuity of assessment theoretically enabled teachers to focus on different aspects of the learning process, he expressed grave reservations about the tremendous burden that the C2005 assessment directives placed on teachers. He bemoaned the GDE directives on CASS[4], in the following way:

> *That's the most difficult thing as far as OBE is concerned. That is why I have said that the only strong points that I find in this Wonderboom book is helping us with regard to assessment, because it's a nightmare for every teacher to do all those types of assessments.*

Furthermore, as can be inferred from the following extract, Thabo believes that in contrast to NATED 550, C2005's emphasis on continuous and variegated assessment creates a much greater amount of administrative paperwork for teachers.

> *My perception is still positive, but the only thing is as far as the paperwork is concerned, I think it's where teachers are getting it tough, especially with their assessments, the point that is almost next to impossible to keep all those records that they need. It will go*

[4] Thabo had an identical explication of the GDE directives for continuous assessment (CASS) in Natural Science as Martin, the first respondent. For a more detailed outline, refer to Chapter 5, The case of Martin Stevens.

> *to an extent where a teacher will have to have an assistant who will keep the personal paperwork as you are busy teaching. You find that they must keep all those learners profiles, learners portfolios, all those things. Some of them have to be updated on a daily basis and some of them will have to do remedial work and reports on how successful they've been if there are no improvements. All those dynamics, that's the stress that's put on teachers.*

Another difference that Thabo drew attention to was that NATED 550 assessment was much more "*individualistic*" in nature than that of C2005, where the greater emphasis on group work meant a greater emphasis on group assessment. As demonstrated by the following statement, he made no secret of the fact that he preferred the "*individualistic*" approach of NATED 550 assessment, which really tested the "*true ability*" of each individual learner.

> *The type of examinations, even though I criticise them partially, but on the other hand they were true reflections of your ability. If you pass the examination you know that I'm capable, I'm able to do this. That's what I feel the old syllabus was very good at compared to now. If you now pass a learner in Grade 9 you find that there are chances that 60% or 70% of the work he has never contributed anything to that but he passed because there are many things that go around the allocation of marks, with some of them you might not have control over them as a teacher. I could say it's not a true reflection of how capable a learner might be sometimes.*

Interestingly, throughout all the interviews Thabo never made direct mention of the purpose of assessment under either NATED 550 or C2005, neither did he refer to the role of formative and summative assessment, concepts which were integral to the introduction and advocacy of the new curriculum. However, from his more general comments on this issue, it is clear that he did not see a real difference between the purposes of assessment under NATED 550 and C2005. It is also clear that in his mind, assessment is essentially there to "*test*" the "*true ability*" or "*how capable*" a learner is.

Synthesis

In the foregoing account of Thabo's understanding of the curriculum changes in South Africa, a number of aspects came to the fore. Firstly, at the start of the research

project he had no idea of what the revisions of C2005 encapsulated in the NCS entail, and that there was no significant change in his understanding and application of the NCS over the subsequent months. Secondly, in his mind he had conflicting notions of the differences between the traditional curriculum, NATED 550, and C2005. On the one hand, he repeatedly and ardently stated that there was essentially not much difference between the way teachers operated under NATED 550, and what was expected under C2005. In line with this, he was of the opinion that much of the complex new concepts of C2005, such as phase organisers and specific outcomes, was an unnecessary modification and complication of what teachers were in fact doing under different terms under the traditional curriculum. On the other hand, what seemed to conflict with his notion of the reincarnation of NATED 550 as C2005, was the way he enumerated a whole range of stark differences between their teaching and assessment directives, chiefly in terms of the change from the teacher as authoritarian depositor of knowledge to facilitator of the learning process. He was also very vocal in his opinion that C2005, particularly the assessments demands, added a much greater burden to the workload and classroom life of teachers, and that this was the main reason why many teachers were ill disposed to it. All in all, despite the fact that he disapproved of the prescriptiveness of NATED 550, he extolled a number of its virtues, most notably its content heaviness. Similarly, he noted that he felt positive about a number of aspects of the new curriculum, such as the greater flexibility in decision-making that it affords teachers, but that the greater workload it engenders for teachers is a major weakness that will debilitate efficient implementation.

This exposition of Thabo's understanding of the critical differences between the three curriculum strands now forms the backdrop for the next section, in which I give an account of his curricular decision-making at the interface of curricular change in South Africa. I will illustrate and provide evidence of the kind of decisions he makes with regard to planning, teaching and assessment, the rationale or thinking behind these decisions and the factors that impact on them. From there I want to show the connection between his curricular decision-making and his own personal understanding and sense of the critical differences between the various curriculum strands.

6.3.2 HOW AND WHY DOES THABO BILLIANA MAKE STRATEGIC CURRICULAR DECISIONS AT THE INTERFACE OF THE THREE CURRICULA?

Introduction

In line with the C2005 notion of the teacher as semi-autonomous decision-maker who has extensive authority to make various curricular decisions, the following section aims to provide evidence of Thabo's curricular and instructional decision-making. I specifically focus on the *planning (pre-active and post-active) decisions* he makes with regard to lesson planning, content selection and sequencing, teacher activities, learner activities, degree of integration, practical work, homework, assessment and so on. Furthermore, in exploring the correlation between Thabo's curricular decisions and actual classroom practice, I also provide evidence of distinctive patterns in his classroom practice, as well as deviations from these patterns. I then conclude with a synthesis of the main themes emanating from this.

The evidence presented in the following section is based on numerous pre- and post-lesson interviews, stimulated recall sessions, document analysis, as well as classroom observations of Thabo's lessons spanning all four of the prescribed programme organisers, namely *Life and Living, Energy and Change, Earth and Beyond,* and *Matter and Materials.*

As was the case with the first respondent, it became abundantly clear within the first few weeks of interacting with Thabo that the single most influential frame factor in his decision-making is the learning support material (LSM) that is used at his school, namely the *Wonderboom* series. For the most part, the LSM appeared to be the ultimate 'decision-maker' with regard to which outcomes to focus on, content selection and sequencing, teaching and learner activities and assessment strategies. I have therefore similarly opted to start the following exploration of Thabo's curricular decision-making and classroom practice with extensive evidence of the defining role of the *Wonderboom* LSM. I then follow this up with an account of the other secondary frame factors that impact on his curricular decision-making, such as his subject matter knowledge, parental pressure, departmental directives and signals from the Grade 10 teachers and learners.

Thabo's response during the pre-lesson interview held before a planned lesson on *Factors influencing resistance*, when I asked him why he had made the decisions to do that particular section, succinctly sums up the authority of the LSM in his decision-making:

> *No decision led to this, it's just that it's the next thing in our activity book after doing the circuits – therefore the next thing is factors influencing the resistance of a resistor – usually we follow whatever is in the activity book.*

As stated earlier, the activity book that Thabo is referring to and that is "usually" followed is the worksheet-based *Wonderboom* book, which largely consists of worksheets under various chapters or themes to cover the four different NS programme organisers. These chapters consist primarily of descriptions of various activities that learners should engage in, for example, group discussions or teacher demonstrations, followed by worksheets on which learners have to fill in the answers to different questions. For Natural Science, this activity book is supplemented by a Support Book, which provides notes for learners, and a Teachers' Manual, which provides teachers with the critical and specific outcomes, phase organisers and so on of each chapter, and the answers to the worksheet questions. In contrast to the first respondent's school, where teachers had to make copies of the worksheet activities for learners, at Pendle High, each Grade 8 and 9 learner was expected to buy the full set of the *Wonderboom* series, that is, one activity book for each of the learning areas. In the Grade 9B class that I observed, all the learners had their own personal *Wonderboom* activity books, which differed considerably from the traditional, content-heavy Science textbook that Grade 9 learners had used a few years previously.

Before I give evidence of how Thabo in fact employs the *Wonderboom* books in his classroom practice, I think it appropriate just to give some idea of his thoughts on the quality and usefulness of these books, and how they came to be used at Pendle.

According to Thabo, the decision to make the *Wonderboom* series compulsory for all the Grade 8s and 9s at Pendle High was taken by school management three years

earlier. Towards the end of the first year of implementation, teachers were afforded the opportunity to make recommendations on how the books could be adapted, and these were then forwarded to the editors. Thabo never expressed any dissatisfaction with the fact that the decision to graft the *Wonderboom* books was top down. However, as can be seen by the next statement, he did not have a high regard for the quality of the *Wonderboom* LSM, and often complained that it was much too "restrictive", "superficial" and sparse in content for Grade 9 NS.

> *I could say the material is very straightforward and of which sometime it's not ideal for learning. It's good in a sense that you as a teacher you have to focus, you know that at the end of the year I should have done this and that but for the general knowledge of the learners, I don't think it's enough for that. It tends to be very much restrictive … superficial and at the same time very much straight to the point …*

Despite these negative perceptions of the structure and scope of the *Wonderboom* worksheets, Thabo relied on them quite extensively for decisions on planning, content selection and sequencing, and so forth.

Planning style

In this introductory section on Thabo's *planning style* I provide evidence of his planning strategy (yearly, quarterly or weekly), the level of comprehensiveness in preparing for individual lessons, the level of collaboration in planning, and the degree to which he documents his lesson plans. Much of this is summed up in the following extracts of various pre-lesson interviews that I had at different times of the year, and at which I revisited the question of the format and extensiveness of his planning.

> *Because the activity books seem somehow to prescribe to you what to do today and all that stuff, you find that you are very lenient in doing your actual planning. But some years ago while there were not those activity books, even here at Pendle, my first year, we never had those activity books. Therefore I used to do a lot of my own planning, because I had to have an idea of what to teach today and all that stuff.'*

Interviewer: So you say that your planning, is it more in your mind, there's not a lot of writing down to describe every little detail of every minute of the lesson.

Thabo: No, as long as you can just write down the topic and what you want to achieve at the end of the day. Ja, usually how to achieve it, you just leave it there.

Interviewer: Do you think it's the fact that you have more or less four, five years of teaching? So you've got a bit of experience now already and that is why you don't find it necessary to have a detailed lesson plan written out or would you say it is more because you have good activity books and support materials, which form the basis of your planning?

Thabo: Ja, I could say the second one might be the reason, because as far as I remember in my previous school I was doing a lot of planning.

These acknowledgements explain why Thabo did not have a dedicated planning book or file, but placed his confidence in the *Wonderboom* books as sufficiently comprehensive in terms of preparing for lessons. It goes without saying then that there was no really intensive yearly or quarterly planning, but that it was accepted by himself and his Grade 9 NS colleague that the *Wonderboom* activity book would serve as the course of action for the year. This seemed to be the general modus operandi at the school, as evidenced by Thabo's account of how the school leadership mooted the idea of all teachers documenting comprehensive daily lesson plans :

I could say, especially the old teachers, they never even wanted to hear anything about the daily planning. I could say that one of the things that contribute in the Wonderboom books, you feel like everything has been done, they've mentioned all those SOs, all the stuff. Then you just feel like, what's the use? The only thing is just to write the day that I've done from here to here then tomorrow I will go from here to here.

As foregoing extract also illustrates that Thabo believed that it was a waste of time for him to design his own learning programmes with all its requisite critical and specific outcomes, phase organizers, and learning outcomes, as the *Wonderboom* book already provides a ready-made learning programme. In one pre-lesson interview he remarked that, *"sometimes you find that that most of the things that you will be writing down have already being set out there"*.

As I will demonstrate later, Thabo had a relatively close working relationship with his NS colleague, Mrs Taylor, who was incidentally in the room immediately next to his. In fact, it was an institution at the school that teachers within a specific subject grade meet on a weekly basis to discuss subject-related issues such as their progress or possible changes to the planned course of action. Thabo and Mrs Taylor ensured that there was uniformity in what they were doing with their respective Grade 9 classes by having their subject meeting every Thursday during break. Other than that, they would have regular quick and informal consultations during which, as Thabo explains:

> *If there is anything different, it is then that we come together and say, let's do this one like this. Or if there's anything we have to leave it out and maybe we feel that it is unnecessary, it's then that we come together, but if we feel that everything should just be done the way it's set out.*

On numerous occasions Thabo confirmed that he felt that there was a good level of collaboration between himself and Mrs Taylor, and that many times she would explain concepts that were unclear to him, particularly in the Biology section, and he would likewise clarify, for example electricity-related concepts, to her.

Thabo placed so much confidence on the *Wonderboom* book as his preparation or 'planning book' that he very often went to school unprepared, with no more than a cursory glance over what the next worksheet entailed. About three months into the research, when this pattern of superficial planning and dependence on the LSM became clearer, I asked him how he would rate his overall planning/preparation efforts on a scale of one to ten. Based on the lack of supporting documentary evidence as well as my own observations, I thought he was a bit too charitable when he replied that for the Biology section, with which he is not too familiar, he would rate his planning efforts at 6, and the electricity section, in which he felt quite proficient, at 3. An illustration of this lack of intensive planning is the following response to a pre-lesson interview question on what an electricity worksheet, which he had earmarked for the next day's lesson, entailed, :

> *I haven't checked them but I just know that there is a question based on saving electricity, what would happen if a plug doesn't have an earth, what is the function of earth in a plug, those type of questions.*

Yet another indication of Thabo's effortless planning style, which he himself described as "*lenient*", is the fact that he did not have a C2005 policy document, nor the NS subsection of it, in his possession. He also noted that he had could hardly remember when last he had looked at these documents. When I questioned him about this and whether he gave much consideration to the critical and specific outcomes when preparing for lessons, he replied in the negative.

Content selection and sequencing

With the *Wonderboom* activity book substituting as virtual text for Thabo's planning, it is understandable that virtually all of the themes or content that he dealt with during the research period came unadulterated from this very same LSM. He effectively allowed the *Wonderboom* texts to decide the selection, scope and sequencing of the content or subject matter that he should teach. I will return to a discussion of the few occasions when he ventured away from the *Wonderboom* LSM for content purposes.

Thabo's main inspiration for content selection and sequencing comes clearly to the fore during the following exchange which took place towards the end of a pre-lesson interview, which also signalled the end of the *Wonderboom* chapter on Matter and Materials. Essentially wanting to gauge what his plans for the lesson two days later were:

> *Interviewer: So you would more or less sort it out what you are going to do on Thursday? Or are still going to do some reading up?*
>
> *Thabo: Yes, just to check on the book, you know just to check what is next.*
>
> *Interviewer: What book are you talking about?*
>
> *Thabo: The learners activity book,… the Wonderboom book.*

Furthermore, during the pre-lesson interview on the series of lessons on *The formation of chemical compounds*, the following exchange ensued:

> *Thabo: Tomorrow we will start with the isotopes and after finishing with them we will go to the compound and we will continue with that. If they can be able to identify elements with compound then they can be able to make compounds on their own. They can pick up any elements from both the sides, one on the left and one on the right that can make a compound.*
>
> *Interviewer : Why this decision to focus the lesson on making compounds?*
>
> *Thabo: It is there in the Wonderboom book. But also last year's CTAs were mainly based on chemistry, especially the compounds. We realised that there are chances that they might repeat this in the examination because last year in chemistry, compounds were the ones that were dominant in the examination in the CTAs. That is one reason we are focusing this now and also because of is part of what we have been doing. In sequence of the Wonderboom book this is what we are supposed to be doing.*

I focus on the role of the CTAs on Thabo's curricular decision-making later on, but for now would like to draw attention to his last remark in the foregoing extract in which he effectively acknowledges the determinant role that the LSM plays in content sequencing.

Another indication of the determinant role of the LSM in content selection and sequencing is found in Thabo's description of how the particular Chemistry concepts that they were doing with their Grade 9s were different from that of the previous year, simply because they were not using the *Wonderboom* books :

> *… the form of Chemistry that they did last year, it wasn't much of doing the periodic table and all those stuff, because we were not working from the Wonderboom books last year. We were just working from a particular textbook in which they didn't give much information into the content of Chemistry.*

Similarly, in response to a direct question, during a different interview, on whether he works chapter by chapter from the LSM, he acknowledged:

> *Yes, it's like modules. For example, we have a module for population dynamics, module for electricity, module for Chemistry – therefore we have four terms and we have four modules. We are now busy with electricity… Most of our planning revolves around the activity books. We are still required to fill in forms showing the specific outcomes, what you want to achieve out of almost every lesson. But the books have already done that for us also. You could find that what you are doing has already been done.*

His interpretation of the *Wonderboom* LSM as module based, and that the various modules have to be completed dutifully, finds expression in another extract from a pre-lesson interview on a lesson on *electromagnets:*

> *Interviewer: How does your lesson for tomorrow on electromagnets compare with the recommendations of the Wonderboom book?*
>
> *Thabo: I would say more or less the way it has been designed from the activity book.*
>
> *Interviewer: Anything that you were taking out there?*
>
> *Thabo: No.*
>
> *Interviewer: Anything that you added?*
>
> *Thabo : I could say the only addition that will be there is just more examples on the uses of electromagnets.*

This response that the only modification to the way the *Wonderboom* books outlined the next lesson was the addition of more examples, was by far the most common explanation of his pre-active decision-making.

It was apparent that Thabo articulated part of the rationale for delegating much of his planning functions to the LSM as a matter of not wanting to redo what had already been neatly prepared for teachers. However, I am sure that it was not the GDE's intention that teachers should simply reproduce the *Wonderboom* activities, or any other LSM for that matter. Instead, teachers were expected to use it as exemplars to design their own learning programmes according to the unique needs of their particular learners. On the other hand, when one considers the fact that all learners were expected to purchase the entire set of *Wonderboom* books, and that both learners

and parents expected that they fully use what they paid had for, it is understandable that Thabo got the idea that it should not be used sparingly.

Teaching activities

Nearly all of the instructional activities that occurred in Thabo's classroom during the research period were fashioned around what was in the *Wonderboom* LSM. That means that he consigned the decision-making on the teacher's role during the lesson, the learner activities, and corresponding classroom organisation to the *Wonderboom* books. He readily conceded this on a number of occasions, most notably when he matter-of-factly noted towards the end of the second term that *"most of the activities that we have been doing were right from the Wonderboom book"*.

The first example in this regard has to do with the short diagnostic test at the start of each new chapter in the *Wonderboom* activity book. As the following conversation that I had with Thabo illustrates, he asked learners to complete it, even though he was convinced that it was not of much pedagogical use. In the same breath he also admitted that he was just using it because it formed part of the LSM text, and that in the past he had not done diagnostic tests at the start of a new section of work.

> *Thabo: Yes, I use the test almost every time when we start new work.*
>
> *Researcher: Right, and you feel that they have been helpful?*
>
> *Thabo: Yes, I suppose so. But sometimes there is not enough time to evaluate the impact of those types of tests. But theoretically you know that they do have an impact. But sometimes you find that you don't have all those tools to measure how much of an impact they have on the quality of learning on the sides of the learner, unless you specifically design that test with an aim of measuring it's influence on the learners. But I just assume that it helps them.*
>
> *Researcher: Did you always make use of a diagnostic test or what?*
>
> *Thabo: No, previously I did not. Previously I explained what Chemistry is, an introduction and sometimes I posed oral questions to the learners, that was the method that I used.*

Researcher: *But this time it is not oral, this time it will be written?*

Thabo: *Yes, this time it will be written.*

Researcher: *And mainly because it is there?*

Thabo: *Yes, mainly because it is already designed for me, but if it wasn't there I wouldn't have gone through the trouble of designing one myself.*

After learners had completed the diagnostic test, which normally took about fifteen minutes, Thabo would invariably ask learners to shout out the correct answers to each question. Interestingly, once this was done and learners had written in the necessary corrections, no effort was made to diagnose the peculiar shortcomings or weaknesses of learners, and to give appropriate corrective exercises or lessons. He simply went on with the next activity in the *Wonderboom* LSM.

Thabo's dominant pattern of instruction was to start the lessons with a fifteen to twenty-five-minute 'teacher-talk' session during which he explained to learners the theory or concepts on which the pending worksheet was based. This theory was primarily taken from the *Wonderboom* support book or, in the case of the *Matter and Materials*, from the Grade 10 Physical Science textbook which was in use at the school. For the *Life and Living* theme, for which Thabo did not have much experience and self-efficacy, he stayed true to the *Wonderboom* notes and did not deviate from or added to them. Following this short teaching session, learners were then asked to, either in groups or individually, depending on the instructions in the *Wonderboom* activity book, complete the corresponding worksheet. After missing a few of Thabo's lessons, I resumed and asked him how much Biology he had done in that period. His reply quite pithily sums up the foregoing pattern of the dominant instructional pattern in his teaching:

We have covered most of the theory and now we are working with the activities themselves just filling in those empty spaces in their books.

An activity that I thought was very innovative of Thabo was one where he asked learners to bring electricity account statements from home so that they could be used

to practise the use of electricity-related formulae and calculations. During the post-lesson interview, it transpired that this in fact came from the LSM :

> *No, it was not my own idea, it was how it was given in the Wonderboom books. They had to bring their electricity statements and work out how much does a unit cost from there. Everyone had to have his own statement.*

Interestingly, as he explained a few days later, he had a slight diversion on this lesson with another class. When many learners in the Grade 9C class failed to bring their electricity account statements on the designated day, and he therefore could not continue with this *Wonderboom* worksheet (Activity 2), he adapted the lesson for that particular class as follows:

> *I told them that they had to go back and bring those statements the following day…We then had to carry on with the next activity, which was activity 3. We had to leave activity 2 and carry on with 3. The next day we went back to activity 2.*

As can be inferred, Thabo had no alternative plan of action when learners did not have the requisite items required for the *Wonderboom* activity 2, nor did he make an effort to improvise around the few that were available. He simply postponed the activity to the next day, and went on with the next, independent activity in the *Wonderboom* LSM.

Thabo not only looked to the *Wonderboom* LSM for instructions on teacher and learner activities, but also allowed himself to be guided on the particular classroom organisation for each lesson. If the *Wonderboom* text said, for example that a certain activity must be done individually, he dutifully asked learners to do it individually. If it said groups of two, or seven, he dutifully obliged. He acknowledged this dependence on the LSM for guidance on classroom organisation when he noted, :

> *Usually if I look at the work and see that .. even the support material will tell you that this work will have to be done in groups … you just have to say okay we're going to do this exercise in groups.*

Another aspect of Thabo's instructional dimension that was undoubtedly dominated by the *Wonderboom* LSM was *homework.* He admitted that under the traditional curriculum, and even the previous year when they had used a different text, giving homework was an almost daily occurrence. However, with the introduction of the *Wonderboom* books, homework did not feature in his lesson planning, and the only homework that he gave was for learners to complete the worksheets which they had not finished in class. The following extensive extract provides some insight into his decision not to prioritise 'homework', and also adds weight to the evidence of the authoritative role of the *Wonderboom* texts:

> *Thabo: No, I don't generally give homework, because you'll find that either these kids they do have a research, which they are busy with, which will take them three weeks. Sometimes you'll find that, okay I've done a lot of it during the class; there is no need for homework sometimes… But I could say they do have homework once a week, at least once a week …finishing the activities in their activity book. That's basically the type of homework that they have.*
>
> *Interviewer : Do you feel that that impacts on their level of understanding Science?*
>
> *Thabo: Yes it does, because one of the things that, as a teacher, makes you to give them homework is because okay you have covered the certain work and you want them to have a deep understanding on it. That's one of the things that makes you to give them homework. But with the Wonderboom Book, you know that tomorrow you still carry on from where you have stopped. Then you see it's like if you have to give them homework on that section and you say that tomorrow you still have to repeat it again … it's not the same when you are using notes and textbooks where you know that okay these kids now we have covered these sections and we have to do the homework to see whether they understand it. With the Wonderboom Book, if you give them homework on that topic, it's like they are going to study a new thing altogether about it and you will still be forced to come back and teach it.*

In the entire explication, Thabo's comment that "*… with the Wonderboom Book, you know that tomorrow you still carry on from where you have stopped"*, best sums up the fact that he primarily follows what is in the *Wonderboom* texts, and his belief that extra homework from other sources will only complicate matters.

Another aspect that was equally indicative of the defining role of the LSM in the decision-making on instructional activities relates to the way that Thabo went about practical or experimental work in his class. Despite the frailties and shortcomings that he identified in the *Wonderboom* LSM, he had the following to say:

> *I think it's been designed in such a way that… they call them activity books, but at the same time they outline a way in which you should do experiments. It includes how you should do it, the steps to be followed when doing your experiments.*

Thabo therefore followed the *Wonderboom* practical worksheet step-by-step in an almost mechanical fashion, the only difference being that barring two cases, he *always* did the experiments as teacher demonstrations, even when the LSM indicated that learners should work in groups or pairs. He also did not seem to think deeply about expanding or modifying the practical work to suit the needs and experiential life-world of his learners. In the *Wonderboom*-directed practical on *Measuring resistance*, which the *Wonderboom* books outline as a group activity, Thabo opted for a demonstration in the front of the class, periodically asking groups of four to five learners to stand up and observe what was happening, and then to report to the rest of the class. In this particular experiment, I was struck by the fact that he only took one reading for each of the hot and cold wires, and from there he asked learners to calculate the resistance of the wire and to make appropriate deductions. When I questioned him as to why he did not take a number of different readings, he replied that according to the *Wonderboom* texts, only one reading each is to be taken. Nevertheless, he conceded:

> *I also had that idea that maybe because experiments are somehow influenced by different factors, therefore it's important that you must do different tests and then come up with the average then. But for the Form II it might somehow mislead them because they will find themselves having to compare many things… I thought they realised that if they do many examples, it might somehow confuse some of the learners because they will have to compare different things.*

The only time that Thabo allowed learners to do practical work in groups, as recommended by the *Wonderboom* book, was with the activity 14 and 15, which dealt with the mechanics of a *solenoid*. The desks in the class were re-arranged into eight

groups of about five, each with a solenoid apparatus, which they were asked to use according to the instructions of the worksheet and to use their results to answer the relevant worksheets. During this practical lesson, Thabo completed two *Wonderboom* worksheets, as he explains:

> *… in fact we were doing two experiments at the same time because we only had 4 operators for one experiment and 4 for the other. Therefore the first 4 groups were doing activity 14, and the other 4 were doing activity 15. After one group was finished, they will exchange those apparatus, this group will do the one they have not done and the other group will do the other one.*

Other than this one occasion, Thabo was reluctant to allow learners to do the group-work experiments themselves. As the following extract demonstrates, in his mind the demonstration route was preferable because it saved time and limited disruptions.

> *Sometimes you find that in outcomes-based education you are expected to let the learners do the experiment themselves, sometimes. They encourage that the learners must be the ones experimenting – sometimes. As a teacher, it's going to take a lot of my time. It's going to cause chaos in the whole class. Of course, that depends on some of the experiments. I will just resort to demonstration instead of letting myself into trouble – learners getting all over the benches. Depending also on the safety of the experiment and all those other things, if I realise that there will be no superior supervision – I will not risk and let things get out of hand.*

Thabo reiterated the idea saving time during the stimulated recall session on a demonstration lesson on *Factors influencing the resistance*. As we watched the video replay which showed him doing much of the connections of the electrical circuit board himself, I asked him why he did not allow the learners more hands-on assistance. He replied:

> *I know it would have been better if I had involved them, but sometimes you just feel like to save you time you just do it yourself. But if you look at some of the groups, I was getting them to connect, because the main thing that I was worried about was the readings, to read them properly. But with just connecting the ammeters and the voltmeters because there are no hazards involved, then I should have just given it to them to connect it, that would have been better.*

Another significant way in which the *Wonderboom* LSM defined Thabo's instructional activities was in terms of learner assessment. As a matter of fact, as evidenced in the following quotation, he believed that the variegated *Wonderboom* assessment exercises were undoubtedly its major asset:

> *And also with regard to assessment, ja assessment I think is one of the qualities of the Wonderboom Book. It's very good when coming to forms of assessment, because it shows you this should be a peer assessment, a group assessment, the facilitator should do this. I think that's the only place where I'm finding that it gives a very strong point. Because sometimes as a teacher you'll find that you only use one method of assessment, but in the Wonderboom book, I think on that point it helps us a lot.*

Thabo felt that the different *Wonderboom* chapters afforded him a variety of typical outcomes-based assessment techniques and strategies (in C2005 parlance) such as peer assessment, group assessment and self-assessment. Whenever these assessment exercises came up as the next activity to be done, Thabo would duly ask his learners to do them. However, just as with the diagnostic test at the start of each chapter, it was just a matter of learners completing the assessment exercise in the workbooks, while no effort was made to use it formatively, that is, to feed the data on learners' abilities and weaknesses back into the subsequent teaching. For Thabo, the main value of the *Wonderboom* assessment exercises under each chapter is clearly voiced in the following extract:

> *… there are those activities, which have been identified as portfolio activities. You'll find that when you are doing a certain chapter, maybe four activities out of twenty activities in that chapter had been identified as portfolio activities.*

Following this statement, Thabo indicated that he selects some of those assessment activities that learners do in the *Wonderboom* activity book to make up the twenty portfolio activities that each learner should have for their CASS mark. Just as Martin, the first respondent teacher at Greenfield High, Thabo was also expected to have a minimum of twenty Portfolio tasks, ranging from assignments, projects, translation tasks, tests to examinations, for each learner, by the start of the fourth term. The

selected *Wonderboom* assessment tasks were then either torn out or duplicated and filed in each learner's working portfolio.

From the foregoing it is clear that there was very little deviation from the *Wonderboom* texts, and that he in fact surrendered his decision-making flexibility with regards to teacher and learner activities, practical or experimental work, and assessment. This was further borne out by Thabo's response when I asked him how much the *Wonderboom* books contributed to his teaching practice:

> *I could say close to 75%. Because you find that even as a teacher you are going to be measured whether you've been completing those activities in that activity book. I don't think that the headmaster or the head of the department will be pleased to find that you've been teaching learners but not from the Wonderboom textbooks. Somehow you find that you are forced to work hand in hand with the books but whenever necessary, you have to come up with something new.*

A few weeks later, when it became unmistakably clear that the 75 % estimation was perhaps an understatement, the following post-lesson interview exchange occurred. Apart from an acknowledgement that the LSM played a much greater role, it also provides a succinct summary of the three main reasons why Thabo afforded the *Wonderboom* LSM such an authoritative position in his curricular decision-making.

> *Interviewer: My observation has been, and tell me if I'm wrong, that the Wonderboom activity book, learner support book forms probably about 95% of what happens in your classroom.*
>
> *Thabo : Ja, I could say that.*
>
> *Interviewer: And the reasons for that, which sounds pretty valid for me, would be firstly the fact that according to you it is so well set up. All that you need is there. Is that a right deduction?*
>
> *Thabo: Ja.*
>
> *Interviewer: And the fact that the parents themselves and the students expect the books to be used, because they've paid for it.*
>
> *Thabo: Ja, I could say you are right. Those are the most important things that the Wonderboom book is taking the central stage.*

Interviewer: Would you say it's also because it's comfortable for you? It's not a lot of stress and strain.

Thabo: Ja, of course, it is. To be honest you'll find that sometimes people don't need those things that will give us a lot of challenges and stresses. Even though sometimes you feel that this book might not be adequate, but because it's simple for you to use and also for the learner, you just feel like let me let it go. Although sometimes you might feel that it might not be sufficient enough, but why should you give yourself a lot of stress when they feel like it's comfortable. Okay, where you feel like you have to make some additions, you are bound to, especially if you realise this is the most important thing. But on other little aspects you just need them to do it the way the Wonderboom has said it.

The last two extracts make it patently clear that Thabo drew extensively on the LSM, doing it *"…the way the Wonderboom has said it"*, even though it *"might not be adequate"* or *"sufficient"*. It is also clear that the rationale behind Thabo's slavish espousal of the *Wonderboom* text was threefold.

Firstly, learners, parents and the school management expected that the *Wonderboom* LSM, which parents had bought at a considerable price, be used to its full extent. At another juncture, Thabo made the following comment, essentially suggesting that he did not really consult other Science books as he was too occupied with ensuring that he attended to that which parents and learners attached more value:

Sometimes you'll find that there are some of the things that you have to take from other books. Even though sometimes you cannot … as I've said, you'll find that the parents are more interested in filling the Wonderboom book and the learners themselves.

Thabo added that parents at Pendle High had always been extensively and actively involved in the non-curricular aspects of the school, consistently visible at cultural and sporting activities. Furthermore, the periodic parent's evenings, where teachers had a chance to speak to parents about their children's academic progress, were generally well attended, with parents demonstrating an active interest in the progress of their learners. He remarked that parents generally also signed and made comments on the child's progress in a special 'parent section' at the end of each *Wonderboom* chapter. It seems fair to say that it is precisely

because of this form of parental involvement in this particular LSM, that Thabo felt *"forced"* to follow so mechanically.

Secondly, the *Wonderboom* LSMt represented simple and ready-to-use learning programmes, which meant that he did not need to go to the trouble of designing his own. In fact, during another pre-lesson interview a few months later, Thabo made the following statement on how the *Wonderboom* texts made it easier for teachers to follow the outcomes-based principles of the new curriculum :

> *I tend to believe that one of the reasons they opted for those Wonderboom activity books is because they realised that it's going simpler for teachers to follow the outcomes-based education system. When this outcomes-based education came into being, most of the teachers didn't have an idea on what to do and what not to do. Those Wonderboom books made it easier for teachers to implement the outcomes-based education principles and concepts. You will find that you don't have to go out and search which specific outcomes am I now dealing with. Everything has been listed for you.*

This positive view of the *Wonderboom* text with regards to making it easier to implement OBE did not make sense to me considering that right from the start Thabo had been disapproving about its superficiality and inadequacy. When I therefore put this apparent contradiction to him, his response, which I provide below, suggested that he was still of the opinion that it lacked sufficient substance, that "*kids are missing a lot of stuff*", but that he had come to accept and employ it.

> *For me I could say it's because with regard to OBE it is better. It is easier for both learners and teachers to use. But as I've said, when it was introduced I was very negative about it. I was still honest with what I saw and my evaluation of it. I felt like this book will not give our learners enough detail, … the first time that I paged through it I realised this book is not the right material. But as time goes, I said, well it's good now. Now it became good as time goes, but initially, my initial evaluation for it … I don't think I was wrong. I still know I was not wrong, but I was more original and fair, but now… I could say I still feel sometimes that now I have to supplement it somehow, because especially these … kids don't buy formal textbooks. You sometimes feel like they are missing a lot of stuff, because everything in their learning support material is just short and straight to the point. It doesn't give any background.*

Another explanation for this 'reluctant' acceptance of the *Wonderboom* books, and the subsequent strict adherence to it, is that it is a matter of 'playing it safe,' and 'covering' the text. It was clear that Thabo was at pains not to offend parents nor to irk them by not focusing on the *Wonderboom* worksheets. When I asked him, for example, whether he omitted sections of the *Wonderboom* text which he knew would not be in the June examination, he replied:

> *No. Actually, even though we knew that most of the work that we were doing they are not going to be tested on, still we try to cover ourselves because the problem is if we don't do everything with them and their parents find out that those learning materials are empty then according to them a space in the book explains poor teaching and the first thing we have to do is to teach them and make it a point that Wonderboom is covered.*

It is evident from the *"we try to cover ourselves"* comment that Thabo's coverage mentality extends beyond just completing or covering all the activities in the *Wonderboom* books, but also, through doing that, protecting himself from parental or management dissatisfaction with his work. My many observations of Thabo's NS lessons led me to believe that this approach did not encourage good outcomes-based education, and militates against learner-centred decision-making where the chosen outcomes, content and assessment strategies are geared to the unique needs of learners. Moreover, in my opinion, Thabo's peculiar and mechanical employment of the *Wonderboom* LSM, coupled with his reluctance to infuse his teaching with subject matter or activities sourced from elsewhere, had a distinctly traditional and teacher-centred pedagogical tone. I put these perceptions to him on a number of occasions, each time effectively asking him the extent to which he thought his classroom practices were in line with the underlying OBE principles of C2005. In probably the frankest and most forthright acknowledgement that, in spite of his mechanical use of the OBE-oriented *Wonderboom* LSM, and his consistent employment of its often group-based worksheets, his curricular practices were still cast in the conventional, teacher-centred way, he conceded:

> *Thabo: I think I'm not. Sometimes I believe that I will implement it to a level where I feel it's enough. If I feel that it's going to stress me, I cannot get to that point…*

Interviewer: *You revert back to the way you did it, in the old curriculum?*

Thabo: *Yes, exactly. I go to an extent where I feel like I can manage this up to this point, I am a human being not a machine which can just be programmed and do whatever to it. As I've said, there are still aspects which I feel that I still need to get used to them as far as outcomes-based education is concerned. Up until such time, my learners will have to wait for OBE.*

In another interview, he repeated this notion that he is a human being and not a machine that could be programmed to switch easily from NATED 550 to C2005 mode; however, he added that he tried to implement it as far as he could.

I still think of myself as a person. I cannot go beyond this. If it's not an outcomes-based education way, then to hell with outcomes-based education!

It is clear that Thabo has resolved not to put himself under unnecessary and unbearable strain to attempt to practise and master every detail of OBE, particularly as it is embodied in C2005. Throughout this case report I demonstrated evidence that much of this resolve is attributable to the fact that he believes that the complexities and expectations of the new curriculum, such as the design features which should be reflected in his planning, as well as the directives that he should ideally design his own learning programmes, are overwhelming for teachers. He describes, for example, the one C2005/OBE principle that the learning programmes should be based on the needs of the learners, as "*a hell of a work*" in the following extract :

…if he can take it from the bag that the learner comes first with what he knows and you take that meaning out of that it will take you maybe a week to complete just a single lesson… It can be done as a reverse where you find that you establish the learner coming up with whatever he or she knows and then at a later stage intergrading it together to form something meaningful. But it is a hell of a work… it will take much longer…

This perception of Thabo's of the new curriculum dovetails with another very instructive remark of his, which I cited earlier, namely that those teachers who were criticising C2005, did so not on the basis that it was wholly bad, but *"… because it is almost impossible to cope with all these demands"*.

As evident from the next extract, one of these "impossible" C2005 "demands" that Thabo's is referring to here is the tremendous amount of administration or paperwork that characterise attempts to practise it as intended by its architects:

> *The only thing is as far as the paperwork is concerned, I think it's where teachers are getting it tough, especially with their assessments. The point that is almost next to impossible to keep all those records that they need. It will go to an extent where a teacher will have to have an assistant who will keep the personal paper work as you are busy teaching… All those dynamics, that's the stress that's put on teachers. That's why many teachers feel that this thing is rubbish. It's putting extra load on them and without taking away some of the responsibilities that they've been doing. They're still expected to teach the whole 10 lessons but still do extra work on that, that's the main thing, it's a lot of work.*

In addition to the extra administrative work of C2005 that Thabo problematised, he also admitted to finding it difficult to "facilitate", instead of "teach" science to lively, and often un-disciplined Grade 9 learners. Whereas he was aware that the ideal was to allow learners more opportunities to do, for example, hands-on group practical work, and that it *"might be beneficial to the learners,"* he found it too *"time-consuming"* and *"hard to monitor"* to attempt to any significant degree. In fact, in the following extract, he makes his thoughts quite clear that he would rather avoid these C2005 expectations than *"strain"* himself with it.

> *…you'll find in Science when you have to do experiments and group learners into groups, you'll find that sometimes you'll get it to be time consuming. Sometimes you'll find that it's going to cost you time, and also discipline wise, it's going to be very hard to monitor and control those groups. You'll find that some of the kids are naughty and you'll find that you prefer some of the methods which will maximise the profit than those which … okay, they might be beneficial to the learners, but at the expense of you as the teacher, because at the end of the day you are here to teach but also to make sure that you don't strain yourself to a degree where you lose interest in the whole profession.*

From the many pre- and post-lesson interviews, it also surfaced that 'time' and the pressures to meet 'deadlines' contributed significantly to his perception of C2005 as *'a hell of a work'*. On the one hand, he expressed disappointment at the fact that despite that extra workload brought about by C2005, his free or administration periods were reduced to only three per week, effectively negating his opportunities for

creative and innovative lesson preparation. On the other hand, as he explains in the following extract, they had certain internally arranged deadlines by when certain chapters of the *Wonderboom* LSM needed to be covered, and that this made it imperative that they paced and monitored their progress with the LSM:

> *… we are working as two teachers and we have deadlines to reach, that at this time they should have done this, at this time we should have been here, this time there will be a test on this. And we are expected to have a time for the translation task and all the things for the CASS. Therefore, sometimes when you do some of the things you do them with time in mind that okay if this topic can go for more than 3 lessons, then they will be consuming my time, and how should I deal with that – I will have to cut this aspect of the lesson but without tempering with the quality of the lessons sometimes, of if you do, there must be very little effect.*

Thabo's resultant preoccupation with time was evident in a number of stimulated recall sessions when he very often articulated his rationale for certain instructional decisions in terms of time saving. During the stimulated recall session on the practical lesson on *Factors that influence the resistance*, for example, he had the following response to my inquiry on why he did not allow learners a more active role in the set-up of the circuit board:

> *… I know it would have been better if I had involved them, but sometimes you just feel like to save you time you just do it yourself… Yes, it might be so just to save time or maybe, yes that could be it.*

Note that here Thabo acknowledged that more active and hands-on involvement of learners in the experiment would have been more appropriate, but that 'saving time' was his main concern. What makes the perceived 'time-crunch' really interesting is the fact that the more flexible approach of C2005, with its de-emphasis on content, and greater decision-making powers to teachers, is commonly perceived to put less pressure on teachers to finish content within predetermined timelines. However, as I will demonstrate in the rest of this discussion, Thabo took the comprehensive departmental directives on CASS quite seriously, and that this was direct threat, both perceived and real, on his 'time'.

I furthermore wanted to find out the extent to which resources played a role in his preference for a teacher demonstration in the aforementioned lesson. Thabo remarked that the school had enough circuit boards for him to have had at least eight different groups in the class, but that he refrained from going that route in order to save time. In fact, he persisted with teacher demonstrations and only veered away to group experimental work on one occasion *(Solenoids & Electromagntism)*, even though the equipment and chemicals were available at the "well-stocked" laboratory.

Hitherto I have submitted extensive evidence of Thabo's reliance on the *Wonderboom* texts to guide, or rather instruct him, on the selection of critical and specific outcomes, content, teacher and learner activities as well as assessment. I also offered an account of Thabo's own personal sense-making of his style of curricular decision-making, particularly his reasons for allowing *Wonderboom* material to usurp his authority in this respect. In spite of Thabo's extensive use of the LSM, which was approved by the GDE as compliant with the new outcomes-based tenets, it was clear from my aforementioned classroom observations that his practice was still heavily tilted towards the traditional teacher-centred pedagogy. This he readily acknowledged several times over the research period, most notably in the following dialogue on whether he was practicing C2005 the way its architects meant it to be. He replied:

> *Thabo: I think I'm not. Sometimes I believe that I will implement it to a level where I feel it's enough. If I feel that it's going to stress me, I cannot get to that point.*
>
> *Interviewer: Do you the revert back to the way you did it, in the old curriculum?*
>
> *Thabo: Yes, exactly. I go to an extent where I feel like I can manage this up to this point, I am a human being not a machine which can just be programmed and do whatever.*

I shall return to this conversation later on to show how that Thabo experienced a 'threat of intensification' of his life as a teacher, and that he responded and tried to cope by only implementing OBE/C2005 piecemeal. Ostensibly, his foremost defence strategy against this threat was to use the 'outcomes-based' LSM as 'virtual script' for his decision-making and practice.

Apart from the determinate role of LSM, there are a number of other forces, or frame factors, that impacted on Thabo's curricular decisions, although to a much lesser degree. These secondary decision-making frame factors include departmental directives, parental involvement, his subject matter competence and his Grade 10 colleagues. I now turn to each of these to describe the way that each impacted Thabo's curricular decisions, particularly with regards to the few occasions when extended his practice and subject matter beyond what was delineated in the *Wonderboom* LSM.

THE IMPACT OF DEPARTMENTAL DIRECTIVES

During the research period, there were two main ways by which the Gauteng Department of Education (GDE) impacted on Thabo's classroom practices. The first directive was with regard to the continuous assessment (CASS) practices that all teachers in the province were expected to adhere to. I gave a comprehensive outline of CASS and the end of year CTA under the first case study report (Martin) and will therefore not repeat it here. Suffice it to say that just as with Martin, the burden of having a minimum of twenty portfolio tasks for each learner by the start of the fourth term weighed heavily on Thabo's curricular thinking and decision-making. As he explains in the following interview extract, the bulk of his first semester efforts went into ensuring that the portfolio tasks, which included translation tasks, assignments, projects and tests, and which were to be externally moderated, were completed as soon as possible.

> *Thabo: … we are preoccupied with the assessment and thereafter you'll find that you can, after completing that, it is then you'll find that you can do the real things now.*
>
> *Interviewer: The real assessment?*
>
> *Thabo: Yes, and the real teaching, because now our teaching, as I've said, is more on helping those learners to do their portfolio work. That is why you have heard me saying that we have agreed that after finishing this OBE stuff then we will start with teaching the real Form 2 science. Because we feel like now what we are doing is just to do those things that the Department want us to do.*

Interviewer: To play it safe for the Department?

Thabo : Ja, to play it safe, because after all it doesn't matter whether you have been teaching effectively, your learners understand everything, but if you haven't covered what the Department wants from you, then you are not a good teacher before their eyes. Therefore you have to be a good teacher to the Department, because you cannot bite the hand that feeds you.

This last exchange crystallises a number of perceptions that guide Thabo's curricular decision-making and classroom practices. Firstly, it was apparent that he did not regard his practice of teaching along the lines of the *Wonderboom* text, nor the assessment directives of the department, as *"real teaching"*. Thabo informed me that they reverted back to traditional content-heavy teaching during the fourth term of the previous year in an effort to prepare them for the *"real Science"*, as Thabo called it on a number of occasions, of Grade 10. Secondly, he believed that it was best to *"play it safe,"* just to *"cover"* what the department expects from him, and that *"you cannot bite the hand that feeds you"*. Unfortunately, the danger of this attitude, as I have seen through the analysis of learners' portfolios, is that he made no real effort to be creative and innovative with the required assessment tasks, and simply took them uncritically from the *Wonderboom* texts. Another manifestation of his notion of 'playing it safe', was that these assessment tasks were not employed to inform his subsequent decision-making on what he should teach or revise – once the task was completed and marked, it was simply filed in the learners' working portfolios. Thirdly, Thabo was of the opinion that the GDE regarded a 'good teacher' as one that had the documents and administration in the format that they decreed. Anything else, he believed, would earn their displeasure. He re-articulated this perception as follows:

You'll find that after you have done those assessment marks, you feel like I have done what the Department expects from me and if they can pop in any time I'm ready to show them the proof I've been teaching. It's like it creates this thing of shifting from the basis of teaching where it's about a learner gaining knowledge. It's a thing from more of the paper work and covering your grounds as a teacher to be safe from the Department.

In addition to the broad departmental decrees on how teachers were to structure their assessment practices, the department occasionally sent circulars to schools to ask teachers to introduce certain subject matter or tasks into their teaching. One particular

incident that stood out was when Thabo, during the time that he was busy with *Electricity*, abruptly suspended his lessons, and instead spent a few days on coordinating and facilitating learners' projects on *Smoking.* When I asked him about this unexpected change, he referred to a circular that they had just received from the GDE. It apparently instructed all Grade 9 teachers to do this particular project on *Smoking*, and to have it completed by the end of the second term. During our discussion on this matter, he commented:

> *They have to spend at least 10 hours doing it in class. Therefore you'll find that it's not even part of the syllabus, but they have to spend 10 hours doing it in class. That means you'll have to stop some of your lessons and fit it in.*

It seemed strange that Thabo made sure that he 'covered' himself by complying with all the departmental directives on CASS, as well as the periodic circular instructions, but that he did not have the same sense of compliance with other GDE instructions. Most notable of these was the fact that he did not take the trouble to plan according to the broad design features of C2005, such as performance indicators and range statements. Also, as he explains in the next extract, he did not write out his lesson plans, despite the recommendation (or instruction) of the departmental official who visited his classroom.

> *… they came to assess me some time ago and they told me that I must have that type of thing, but I said no I generally work just from the activity book… they asked if I were planning the work and I said no I am just planning it in the learners activity book. Okay, the lady, I am not sure if she was afraid to tell me that it is unacceptable or what, but she just said no you must write it down somewhere. But I said no, I write it only if I feel that it is difficult.*

It seems as if this selective compliance can only be explained in terms of what I referred to earlier, namely his resolve to implement the mechanics of the new curriculum up to a level that he felt he could manage. It was evident that he was not prepared to put himself under *"unnecessary strain"* to fulfil every jot and tittle. It is not hard to understand that he would focus his energies on complying with those directives which would translate into learner products which would be externally moderated, and which would obviously determine the eventual pass or fail of his

learners. It is precisely for this reason that the next factor, that is, examinations, at times emerged as an important consideration in his curricular decision-making.

THE IMPACT OF EXAMINATION

The two examinations that Thabo's learners wrote during the research period were the mid-year June examinations and then the end of year external examinations, referred to as the common task assessment (CTA) during the first week of October. Although not substantially, I found two specific incidents where these examinations swayed Thabo's decision-making.

This impact of the mid-year internal examination, which incidentally constitutes one unit of the twenty-piece learner portfolio, is well exemplified by the way Thabo and Mrs Taylor altered the sequence in which they did some of the *Wonderboom* chapters. For example, about three weeks before the June examination, they skipped the rather long chapter on Ecology, and jumped from the work on Electricity to the last chapter on Human Physiology, mainly because they wanted to have an 'easier' section for learners in the examination for them to perform better.

> *Yes, we felt like … in fact, we were supposed to do, if we went according to that structure, Chapter 1, 2, 3, 4 and 5, we'll do electricity and then go to ecology and then … these two chapters to us seemed to be far more different from each other. Therefore we needed to group them in such a way that it would be easier for the kids to be able to differentiate and integrate them easily.*

Thabo explained that, despite the fact that the examination mark counted for a mere 6% of the eventual CASS mark, they wanted to ensure that learners generally did not perform too badly because their parents still had the NATED 550 frame of mind that examinations were high-stakes, summative assessment forms that learners needed to excel in. In response to my very direct question of whether his subscribes to some form of 'teaching-to-the-test,' he answered:

> *I could say that. I could say even myself I still do that type of exam. That is why at the beginning of this you said that we wanted Science, Physical Science and Biology to be there, to them that they will be there in the examination. That means in a way we are still giving a lot*

> *of emphasis on the examinations, because we still regard them to be a standard measure of a learner's performance.*

From this it was apparent that Thabo made an extra special effort to deal thoroughly with those *Wonderboom* activities or worksheets that he had earmarked for possible inclusion in the examination. It was therefore no surprise that about two-thirds of the June examination came from the *Wonderboom* LSM.

In respect of the CTA, Thabo consistently described the previous year's CTA examination as *"just nothing"*. He expressed himself very strongly that it was more of an open-book test, that learners did not even need to prepare for it, since all of the Section B examinations questions were based on very straightforward Section A tasks and questions which learners have a chance to work on two weeks prior to that. Although he did not speak about the CTA to the same extent as Martin, the first respondent, there was one particular incident where it did seem that he occasionally, and maybe subconsciously, accentuated concepts which had been in the preceding CTA. This occurred during the pre-lesson interview on *Isotopes,* when he replied to a question of why he chose to focus those particular concepts for the next lesson, as follows:

> *It is there in the Wonderboom book but also last year's CTAs were mainly based on Chemistry, especially the compounds. We realised that there are chances that they might repeat this in the examination because last in Chemistry compounds were the ones that were dominant in the examination in the CTAs. That is one reason we are focusing this now and also because of is part of what we have been doing. In sequence of the Wonderboom book this is what we are suppose to be doing… we know what happened last year, we try to predict what might happen now. That is why we are putting much emphasis on Chemistry. We have the hope that it might happen just like last year where more questions were basically on chemistry so we are trying to let them know much about compounds.*

Interestingly, while Thabo yet again refers to his mechanical tracking of the *Wonderboom* texts, he openly admits that the previous year's CTA also adds impetus for doing this particular section of work with his learners.

THE IMPACT OF SUBJECT MATTER COMPETENCE

Thabo very candidly admitted that, although he was qualified for and felt competent in the *Matter and Materials* (Chemistry), as well as the *Energy and Change* (Physics) strands of the Grade 9 NS, he felt uncertain and incompetent when it came to the *Life and Living* (Biology) and *Earth and Beyond* (Geography) strands. This was primarily because he had only done Biology up to matriculation level, while he did Chemistry and Physics well into his teacher's diploma course. His sense of competence and self-efficacy in these different strands impacted on the way and the extent to which he prepared for lessons. As is evident in his next response to the question of how differently he approached these strands, he spent more time on reading up and preparing for *Wonderboom* topics which were Biology related :

> *The only difference was that when we were doing Biology, I had to make sure that a day before I plan what we are going to do. But with the Physics part, as long as I could remember that we are doing Activity 1 or 2 and is about this and that, I don't have to go through the activity but I will just do it in class. But with biology I had to prepare myself thoroughly in other to be confident and be able to answer and explain those finer details learners may likely to ask.*

During the classroom observations of his lessons on *Ecology*, I noticed that he was very tentative and hasty, and did not encourage much interaction with learners. I brought this up during the resultant stimulated recall session by asking him how comfortable he felt teaching that lesson. His response confirmed my observation that he wanted to get it over and done with as soon as possible:

> *Usually I don't feel comfortable, I knew I was not very clear with some of the things around Biology. After teaching, if learners don't ask me about those issues, it will be my luck because I will struggle to give or explain to them more what I've already done. I also refer them to consult other books on similar topics for more information.*

Thabo's proficiency in the Physics components emerged during a lesson on *Electricity*, when he proficiently explained to the class the answer to a *Wonderboom* worksheet question on why the plates of an electrical stove are characteristically

spiral. I made a note of his competent response, partly because he did it so confidently, and partly because I had just learnt something that I had never thought of before. I duly brought this to his attention during the stimulated recall session on this particular lesson, and he replied as follows:

> *I can say I've been doing Physics for quite a long time, therefore I think when I was coming for this lesson I already knew, I did not have to think what would be the answer for this question. Maybe I might have studied it some years ago when I was finding it for the first time.*

Thabo made up for his lack of experience and expertise in the Biology-related sections by (i) confessing right from start to his learners that it is not his forte, (ii) referring learners to Mrs Taylor, who was more of a Biology teacher than he, when they had questions which he could not deal with, and (iii) having a collaborative, mutual relationship with her so that he felt at liberty to consult with her on Biology-related issues, while she, in turn, regularly sought advice from him on Physics and Chemistry-related matters. This symbiotic curricular interaction was clearly crystallised during the lesson on *Dissection of a rat,* when Mrs Taylor took all Thabo's Grade 9 classes to facilitate the practical dissection (group work) of rats with them.

THE IMPACT OF PARENTS

The impact of the parents of Thabo's curricular decision-making has been extensively dealt with thus far. Hence I recapitulate only briefly the three ways in which he experienced the influence of parental concern on his curricular practice.

- Thabo adhered to the *Wonderboom* texts partly because parents had an expectation that they be used to their full extent, since they paid a considerable sum for the set.

- He acknowledged that there was a degree of 'teaching to the test', and paying special attention to the content of those worksheets that he had earmarked for the June examination. As he noted, this was partly because parents attached great value to learners' examination performance.

The powerful influence that parental expectation had on Thabo's classroom practice is clearly evident in the following comment he made in explaining his rationale for his perfunctory use of the *Wonderboom* texts:

> *I tried during my first year, saying no, this book is not the way I have been expecting it to be. If I don't use it I carry on with my ordinary lessons, and they were very cross. They were saying we cannot just buy this book and now time and again you give us a lot of notes; you give us a lot of material not even related to the ordinary book. Then you'll find that the parents start complaining, because they take that book to be a standard measure. Okay, they expect that okay this week we expect that our kids will have completed page 1 to page 7 and if they find that those pages are still empty, but you are doing something else, you are giving them notes to paste in that book without using the book, then you'll find that they somehow question.*

As regards parents' concern with their children's examination marks, he noted:

> *… most of the parents are not aware of these new trends we are talking about. Therefore you'll find that if their children fail the June exam they still get worried. Therefore that is why we still try to strike a balance between the requirements of the Department and what the parents are expecting, because parents expect their children to do well during this examination.*

Thabo also made it clear that virtually all the teachers at the school had a similar attitude of wanting to meet the aforementioned expectations of parents. In fact, he put it rather bluntly that *"they worship parents"* at Pendle High. When I asked for clarification of this strong statement, he justified it in the following way:

> *Maybe they think that these parents have done the school a favour by bringing students here, and they have to do everything at whatever costs to please the parents, even if their children are just getting out of hand and all those things. I think it's not a type of attitude that can build a community with, but it is good for commercial purposes. Only when you know that those parents will bring money here, yes, that's true but we cannot build the community by just doing whatever parents are suggesting. Sometimes you will feel that almost every little thing that happens, parents keep interfering all the time. It is like these kids are no*

> *longer our responsibility. You feel that anything might just happen, not to say that parents may threaten me.*

There was a palpable frustration and sense of despondency in Thabo's experience of the subtle pressure that parents at Pendle High School bring to bear on his own curricular decision-making, as well as that of his fellow colleagues. What seemed to aggravate his experience of the parental pressure was the fact that he was one of only four non-white teachers at the school.

THE IMPACT OF BEING A BLACK TEACHER AT A PREDOMINANTLY WHITE SCHOOL

Thabo did not dwell much on having been the first black teacher at this predominantly white-staffed school. After our initial biographical interview sessions when he asserted that he did not feel any real pressure to perform extraordinary well, he only once referred to the curricular decision-making impact of being a black teacher at a predominantly white school. It occurred during one of our conversations of how parents influenced his decision to follow the *Wonderboom* books rather slavishly. When I asked him whether all the teachers at the school had the same kind of consideration, and also purposed to live up to the expectation of parents, he explained,

> *… sometimes I had to make sure that as a black teacher my work is up to the scratch at least average to what white teachers are doing because immediately your work is below the standard they notice it quickly. Because you are the only one out of 60 people then whatever they want to know about you its very easy to get the information. I could say maybe is because I feel like as a black teacher I have to protect myself.*

Having spent a considerable time interacting with Thabo, and noticing that he never, apart from this one occasion, explained his decision-making or practice in terms of being a black teacher at a former 'white' school, I do have to agree that he did not feel under a great deal of strain to perform extraordinary well in his classroom practice and examination results. However, what transpires very clearly in the above statement of his, is that he does, in fact, feel *some* pressure not to have his white colleagues outshine him in terms of making progress with the 'prescribed' *Wonderboom*

worksheets. As he put it, he did this because he felt that "*as a black teacher"'* he had to protect his reputation and parents' opinion of his work ethic.

THE IMPACT OF LEARNERS' COMPETENCE

At no stage during the research period did Thabo alter the course of action prescribed in the *Wonderboom* text to pursue topics which learners showed an interest in, or that he identified as a particular weakness or conceptual misunderstanding to be corrected. This does not mean, however, that learners did not have a direct impact on his curricular practices. According to Thabo, his classroom practice was predominantly teacher-centred, with a great deal of teacher talk, partly because he felt that they were not at a level, either academically or discipline-wise, for him to make extensive use of the facilitation approach.

Earlier I cited Thabo's disenchantment with the fact that his learners, particularly the Grade 9B class, presented grave classroom discipline problems, and were more interested in talking and fooling around in class. This was also the impression that I got right from the very first day of classroom observation. In one particular lesson, towards the end of May, learners seemed to be extraordinarily disruptive, talking, eating, walking around and playing with cellphones while Thabo was busy teaching. I felt like stopping the video-recording because I could see that he was distressed and could not get the lesson going. After about fifteen minutes, he stopped in the middle of his sentence, reprimanded them very angrily, and went to sit at his desk. This only seemed to add fuel to the fire as the learners continued with their noise. I duly packed up, excused myself and left. At the post-lesson interview, which naturally did not take long, we seemed at pains to justify the learners' ill-discipline by explaining that they had a inter-schools sports activity the previous day and were still in high spirits. In all, I empathised with Thabo, as I thought that this class was simply plain rude and disrespectful to him. However, it was abundantly clear that they would be much more cooperative and compliant if Thabo made that extra effort to be more assertive, and expressed himself more audibly and forcefully.

Another way in which Thabo felt that learners' competence in Science affected his instructional practices emerged during a reply to whether he characterised his existing

practice as traditional teaching or outcomes-based oriented facilitation. As the next extract proves, he readily admitted that he was predominantly teacher-centred because he felt that his learners were not academically or scientifically 'mature' enough to venture into a great deal of facilitation.

> *I could say that I'm still more of a Science teacher than a facilitator, because I could say on a scale of 0 to 10 or 1 to 10 where 1 is a good facilitator and 10 is a good teacher, I could say I'm on a scale of 7. That means I'm still 3 marks away from being in the middle. And maybe it's because I just sometimes feel that this OBE in a way, I just have some of the negative things about it, because usually knowing science it's very hard. It's one of those subjects which learners do not enjoy most. And you have to make sure that they understand those concepts and sometimes … okay, by being facilitator … the difference between a teacher and a facilitator, according to me, is just it depends on what your learners already know. If my learners already have a lot of knowledge about something, there is no way that I will still be a teacher. I will have to be a facilitator. That's why when you go to tertiary then they start talking of lecturers and not teachers. It's because they expect you to do a lot of work. But as I've said, it depends on what your learners already know. Like when we are doing revision my role will have to change now.*

In another interview, Thabo reaffirmed the fact that about 70% of his instructional time was spent on what he termed "*budging*" or "teacher talk". In practice that could be seen in the way he spent the first fifteen to twenty minutes of a lesson on explaining the concepts or principles encapsulated in the relevant *Wonderboom* text. Even the 'fill-in-the-worksheet' session that invariably followed was interspersed with a great deal of comments and clarifications from him as he went around from person to person, or from group to group, to answer queries. This *"budging"* continued during the final 'correction' phase of the lessons, when he would go through the worksheets with the learners. Even though he encouraged learners to present and discuss their answers to the worksheet questions, he very often simply gave learners answer to the questions, as it was reflected in the *Wonderboom* Teachers' Manual.

Thabo deviated from the *Wonderboom* text in three main ways. That comprised developing classroom tests that were considerably more challenging than the worksheets, infusing some of the key Grade 10 Physical Science concepts into the various Chemistry and Physics lessons, and also by starting with the Grade 10 syllabus towards the end of the fourth term. He explained that the rationale behind this was that the Grade 10 teachers were complaining that their learners, who were the Grade 9 products of the outcomes-based C2005, were struggling horrendously, and did not know the basic scientific concepts needed to tackle Grade 10 Physical Science. As is evident in the next interview extract on this subject, both he and his colleagues were convinced that these learners were struggling with the much more demanding Grade 10 NATED 550 syllabus, because of the *"superficial"* and *"simple"* Grade 9 *Wonderboom* texts.

> *Thabo: The problem is they only do that shallow stuff up until Form 2. When they go to Form 3 they will have to face the real science. Then that's where your problem starts. I have been teaching Grade 10 myself last year. Then I knew what was happening in those classes. You'll find that most of the kids do not have even a background of basic science in Form 2. Now they are in Form 3. They have to do real science, but they are still in the mood of carrying on where they have stopped last year, but now you find that things are different and their marks are dropping drastically. You'll find that last year he got 92%. This year he got 50% and the parents come running to you and say what's happened to my kid, because last year he got this.*
>
> *Interviewer: And that is because the Grade 9, Form 2 learner activity book, the things that you are expected to do according to the Wonderboom is so simplistic?*
>
> *Thabo: Ja, it's very straightforward and simple. And when coming to Form 3 now you'll find that they have to do something, which is quite different, abstract and very limited as far as daily applications are concerned. They start visualising things, taking them form an abstract level. Then to most of them now it becomes a nightmare.*

In a separate interview, Thabo reiterated this concern about the uncharacteristically poor performance of the Grade 10 Science learners since the first C2005 batch enrolled for the NATED 550-oriented and content-heavy Grade 10 Physical Science.

He added that although Grade 9 teachers had always started with the following grade's content when they finished early, it seemed that OBE had *"fuelled"* this need even more.

> *We have agreed with Grade 10 teachers that we don't just have to focus only on this OBE and we also agreed that if possible, because this year it seems we will finish earlier, the syllabus. We'll start with Form 3 stuff, just to prepare them. If we can finish our syllabus earlier we can go into Form 3 syllabus, or even the Grade 9 syllabus, but now in more detail, the old syllabus, the old science syllabus for Grade 9… okay, previously when you finished early, yes, we were just doing that type of a thing, but now it's even fuelled by this OBE now, the poor performance in Grade 10. That's the main thing…*

Clearly, Thabo's curricular decision-making was in part influenced by the poor performance of learners in the Grade 10 Science.

THE IMPACT OF THABO'S APPRENTICESHIP OF OBSERVATION

Thabo acknowledged that his scholastic years as learner under the teacher-centred and content heavy NATED 550 curriculum had to some extent contributed to his pedagogical style. Within the first few weeks of classroom observation, I came to realise that he had a special affinity for the blackboard, and never used other teaching media such as an overhead projector, flip-charts, television and so forth. Explanation of concepts and demonstrations on how to use formulae were accompanied by extensive writing on the board. Lessons were always started with the heading and the date written on the board, followed occasionally by explanatory notes. A typical example that crystallises his almost automatic and involuntary recourse to the chalkboard occurred during the practical lesson on *Electricity*. Learners had been introduced to the equation of V = I/R a few days earlier, and had, in my opinion, sufficient exposure to be able to apply it. However, he still did the different ammeter and voltmeter readings himself, wrote them on the board, and then proceeded to do the calculation himself on the board. In the stimulated recall session, in looking at and discussing that particular video segment, is became clear that Thabo had not thought, either before the lesson or at that specific time, about a different approach and teaching media. In sum, Thabo agreed with me on numerous occasions that the

blackboard formed an integral and indispensable part of his teaching. His refrain was consistently in the line of: *"I could say, maybe, myself I've been taught on the blackboard"*.

Another common practice in Thabo's teaching, which I have already partly dealt with, was the tremendous amount of talking he did in class, whether during his twenty minute introduction or while learners were busy with their worksheets. When I put it to him that I estimated that on average he did about 70% of the talking in the class, he readily agreed, but added that it was still less than the talking that he did in his first two years of teaching. Apart from the other rationale that he proffered for this practice, most notably that there were too many learners who did not have the requisite knowledge base for him to facilitate rather than teach his lessons, he also acknowledged that it could possibly be because he came from a school environment where teachers did a great deal of talking.

Thabo's acknowledgement that his observations of how his teachers taught him when he was still at school, particularly in terms of the dominance of the chalkboard and teacher-talk, underline the powerful impact of the apprenticeship of observation. As discussed earlier, this essentially means that he reflexively learnt or acquired certain instructional tendencies through his personal experience of his teachers' instruction. This partly explains Thabo's almost mechanical use of the chalkboard, and his propensity to 'teach' by doing most of the talking.

THABO'S INTERACTIVE DECISION-MAKING

As described earlier, I attempted to illuminate Thabo's interactive decision-making, that is, the decisions he made during the lesson, through stimulated recall sessions. During these sessions Thabo and I watched the video replays of the observed lessons. I allowed Thabo to stop the video whenever he felt that he was called upon to make an interactive decision, and to then give an account of what was going through his mind at that particular point. Although Thabo did this on a few occasions, for the most part I intermittently interjected the video replays to ask him about classroom incidents which, according to my field-notes, appeared to be critical 'in-flight'

decision-making points. Even then, Thabo's commentary of what went on through his mind was very minimal.

There are two possible explanations for Thabo's inability to identify and talk about his interactive decisions - I found that on different occasions both or one of these was at play. On the one hand, it was evident that Thabo was convinced that he made very few, and sometimes no conscious decisions during his lessons. He often articulated this perception in terms of not having had the need to make significant 'in-flight' choices because the lesson had proceeded the way he had envisaged it. On the other hand, it was clear that Thabo had difficulty in identifying and articulating incidents which, to me, was plainly interactive decision-making occurrences. It was as if he was reluctant to explore his meta-cognitive capacity to reflect back on his own classroom practice and the interactive thinking and decision-making that possibly framed it. He admits as much in the following response to a question on whether he could identify, from the replay, any deviations from the planned lesson:

> *No, I cannot say that, even though there might be … I did not recognize it.*

One of the few occasions that Thabo initiated discussion of his interactive thinking was during the stimulated recall session which followed the day that he had to abandon a lesson on D*etermining the cost of electricity*. As I explained earlier, on that day, he could not proceed with the *Wonderboom*-recommended activity because only a few learners had brought an electricity account statement from home. At the commencement of the stimulated recall session, Thabo explained that he had then decided to continue with the next activity in the *Wonderboom* book. In his own words:

> *I told them that they had to go back and bring those statements tomorrow. It will be impossible to do that lesson just with a few learners, while the rest of the class do not have those statements…We had to carry on with the next activity, which was activity 3. We had to leave activity 2 and carry on with 3.*

Thabo furthermore noted that activity 3, which was on *Electromagnetism*, was not related to the abandoned activity and *'was completely independent of it'*. This provided additional proof of his dependence on the *Wonderboom* LSM for the

instructional choices he had to make. It was clear that even during 'in-flight' emergencies, he was reluctant to use his own discretion and to be innovative or creative in designing instructional activities. Admittedly, in deciding to shape the above-mentioned lesson around activity 3, Thabo attempted to be improvise by asking the learners to use magnets to identify magnetic items in the classroom. When I asked him whether this activity was in line with the *Wonderboom* worksheet, he responded as follows:

> *No, in the Wonderboom book they gave us some materials which we had to identify whether they were magnetic or not. I realized that to assemble all those materials in that short space of time was impossible. So the only thing was for them to identify their own materials… If I had known that they would not bring those statements, I would have collected all those materials needed for activity 3. One cent coins, a ring etc. But at that stage it was too late to get all those things. So I just said, you forget about all those things and you just find for yourself any material which would be magnetic. Then they started searching for those magnetic materials.*

This statement illustrates that the *Wonderboom* books not only shaped Thabo's pre-active thinking, but also his interactive decision-making.

From my classroom observations, and my subsequent inquiries during the stimulated recall sessions, it was clear that another prominent frame factor that shaped Thabo's interactive thought pattern was the learners. The two dominant patterns that emerged centered around (i) him having to choose between ignoring incidents of learner ill-discipline and actually stopping what he was busy with and attending to the problem, and (ii) him having to decide whether learners sufficiently understand what the lesson activity was about, and whether he needed to provide further explanations or exercises. Earlier I provided evidence of how Thabo had to completely abandon a lesson because learners were inordinately inattentive and noisy while he was doing his customary introductory talk. On another occasion, during a lesson on *The Periodic Table*, one particular learner forced him to make a decision. He explains:

> *…Maurice … is such a naughty boy. And today he was behaving so bad, maybe because of the camera. And I was shouting at him, Maurice sit down , Maurice all the time. That's why I decided to give this boy a blue slip, but I know that he's got many demerits, and sometime I hate giving blue slips because I think that learners are so*

> *used to being given blue slips and negative reinforcement, and therefore does not have any effect on them.*

With regards to interactive decisions to engender greater learner understanding, his common response to learners inability to answer Thabo's or the *Wonderboom* book's questions, was to spend a few minutes re-explaining the relevant concepts or principles. Another occasional response was to provide supplementary classwork exercises. A point in case was during an activity on *The effect of temperature on the resistance of a conductor*. As he explains in the following stimulated recall extract, towards the end of the lesson he made an interactive decision to substitute the readings (ammeter and voltmeter) on which the initial problems were based, and asked learners to do these as supplementary consolidating exercises.

> *Therefore during this one I just wanted to make sure that they really understand all these conclusions. That's why during the end of the lesson I just changed those values so when they would calculate the resistance, they'd find for the cold is less than the hot one.*

In all, it must be said that the stimulated recall sessions were not as productive and illuminating as I had hoped it would be. Thabo was not as responsive as what we was during the pre-lesson and post-lesson (which was held just before we had the stimulated recall sessions) interviews. All indications were that Thabo's lesson routines of an introductory talk, followed by learners completing the *Wonderboom* worksheets, minimised conscious interactive decision-making on his part. It was also noticeable from the stimulated recall interviews that Thabo appeared not to be particularly concerned, while in the process of teaching, about whether the lesson was consistent with the new outcomes-based pedagogy.

Synthesis

This case study report gave a comprehensive and analytical account of Thabo Billiana's understanding of the critical differences between NATED 550, C2005 and the NCS, as well as the various factors that impacted and determined his curricular decision-making.

What stood out with regard to his 'understanding' of the curriculum changes, was his non-familiarity with the NCS, as well as his divergent and often contradictory views on the differences between the NATED 550 and C2005. He was adamant that the new OBE policies was to a large extent 'not much different' to what many teachers had been doing under the traditional NATED 550 curriculum, and that many of the complex new terms merely made the traditional terms more complicated. Paradoxically, he also demonstrated an understanding of the fundamental and radical pedagogical shifts that OBE and C2005 expect from teachers, such as from 'teacher' to 'facilitator'.

It emerged that the foremost influence on his curricular decision-making was the *Wonderboom* LSM, which he used extensively and imitatively, to such an extent that one can refer to it as his de facto learning programme. I also furnished reasons, in Thabo's own voice, for his adherence to the outcomes, content and assessment exercises in the LSM, underlining the fact that he believes that the ready-to-use *Wonderboom* books, with their compact activity sheets, made it much easier to venture into the new outcomes-based educational practices. However, on the strength of my classroom observations, as well as Thabo's own acknowledgements, I demonstrated that despite the extensive use of the 'outcomes-based' scripts, his teaching was generally still teacher-centred.

Other frame factors that influenced his pre- and post-lesson curricular decisions were also made known, and these included departmental directives, parental expectations, Grade 10 learner performance and examinations. I also repeated an extensive discussion to demonstrate how Thabo perceived and experienced the impact of each of these secondary frame factors on his decision-making and classroom practice.

With regards to Thabo's interactive decision-making, I noted that during the stimulated recall sessions he was not as responsive as I hoped he would be. I provided possible explanations for the difficulty he had in identifying (on his own) and articulating classroom incidents where he had made conscious interactive decisions. My own line of questioning during the stimulated recall interviews, which invariably was based on my observation fieldnotes, revealed that two frame factors dominated Thabo's interactive thinking, namely the *Wonderboom* text and the learners. He

especially made ‘in-flight’ decisions around learner discipline and engendering better learner understanding of the work that they were engaged in.

In the following chapter, which also marks the conclusion of my thesis, I start off by identifying the main similarities and differences between Thabo’s curricular decision-making and that of the first respondent, Martin Stevens. What really stood out was the dominant and powerful role that the *Wonderboom* LSM played in both teachers’ decision-making and practice. Bearing in mind that both respondents did not esteem the *Wonderboom* LSM highly, and consistently described it as “superficial”, “ too easy” and “ straightforward”, the question that logically follows is:

> *Why does the Learning Support Material play such a dominant role in teachers’ curricular decision-making and practice, when negotiating complex curricular change?*

This is the critical and fundamental question that was raised in my exploration of the two respondents’ curricular decision-making at the junction of NATED 550, C2005 and the NCS. Adding to the enigma is the fact that Thabo and Martin were operating in radically different contexts, the one in a moderately resourced, ‘formerly disadvantaged’ school, and the other in a well-resourced, ‘formerly advantaged’ school.

In the final chapter that follows, I draw on the research evidence from this study, the extant literature on curricular change and teacher decision-making, as well as the stated theoretical positions, to develop new insights on this critical and fundamental puzzle on teacher’s curricular decision-making.

CHAPTER 7

THEORISING TEACHER DECISION-MAKING DURING COMPLEX CURRICULUM CHANGE

Introduction

The previous two chapters provided comprehensive case study reports of the understandings and curricular decision-making of the two teachers in this study. In this concluding chapter, I firstly revisit the data gleaned from these case studies by identifying the main commonalities and differences in Martin's and Thabo's curriculum decision-making at the interface of the traditional curriculum (NATED 550), the new curriculum (C2005) and the subsequently revised curriculum (NCS). I juxtapose my findings against the knowledge base on curriculum change, and critically analyse the data in the light of the theoretical positions outlined in Chapter 3. I then illustrate how this research extends and advances what is currently known about policy change and implementation in developing contexts.

On the basis of the research evidence, particularly the prominent *intensification* storyline that characterised Thabo's and Martin's decision-making, I make four concluding arguments regarding the curricular decision-making of teachers who are expected to implement radically new curriculum policies in developing countries. *Firstly*, as borne out by their inordinate dependency on 'outcomes-based' texts, the teachers exhibit a distinct passivity in decision-making. *Secondly*, in spite of the authority of the LSM, teacher decision-making frames, or the forces that impact or frame teachers' curricular decisions, are multiple and personal. *Thirdly*, the limited curricular decision-making of teachers in the developing world is a form of 'defensive teaching' to stem what they perceive to be a veritable 'threat of intensification' of their work. In explaining my findings, I follow the 'voices' of my respondents to argue that teachers at the juncture of radically different curricula do not fully utilise their decision-making discretion in order to cope with the overwhelming sense that too much is expected of them. As such, I draw on the literature on "the intensification of teachers' work" (Hargreaves, 1994; Gitlin, 2001; Apple, 1989) to contend that the notion of "defensive teaching" that McNeil (1983) traditionally used to refer to the

defiance exhibited by teachers could well be extended to explain the passivity of decision-making among teachers implementing curriculum policies. Such an analysis of curriculum policy implementation through the lens of "the intensification of teachers' work", is significant and useful in the South African context – bearing in mind that in recent years a plethora of policies have sought to change the conditions and contexts of labour at both the national and school levels, as well as the nature of work performed inside classrooms (Weber, 2004).

In this chapter I also outline the limitations and strengths of this study, the implications of my findings for curriculum policy and practice, and some unresolved research questions which emanate from this study, and which should make a productive line of curriculum inquiry.

This research adds to the limited scholarship on curriculum policy implementation in developing countries, and arose from my interest in how teachers seek to change their classroom practices when new curriculum policies expect them to make significant attitudinal, behavioural and conceptual shifts. With post-apartheid curriculum reform as the backdrop for such an inquiry, I extensively interviewed and observed two South African teachers to understand how they respond to radical policy changes, and why they do what they do in their classrooms. For this purpose, I drew on the extensive scholarship to show that teaching is essentially a decision-making enterprise, meaning that teachers are continuously called upon to make curricular and instructional choices, and that these choices to a large extent determine their instructional practices. In exploring how teachers translate curriculum policy into practice, particularly in the South African context, I was guided by two research questions:

1. *How do secondary school teachers understand the critical differences between the traditional curriculum, the new outcomes-based curriculum (C2005) and the revised version of C2005 (NCS)?*
2. *Why and how do these teachers make strategic curriculum decisions at the interface of these three curricula in their classrooms?*

These two research questions became all the more intriguing during my prolonged engagement in the field with Thabo and Martin. From the many classroom

observations it was apparent that their classroom practices, while displaying some elements of OBE and C2005, were still largely in the vein of the traditional, teacher-centred pedagogy. On the one hand both teachers clearly attempted to move towards the implementation of the new curriculum by infusing their practices with 'outcomes-based' worksheets, with the occasional deployment of learner group work and by complying with departmental directives on 'outcomes-based' continuous assessment. Nonetheless, as both teachers also readily admitted, these attempts at changing their curricular practices were overshadowed by traditional, teacher-centred pedagogies: they were still the dispensers of knowledge in the class, learners were still largely passive receptacles, and the chalkboard still dominated instruction in the classroom. Moreover, the 'outcomes-based' LSM and worksheets were used in a largely mechanical and perfunctory way, reminiscent of the days when the prescribed, content-heavy textbook dictated what happened in classrooms.

This mechanical and replicative approach to C2005/OBE resonates with Spillane and Zeuli's (1999) findings that during curriculum change teachers often practise only the superficial, *behavioural regularities* of innovations, but hold on to the *epistemological regularities* of the old. Drawing on Hargreaves' (1994) conceptualisation of this phenomenon, my respondents manifested some of the *'branch'* changes characteristic of C2005, such as learners being 'active' in class by filling out worksheets; however, they could not respond with fundamental *'root'* changes, such as genuine facilitation of the learning process, or even planning and executing their own lessons. This finding that teachers during curriculum change tend to adopt only the superficial features of an innovation is consistent with both local and international scholarship (Spillane et al, 2002; Mattson & Harley, 2001). In Jansen's (1999) study on the Grade 1 implementation of C2005, a significant number of teachers used C2005 and OBE "simply as a broad and guiding framework against which to plot or refer their own teaching" (p. 77). In other words, these teachers were changing on the 'superficial' level, for example, by doing less written work in books and teaching less than before, while they still focused on what they had always done, such as the three Rs.

Indeed, while peering into Thabo's and Martin's classrooms and making the above observations, I developed a greater sense of the significance of McLaughlin's (1998) reflections on the "implementation problem", more especially her incisive question:

Why are classroom practices so hard to change? Implied in this version of the 'implementation problem' is that it is not a question of *whether* teacher change is hard or not, but rather: changing teachers' classroom practices is an extremely onerous undertaking, as is evidenced by the experiences of Thabo and Martin.

I came to realise that, in contrast to a number of recent research findings, I could not really explain Thabo's and Martin's inertia to change in terms of outright defiance towards the new curriculum policies (Edwards, 2000; Bailey, 2000), for both were committed and supportive of the introduction of these reforms in South African schools. I also could not rely on technicist (Tabulawa, 1997) explications revolving around 'teacher incompetence', for both teachers were relatively well-qualified university graduates. This study offers alternative explanations for Thabo's and Martin's 'implementation problem'; and these explanations derive from the central research question: *Why and how do teachers make particular curricular decisions?*

In the next section I provide some critical reflections on the most salient themes and patterns that emerged from this inquiry into how and why Thabo and Martin make particular curricular decisions.

Without doubt, **the** most significant finding from this research was that for both teachers the dominant and pervasive influence on their curricular decision-making and classroom practice was the *Wonderboom* LSM. As I explained earlier, during the proposal stage of this research, and up to the first few weeks of engagement with the respondents, my conceptual lens for this study was a hypotheses-testing one. My preliminary intention was to explore the particular permutations in which the respondent teachers drew from the three current South African curriculum strands. The dominance and authority of the LSM was not in my original thinking. Maybe I was a bit naïve, maybe I had just lost touch with the complexities of classroom life, or maybe I had not yet completely expunged my technical-rational notions that practice follows policy. But I had hoped that my respondents would demonstrate a considerable degree of conscious and reflective decision-making as they, in C2005 policy parlance, designed, planned and adapted learning programmes to the needs of their learners. On the contrary, as soon as I got into the trenches with my respondents, I was struck by their attraction to the *Wonderboom* texts, as well as the frequency with

which they rationalised "the allure of the text" in terms of the overwhelming *intensification* of their work. However, before I engage with this main finding, I wish to draw attention to two other defining features of Thabo's and Martin's decision-making.

Teachers make limited use of the considerable curricular decision-making space available to them

As stipulated earlier, the new outcomes-based curriculum affords South African teachers considerable autonomy in planning and designing appropriate, needs-based learning programmes, within the broad parameters of the critical and specific outcomes, as well as the specified four strands of C2005 Natural Science (Jansen & Middlewood, 2003). The provincial education department does not confine teachers to particular textbooks, and certainly does not prescribe what and how they should teach under the four NS strands. This, in principle at least, provides teachers with the flexibility to select and sequence content according to the interests, developmental levels, and needs of learners. However, both teachers had resolved to primarily follow the pattern of the LSM, to a large extent using it in a mechanical and imitative manner. This meant that, apart from the few deviations from the *Wonderboom* texts which I described, both respondents simply adopted and replicated its choice of critical and specific outcomes, themes, topics, content sequence, worksheets and, to some extent, assessment strategies. This could be seen in the way they repeatedly explained that they were doing particular topics because it was "next-in-line" in the *Wonderboom* books.

Both teachers demonstrated very little initiative and resourcefulness in terms of altering or enriching the *Wonderboom* course. This effectively meant that there was a lack of intensive curricular decision-making on their part, and that they effectively relinquished their professional power to the LSM. This in turn meant that the teachers were not realising the C2005/OBE vision of teacher decision-making, so succinctly captured by the first post-apartheid Minister of Education: "In a learner-centred environment the teacher becomes the facilitator, guided by learning programmes that allow him/her to be *innovative and creative* in designing programmes (Bengu, 1997: 4).

At this juncture, I wish to draw attention to two very important issues that shed light on my evolving fascination with Thabo's and Martin's slavish use of the *Wonderboom* books. The first issue relates to the assertive way in which they agreed with the OBE principle that teachers should not be textbook bound. Here, Thabo's assertion that "*this book is not my Bible"* succinctly captures their espoused belief, that under the new instructional dispensation teachers should be more learner-centred in their lesson planning. Both Thabo and Martin certainly demonstrated a theoretical understanding of the C2005/OBE message that the conventional approach of 'teaching from the textbook' should be abandoned. Yet, in practice, they were now 'teaching from the LSM'. This was one of numerous *"hotspots'*, as Linde (1980, cited in Woods 1996 71) terms such contradictions between a person's espoused beliefs and his/her actual practice. Martin, for example, endorsed the view that learners should be more active in the construction of their own knowledge; yet in practice he did most of the talking and teaching. Thabo, on the other hand, was of the opinion that teachers had always been practising OBE, and that C2005 was just "*making difficult what we have always done"*. In his own classroom, he was the dispenser of knowledge, and depended on a pre-packaged learning programme (*Wonderboom*) to meet the needs of his unique and diverse group of learners.

This tension between teachers' beliefs and their classroom behaviour underscores Roger's (1999: 2) point that the curriculum "represents a critical interface between beliefs and action" and "a space for contention". In this study, the teachers seemed to deal with this "space for contention" by making decisions and adopting practices that were antithetical to their professed beliefs about and understandings of the extant curriculum changes. There was sufficient evidence to suggest that by looking at their decision-making and practice through the theoretical lens of "*the intensification of teachers' work"*, one would be able to gain insight into this particular contradiction, as well as their general dependence on the *Wonderboom* LSM. I will return to this act of theorising a little later, but for now would like to draw attention to yet another significant contradiction in the work and words of the two teachers.

This second inconsistency relates to their initial claims (before classroom observation and occasionally in the first few interviews) that they draw from a number of different

texts to construct appropriate lesson programmes, and their actual and predominant practice of drawing only on the *Wonderboom* text. Such disjuncture between what teachers claim they do and what they actually do in class has been well-documented, more recently with regard to teachers attempting to practice C2005 in South Africa (Jansen, 2001; Taylor & Vinjevold,1999). Shraw and Olafson's (2002) findings of how some Australian teachers endorsed a conceptualist worldview, but exhibited conflicting practices, illustrate that these contradictions between claims and actual practice are not just a Third World phenomenon. What made Thabo's and Martin's abdication of their curricular decision-making authority to the *Wonderboom* texts truly intriguing was that they were equally unimpressed with its quality and relevance. When they spoke about their impressions of the *Wonderboom* activities and worksheets, they readily used negative descriptors such as "superficial", "unchallenging" and "straightforward". It seemed therefore highly illogical that they would adopt the "superficial" and cognitively unchallenging curricular decisions made by the authors of the *Wonderboom* NS texts. There are a number of possible explanations for this observation.

Firstly, the fact that the leadership of both Greenfield High and Pendle High played such a prominent and leading role in the acquisition of the LSM, and that all learning areas were using the same series meant that teachers were under some pressure to use it extensively. In fact, in Thabo's case, parents were surprisingly adamant and demanding that the LSM, for which they had paid a considerable sum, should be used to its full extent. Secondly, the fact that the *Wonderboom* series was approved by the GDE as an 'outcomes-based' LSM, fed an understanding in their minds that it was well tuned to the demands of new C2005/OBE policies. With such a perception, the *Wonderboom* series would indeed be very appealing, especially considering the broad, unspecified and content-light nature of the official C2005 documents (Chisholm, 2001). For these teachers the commercially prepared curriculum texts represented a neat package of what was minimally expected of them. Ben-Peretz (1990), in her insightful book called *Freeing teachers from the tyranny of texts*, concurs with this point by stating that teachers often believe that authors of curriculum textbooks "possess valid knowledge and expertise which is reflected in their choice of the topics, themes and principles…" Thirdly, their dependence on the LSM for curricular decisions arose largely from practical and functional considerations. These include

perceptions that the *Wonderboom* was a ready-made learning programme, that it saved a lot of time, and that it relieved the pressure of the complex curricular change. As I will illustrate later, this sense of *intensification of their work* pervaded much of our conversations.

It was clear that by abdicating their decision-making powers to the LSM, and following its script, the teachers in this study believed that they were, to some degree, doing what was expected of them. In this regard, Eisner (1979: 120) makes a very valid point when he asserts that for teachers "it is easier to do what is expected, even if what is expected has little meaning or personal relevance". Schraw and Olafson (2002) extend Eisner's (1979) observation to conclude that through this quiet conformity to another authority, "teachers have given themselves over to passivity". This is such an apt articulation of my findings with regards to Thabo's and Martin's limited use of their decision-making space, that it seems entirely appropriate to characterise it as *passivity in decision-making.* Such abdication of decision-making to the LSM also constitutes a form of "cutting corners in decision-making" as "the pressure on time and the expectation to do more work with students lead to teachers cutting corners with their classroom work … and preparation" (Schaclock, 1998: 12).

Thabo's and Martin's "passivity" and "cutting corners" in decision-making took various forms, most notably in their planning style, as well as in their decisions about outcomes, content, and teacher and learner activities. In terms of planning style, I demonstrated how this reliance on the text led to a situation where they did not have a documented year plan or even a quarterly plan of what they were going to do with their learners. The *Wonderboom* LSM was evidently regarded as the learning programme or 'curriculum course' for the year. They had so much confidence in the activities and worksheets in the *Wonderboom* LSM that their planning may be described as short term, limited and very often incidental. Furthermore, they did not have a dedicated planning or preparation book, instead preferring to make vague *mental pictures* of how their lessons would run. Admittedly, the literature abounds with evidence that most teachers, across the world, "do not plan in substantive ways", but rather settle for "mental rehearsals" of lessons (Tobin, Kahle & Fraser, 2002: 65; Borko et al, 1990). McCutcheon (1980: 46) describes this as a kind of "mental dialogue covering a wide range of planning concerns". Yet, in the light of the fact that

the respondents' "mental rehearsals" were arose largely not from intense reflection and deliberation, one has to cast it in a 'passivity of decision-making' mode. More importantly, bearing in mind the complex nature of C2005, and the fact that Thabo and Martin were in only their second year of OBE, it would seem that more intensive planning was required.

Yet another manifestation of Thabo's and Martin's passivity in decision-making is seen in the fact that there was very little of what Woods (1996 139) calls "recursiveness" in planning. In other words, for the most part, there was very little independent post-active reflection to assess the strengths and weaknesses of lessons and to adapt, adjust or refine subsequent lessons. It was almost as if each lesson or theme was seen as independent and mutually exclusive.

The limited nature and passivity of decision-making that came to light in Martin's and Thabo's engagement with the new curriculum does not seem very different from the way Jessop and Penny (1998) described their sample of rural primary school teachers in pre-C2005 South Africa. They found that the teachers were using the textbook and syllabus as "authoritative texts" and "recipes for classroom practice", with little reflection on their epistemological or pedagogical signals. Furthermore, Jessop and Penny (1998: 399) accurately echo my findings when they explain how that their respondents "had effectively abdicated responsibility for exercising agency over what they taught, to whom, how and for what reason". Dachs (cited in Taylor and Vinjevold, 1999), in a study of large classes in KwaZulu-Natal, provides further evidence of the inordinate reliance on LSM and its central role in different classroom interactions, such as discussing, explaining, questioning, reading and writing.

In all, the teachers' passivity-in-decision-making, and the almost 'scriptural authority' that they afford the learning support material, cohere with Jackson's (1968: 20) finding that even in First World contexts

> … many teachers never trouble themselves at all with decisions about how the material they are teaching should be presented to their students. Instead they rely upon commercially prepared instructional materials such as textbooks to make those decisions for them.

Indeed, based on the research evidence described thus far, it is safe to say that **the single most important curricular decision** that Thabo and Martin made, was to use the *Wonderboom* LSM as 'virtual script' of how they were going to implement the new C2005/OBE policies. This dominant 'presence' of the LSM in their teaching practice, and consequently in the minds of their learners, really struck home during a routine 'fill-in-the-worksheet' activity in Martin's class. It was an activity on ecology, and as I explained earlier, it was at the start of this topic that Martin felt that learners needed to get a supplementary, but traditional, content-heavy textbook to study and work from. Learners were doing the usual filling in of the worksheet answer, this time with the help of the 'old' Grade 9 Science textbooks, when a despondent boy, obviously frustrated at not making satisfactory progress, bellowed out in the class: *"Sir, on what page is the answer?"* This reaffirmed my suspicion that both the teacher and the learner had grown to depend on the available texts. This was reminiscent of McNeil's (1983) observation that when teachers taught defensively, and watered down the content in order to maintain better control, that : "… the students appeared to acquiesce to the pattern of classroom knowledge…" (p. 160).

Although Thabo's and Martin's decision-making and practice were largely framed by the *Wonderboom* texts, there were a number of other forces that, to various degrees, also had a powerful effect on the choices and decisions they made. As I illustrate in the next section, some of these secondary frame factors put more pressure on them to draw extensively on the LSM, while others encouraged them to make the occasional deviation from the *Wonderboom* texts.

Teachers' decision-making frames are multiple and personal

In this analysis of the various factors that impacted on the curricular choices that Thabo and Martin made, I would like to evoke the notion of *decision-making frames*. This seems an appropriate and apt description, considering my extensive employment of Posner's (1995, following Lundgren) idea of the "frame factors" that shape the curriculum in practice. Moreover, in contrast to the construct of *teacher mind frames*, which Tobin et al (2002: 34) coined to refer to cognitive factors which have a direct impact on instructional plans, *decision-making frames* captures the specific focus of

my study, and allows exploration of both external and internal sources of influence on their decisions.

My findings on the decision-making frames that shaped Thabo's and Martin's practices are to a large extent consistent with the literature which suggests that the decision-making frames that impact on teachers' practices are *multiple* (Woods, 1996 Schmidt, Porter, Floden, Freeman & Schwille, 1987; Calderhead, 1984). In Woods' (1966) study, teachers made decisions based on, among other things, the curriculum directives, class routines, their perceptions of their students, and their beliefs and assumptions. As described, Thabo and Martin 'voiced' their decision-making frames as the various departmental directives, their subject matter competence, their apprenticeship of experience, the Grade 9 learners as well as the Grade 10 learners' performance in Science. A striking difference between our findings relates to Woods' (2003: 128) evidence that these factors are very much "interwoven", and that "typically, no single isolatable factor 'causes' a decision to be made". While his respondents consistently enumerated a whole range of frame factors when they explained the underlying thinking behind a curricular decision, I cannot say the same for the teachers in this study. While his respondents' decisions typically seemed to "evolve out of a process of weighting factors", in a "gradual process involving prior considerations, prior decisions, and the various factors underlying the prior decisions" (p. 130), the South African teachers in this study had a different approach.

Understandably, the primacy of the *Wonderboom* LSM in Thabo's and Martin's decision-making and practice meant that there was very little consideration for or deep reflection on many of the decision-making frames that Woods' respondents enumerated. Yes, there was *some* degree of connection between the limited number of decision-making frames that surfaced in the study, but it certainly does not have the same rich 'interwoven' texture. The reason for this variation, as I will argue shortly, lies in the fact that Thabo and Martin experience the implementation of the new curriculum as an overwhelming *intensification* of their work, and in order to cope with this intensification, they limit their decision-making considerations to the bare minimum. Before I deal with this argument, however, I intend to take a brief but critical look at *some* of the similarities and differences between Thabo's and Martin's secondary decision-making frames.

Similarities in decision-making frames

The frame factor that had the most profound impact on both respondents' decision-making and practice was undoubtedly the *departmental directives*, particularly with regards to continuous assessment (CASS). This was completely understandable as all teachers in Gauteng Province were subject to the same portfolio requirements, and had to have a pre-specified range of assessment activities that were to be moderated externally at the beginning of the fourth term. It was interesting to note though that their compliance with departmental directives was largely restricted to those 'high-stake' ones which ultimately led to products that they knew were to be moderated by departmental officials, and which were to determine learners' progression to the next grade. They certainly did not demonstrate the same sense of commitment to departmental expectations for the construction of learner-based learning programmes or the mechanics of C2005 lesson planning.

Another similarity in decision-making frames was detected with regards to their *subject matter competence.* Coincidentally, both Thabo and Martin did not have specialised teacher training or teaching experience in the *Life and Living* (Biology) component. In class they reacted identically by sticking verbatim to the *Wonderboom* texts but in a superficial way, limiting learner discussion or queries on the worksheets and basically rushing through the Life and Living worksheets. This is one of the main dilemmas of the integrated learning area approach of C2005 – it was clear from this study that there is the real possibility that teachers' attempts to enrich or deviate from their chosen LSM texts would be limited to those strands in which they feel competent and experienced, while those Science strands in which they were not competent would be severely neglected. Rowe (1985, cited in Tobin et al, 2001: 83) concurs with my observations when he reports that in selected American schools, "lower levels of engagement occurred when teachers taught outside their specialist disciplines in integrated science … non-practical, informational approaches dominated when teachers moved out of their specialised areas…" Moreover, Venville, Wallace, Rennie and Malone (2002), in their research into the practice of integrated science in Australian high schools, found considerable support for a return to the traditional subject structures. Closer to home, Olorandare (1990) found that Nigerian

teachers who were asked to implement a similar integrated Science curriculum maintained their traditional discipline mentality. They effectively handled the different strands as distinct subjects, and emphasised those themes with which they were more familiar.

What my study has reaffirmed is that teachers' subject matter competence does indeed shape the curricular decisions that teachers make. Furthermore, as was the case for Thabo and Martin, teachers gravitate more powerfully to prepackaged curriculum texts when confronted with scientific strands or topics that challenge their pedagogical content knowledge. This observation raises yet another question:

Why do teachers not spend more time and effort learning and researching those NS themes that they are not familiar with? This certainly is a pertinent question, and one that I posed to my respondents in varying ways. As I will demonstrate, Thabo and Martin strongly indicated that the tremendous increase and *intensification of their workload* had made such efforts almost impossible.

The prominence of *apprenticeship of experience* as a decision-making frame was understandable. As the case reports clearly illustrated, both Martin and Thabo at times related their teaching patterns, such as their extensive use of the chalkboard, to their own experience as high school students. This meant that much of their instructional behaviours arose not from conscious or deliberate decision-making, but were the fruit of a kind of "socialization" (Hoadley, 2002: 46) or apprenticeship process, whereby they learned and acquired certain behavioural features from what they experienced and what they observed their own teachers doing in class. Furthermore, both conceded that the traditional 'Fundamental Pedagogics' orientation of their teacher training had certainly left the traditional, teacher-centred imprints on their pedagogical identities (Putnam & Borko, 1998). This dimension of teacher decision-making is consistent with the literature, which suggests that we see, interpret and react to the world according to what we have experienced in the past. Cohen (1990: 339) captures this notion that teachers are historical beings when he concludes that teachers

> … cannot simply shed their old ideas and practices like a shabby coat, and slip on something new … As they reach out to embrace or invent a new instruction, they reach out with their old professional selves, including all the ideas and practices therein.

Closely linked with Thabo's and Martin's *apprenticeship of experience* was their particular classroom or instructional *routines.* These not only involved routines or "experienced structures" (Woods, 1996: 45) developed in the traditional pedagogical contexts, such as the extensive use of the chalkboard, but also those which they acquired in the short period of C2005 implementation. This latter point was well manifested in the way both respondents had fallen into the lesson routine of an introductory teaching period, followed by learners completing *Wonderboom* worksheets, and then a time for 'checking' the answers to the worksheets. Furthermore, their approach to practical or experimental work, where both of them relied largely on teacher demonstrations with minimal involvement from learners, also spoke of their preference for calling on tried and tested routines. In this regard, Martin had the peculiar routine of doing his teacher demonstrations step-by-step, linking each step with the relevant *Wonderboom* worksheet question. He would then allow learners to fill in the appropriate answer, as observed in the demonstration, before going to the next step. Based on my many conversations with Martin and Thabo, it is safe to say that a major benefit of falling back into *routines* is that, just as for their *apprenticeship of experience,* it minimised conscious decision-making and wide-ranging mental deliberation. This applied to both planning (pre-and post-lesson decision-making) and interactive or 'in-flight' decision-making. And for them, operating in contexts that they perceived to be marked by a severe *intensification of the workload,* this was a benefit worth pursuing.

Dissimilarities in decision-making frames

There is extensive scholarship that contends that teacher decision-making is a very personal, situational process (Johnston, 1990; Woods, 1996; Bolster, 1983). In this study, the personal and situational nature of teacher decision-making could be seen in the way that particular frame factors had varying effects on Thabo and Martin, and in the way that some decision-making frames applied to one, but not the other. Schmidt et al (1987: 454), in their study of eighteen Michigan teachers, also found that "not all

teachers will respond to the same types of pressures, nor were they responsive in the same ways".

What was very interesting were the differences in the *impact of parents* on the participants' curricular decision-making. On the one hand, Thabo explained how parents were generally a major force at Pendle High, and that they were generally very involved in, and conversant with, the academic performance and progress of their children. He was vehement in partly attributing his mechanical following of the *Wonderboom* LSM to the pressure and expectations of parents for him to use it extensively. On the other hand, parental involvement and pressure not once surfaced as a decision-making frame factor in Martin's negotiation of the new curriculum. In fact, Martin repeatedly expressed disappointment with the general apathy and disconnection of the parents at Greenfield High, and that this was most noticeable in their consistently poor attendance at parents' evenings. In my attempts to link this finding with the literature it became clear that there is silence on the powerful, though variegated, impact of parents on the curriculum decision-making of teachers. Schmidt et al (1987) report that in their study, less than 20 percent of teachers mentioned parents as influencing their content decision-making.

Furthermore, given the widely different contexts in which the two respondents worked, it is understandable that they had different experiences and 'stories' of the impact of *resources* on their decision-making. At Pendle High, Thabo had access to "*large, well equipped and well-stocked"* laboratories, and as he noted in our very first interview, it was a school where "*you did not have to crack your head to improvise, because everything was there"*. Lack of resources therefore did not feature in his explanations as to why he made certain curricular decisions. Yet, despite the availability of adequate scientific chemicals and equipment, Thabo still decided to approach practical work in the traditional demonstration way. What was also striking was that he limited his utilisation of teaching media to the chalkboard, even though overhead projectors, a well-stocked library, televisions and video-recorders were easily available at the school. It was clear though that his decision to privilege decision-making frames such as the *Wonderboom* books and his teacher-centred routines meant that the availability of resources made no real difference to his largely traditional pedagogical style. His degree of dependence on the 'outcomes-based' texts

was on a par with that of Martin, who taught at 'moderately-resourced' Greenfield High. As I noted earlier, this designation of 'moderately resourced', given by the GDE, is wholly misleading and inaccurate. My own observations agreed with Martin's complaints that the school was in fact severely underresourced, for much of the chemicals and equipment were either non-functional or outdated. What added to Martin's resource problems was the fact that the senior Science teachers were reluctant to provide him with certain laboratory equipment for fear that the Grade 9 learners would break it. In all, what this problem of *lack of resources* meant for Martin is that it reinforced his decision to follow the *Wonderboom* books more mechanically. In Martin's mind, it also meant that he could not venture beyond his routines of teacher demonstrations

Yet another sign of the difference in the impact of resources on their decision-making was seen in the different ways in which Thabo and Martin dealt with the availability of the *Wonderboom* books in their classes. At Greenfield High, where all the learners come from the 'previously disadvantaged' communities, and where many struggled to meet the R400 per annum school fee, learners were not expected to buy the *Wonderboom* series. In practice, this meant that Martin essentially had to either copy different worksheets for all the learners or, as often happened, when there was no photocopy paper available at the school, he had to write the activity on the chalkboard. At Pendle High, which is in prestigious area, and where most parents typically do raise the R7000 per annum school fees, all the Grade 9 learners were expected to buy the *Wonderboom* series (for most of the learning areas) at a cost of R650. In the Grade 9B class that I observed, all the learners had both the *Wonderboom* Activity Book, and the Support Book. In practice, this meant that Thabo did not have the challenge of making regular photocopies, or to duplicate the worksheets on the chalkboard. In other words, Thabo theoretically had more time for reflection, planning or decision-making available. However, in reality, there was a striking similarity in the way that he and Martin gravitated towards the *Wonderboom* texts. This similarity becomes even more salient when one considers Christie's (1999) prediction that "better resourced, historically privileged schools are more likely to manage the new policies than historically disadvantaged, mainly black schools".

Thabo's positioning as a black teacher at a well-resourced, historically privileged school, and his struggles to manage the deeper, epistemological changes inherent in C2005/OBE, underlines the fact that teacher decision-making is very personal, and not necessarily dictated by the level of resources in a school. It would seem that, for Thabo, decision-making frames such as the *Wonderboom* series, his traditional teacher-centred apprenticeship and routines held more sway in his curricular decision-making than the availability of resources. This is in line with Baxen's (2001) assertion that, in the implementation of South Africa's new curriculum policies, greater care needed to be taken with "what teachers bring to the table". She links this recommendation to her research evidence that showed that in the Western Cape, both black and white teachers were not making any inroads into the new policies, but for markedly different reasons. Black teachers were hampered by the fact that their teacher training was more in the traditional vein, and that contextual factors such as large class sizes, lack of resources and lack of understanding militated against successful implementation. On the other hand, white teachers at the historically advantaged schools though trained in more progressive pedagogies did not change their practices because they were largely of the view that they had in fact always been practicing OBE. I mention this point here because of the vehement way that Thabo expressed similar sentiments. It was noteworthy that Thabo, as a black teacher from a traditional teacher-centred background, could repeatedly and compellingly state that OBE was not very different from what teachers had always been doing. Bearing in mind that he was only in his fifth year of teaching and, by his own admission, had up to that point been largely teacher-centred in his teaching, it is more than likely that Thabo was inadvertently expressing the dominant and popular opinion of his white colleagues at the school. This highlights the powerful effect of another decision-making frame that I have not dwelt on much in this concluding chapter, namely the impact of collegial influences on teacher decision-making.

In practice, Thabo's perception that OBE has always been part of teachers' instructional approach meant that he did not challenge or seek alternatives to the dominant prevailing pedagogy at Pendle High. Teachers were encouraged, even forced, by both the school leadership and the parents to use the *Wonderboom* LSM extensively, and to have learners complete its 'activity-based' worksheets at a steady pace. This, together with ensuring that learners completed the worksheets in groups,

seemed to constitute OBE at the school. In other words, Thabo had become socialised into this superficial (Baxen, 2000) interpretation of OBE, hence his dependency on the 'outcomes-based' texts and his largely teacher-centred handling of group work, practical work and assessment. Similarly, despite the fact that the levels of collaboration between Martin and his colleagues were minimal and superficial, uniformity (of content, worksheets, practical work, etcetera) was a prime concern for them. Hoadley (2002: 48), in her research on teacher work identities, speaks about this "'uniformity in teacher cultures", and how "teacher repertoires are the result of forms of consciousness, knowledge, sentiments and values that are socially constituted in the school". In the midst of the collective thinking, both Thabo and Martin realised that there was more to C2005/OBE than the texts they were using. They expressed an awareness that they ought to have learners more actively involved in constructing their own knowledge and should draw on a much wider variety of sources for content and strategies based on the needs of his learners. However, this awareness remained at a rhetorical level. As I will demonstrate shortly, in his mind he could not concretise these deeper lying "root changes" (Hargreaves, 1994) because of the deep sense of *intensification* of his work.

I am cognisant of the fact that the above delineation of the forces that impact on teacher's decision-making is far from exhaustive. For other teachers a different set of frame factors might affect what they decide to do in their classrooms. I am also aware that for Thabo and Martin the specified factors of influence are not static or fixed, but are subject to change. Moreover, as Calderhead (1984) correctly notes, teachers generally do not perceive *all* the influences and constraints on their practices, or for that matter, on their decision-making. However, based on my classroom observations, as well as the way the respondents voiced their 'thinking' about the decisions they made, the enumerated frame factors are those that were most intensely experienced by the respondents during the research period. Clearly, the most intensely experienced decision-making frame factor was the *Wonderboom* texts. It was also clear that most of the secondary factors, particularly the parents and their tried-and-tested routines, further fuelled their reliance on the LSM. Despite the comprehensive outline of the multiple factors that influenced Thabo's and Martin's decisions, the question

that remains, and to which I now turn to, is: *Why exactly were they so quick to abdicate their decision-making authority and space to the 'outcomes-based' learning support material? More particularly, how does one explain their passivity in decision-making, as evident in the primacy of the learning support material?*

Explaining teachers' passivity in decision-making – the threat of intensification

The preceding discussion and analysis of the evidence which emanated from this research resonate well with the 'intensification' literature (as discussed in Chapter 3), which essentially purports that all over the world there has been a 'bureaucratically driven escalation of pressures, expectations and controls concerning what teachers do and how much they should do within a teaching day…' (Hargreaves, 1994: 108). Smyth (2003: 3) also shows acute awareness of the extent of the problem when he notes that "'teachers are currently experiencing 'difficult times' as their work is assailed, prevailed upon, reformed and restructured by forces bent upon … intensification".

What seems contradictory is the fact that the extant 'intensification' literature depicts the problem as one where the government increasingly usurps control of what happens in the classroom and the kind of decisions that teachers can make. Yet, under the banner of C2005 and OBE, South African teachers are afforded decision-making space and authority of an unprecedented nature. Given that the teachers can make appropriate choices on content, classroom activities and so on, but within the broader national framework of the pre-specified critical and specific outcomes, one could quite safely argue that they have semi-autonomous decision-making powers. Despite this apparent flexibility in curriculum decision-making, it seems as if the work of teachers currently operating at the intersection of C2005, the traditional curriculum and the NCS is characterised by the very same manifestations of intensification which Hargreaves (1992) enumerated. These include heightened expectations (outcomes-based teaching), increased accountability (CASS), more and more administrative work (portfolios), enforced diversification of expertise (integrated science) and a lack of time for professional development.

These ‘symptoms’ of intensification are clear in Thabo’s and Martin’s decision-making and practice when one looks at their rationale for the slavish following of the *Wonderboom* texts. For the purposes of this explanatory section, I want to extract, very briefly, five main themes along which they explained their passivity in decision-making and dependence on the LSM. These include:

“Its ease of use”

An understandable theme that kept filtering through was something to the effect of ‘why reinvent the wheel’, when these ‘OBE-oriented’ materials, which were sanctioned by the department, provide neat, user-friendly activities. They thought it unnecessary to go through the process of designing their own lessons in C2005 style, that is, designing down from critical and specific outcomes, conceptualising new phase organisers, range statements, assessment criteria and activity worksheets. Furthermore, they thought that the outcomes-based directive of taking the unique needs, knowledge, and skills of each learning into consideration when planning and designing lessons, was not a facile exercise.

“We are overworked”

The above ‘ease of use’ rationale for the dependency on LSM was habitually couched in terms of them being overworked. Here they quoted an inordinate amount of C2005 administration, especially with regards to assessment, the lack of ‘free’ or administration periods, the press of extramural activities and the large, ill-disciplined classes.

”Time crunch”

An interesting theme that probably needs to be explored in a different study was the tensions and contradictions within OBE/C2005 design itself, as well as between the latter and the realities of school and classroom life. A dominant theme in this regard is the question of time. Whereas these teachers perceive OBE to demand lessons paced according to each learner’s needs coupled with multiple opportunities for success, at the end of the day the department also demands twenty-three portfolio tasks for each

learner. There is therefore a consistent reference to "saving time" as a reason for using the LSM to the extent that they did.

Parental and school management expectation"

Thabo experienced a tremendous amount of pressure from parents to make full use of the *Wonderboom* texts for which they had paid a considerable sum. On the other hand, Martin did not have the same kind of pressure from Greenfield High parents. Both, however, expressed the fact that there is a fair degree of pressure from the school leadership that the LSM, which the school had invested in, be used extensively.

Clearly, Thabo and Martin's motivations for their dependence on the LSM are cast in the language of expediency. Their passivity in decision-making is certainly not reducible to conventional explanations of incompetence, resistance to centrally mandated change or inadequate resources. Underlying their intuitive reiterations in the vein of the LSM "*is easier to use", "it saves time"* and that it contains "*wonderful, wonderful worksheets",* is a compelling story of teachers who are desirous to implement the new curriculum, but are overwhelmed by a number of 'forces' which bedevil their efforts. I agree with Gitlin (2001) that one should refrain from the generalised notion of 'intensification', and rather speak of the 'threats of intensification'. The central idea here is that intensification is a subjective and personal experience, and that teachers experience and handle the same increase in workload in different ways. Schmidt et al (1987), in their study on teachers' content decision-making patterns, found that not all teachers responded to similar pressures in the same way. This study affirms this point.

It was clear that Thabo and Martin were still cast in the traditional, teacher-centred mode of decision-making, and had not yet made the C2005/OBE shift to learner-centred, needs-based and flexible decision-making. Though this might be true for many other teachers in South Africa, there is compelling research evidence that there are indeed some teachers who seem to have successfully made the transition to the new curriculum. In these 'celebrated cases' (Jansen & Middleton, 2003: 58), which include schools from markedly different contexts and locations in South Africa, teachers have succeeded in employing "innovative and interdisciplinary methods by

which teachers created new curricula that addressed pressing social and cultural issues in the country". In the same vein, Vinjevold (1997: 178) presents evidence of schools where teachers have managed to "work collaboratively in the preparation of materials" (Department of Education, 1995), and have utilised their greater autonomy and flexibility to select appropriate learning tasks for their learners.

In this study, it transpired that Thabo and Martin experienced the very same "threats of intensification", as more constraining and less empowering than the teachers in the "celebrated cases" did. They certainly seemed to mirror the responses of some of the teachers in Brodie et al's (2002) study, who took up the forms, without the substance, of learner-centred teaching. Brodie et al (2002) attribute this inertia to the disabling contexts in which these teachers were working; contexts which do not value, support and encourage learner-centred teaching and learning. On the basis of the evidence in this study, I posit that 'intensification' is at the heart of the unsupportive contexts that some South African teachers are operating under. The chief "threats of intensification" that Thabo and Martin experienced, and which evidently constrained their confidence and space to exercise their decision-making authority, are the following:

Firstly, the scale of the pedagogical changes that OBE demands of them essentially means that the teachers have to adopt radically different mindsets and changed practices in line with constructivism and learner-centredness. Instead of the traditional role of all-knowing repository and dispenser of knowledge, teachers are now mandated to assume the completely different and demanding role of facilitator of the teaching learning process. Malcolm (2001: 235) sees this as a shift from technician to engineer or storywriter; these roles now having much greater autonomy (within the broad framework of C2005) in shaping classroom practices. Subsumed in this notion is a new planning, organisational, assessment and teaching approach that considers the unique needs of each learner. This massive redefinition of teachers' professional repertoire constituted a massive threat on teachers' professional identities, even for Martin who saw the introduction of C2005 as a political or "emancipatory tool" (Baxen, 2001). This stands in sharp contrast to a fundamental point made by Rogan and Grayson (2003) in a recent paper outlining certain theoretical propositions on curriculum implementation in developing countries. They argue that what was called

for was a more gradualist approach, where curriculum reconstruction was construed as "as series of smaller steps" (p. 1175). What added to the complexity was the fact that very little came their way in terms of comprehensive training and continuous on-site support to help teachers deal with the pressures of classroom implementation (Khulisa, 1999; Chisholm, 2000).

Both respondents expressed grave disappointment at the superficial, transmission-oriented approach that the few cascade training workshops took, as well as the fact that there had not been any sustained instructional support, particularly with regards to OBE. During the fieldwork, which lasted from January to about the first two weeks of October, neither Thabo nor Martin received any classroom visits from departmental officials. Kirtman (2000) concurs on the need for multiple support mechanisms for teachers when he reports that teachers in his study, in the absence of sufficient support, reverted "back to the norm" (p.18), that is, the way they had always done things. That this lack of support could engender negative experiences of the 'threats of intensification' during the massive curricular reconstruction that they were operating under becomes even clearer when one considers the warning by Miles and Huberman (1984: 23) that " … large-scale, change-bearing innovations lived or died by the amount and quality of assistance that their users received once the change process was under way".

Secondly, the administrative burden that C2005 places on teachers constitutes a major threat of intensification. More specifically, Thabo and Martin spoke about the increased administrative workload in terms of the departmental directives on continuous assessment, the number and types of portfolio tasks, new ways of recording performance and reporting to parents and the end-of year common task assessment (CTA). Potenza and Monyokolo (1998) echo these sentiments when they state that OBE "makes enormous demands on teachers". A great amount of effort therefore goes into ensuring that they are on course with these external accountability indicators, which leaves them with little time for proper planning and consultation with a variety of sources (Pryor & Lubisi, 2002). The passivity in decision-making that characterises Thabo and Martin's practice was reflected in the observation that the amount of thinking or decision-making that went into the design, implementation and formative feedback of assessment activities were minimal. This was consistent

with the findings of Lucen (1997, cited in Jansen, 1999b) that in KwaZulu-Natal, Grade 1 teachers interpreted continuous assessment as "assessing continuously", with little thought given to the progressive principles governing this practice. This multiplication of the number, and to a certain degree variety, of tasks that teachers have to complete constitutes a definite increase in the administrative workload that teachers have had to carry since the introduction of C2005.

Thirdly, in recent years rationalisation and redeployment of teachers led to these two target schools losing teachers. This meant that both the teaching and extramural responsibilities of those who remained at the school increased tremendously (Christie, 1999). As these respondents recalled, the reorganised school structure has meant very few, if any, planning periods or 'free periods.' Hargreaves (1992: 78) warns that this paucity of preparation time is a chronic and persistent feature of the intensification of teachers' work.. However, whereas teachers in his study saw this loss of preparation time in a positive light, as indicative of greater professionalisation of their work, the two respondents in this study were not impressed with the new arrangements at all. I think that this points to two very crucial issues. In contrast to teachers in developed countries, those in developing contexts, who daily have to contend with a low quality and/or shortage of support material, higher learner-teacher ratios and inadequate training and support, place a high premium on adequate opportunity and space to prepare – or just to experience some relief from the great demands made on their professional and emotional lives. Moreover, the varied ways in which these teachers respond to the challenge of decreased preparation time points to the credibility of Gitlin's (2001) preference for the notion of 'the threat of intensification'.

Fourthly, the frenetic activity of the 'policy mechanics' in post-apartheid South Africa has led to a number of new policy directives that shape and reshape the roles, functions and responsibilities of teachers. The "permanent white water" (Vaile, cited in Gilley, 2000: 109) that South African teachers have had to negotiate in recent years was brought about by a number of often conflicting policy directives. These include the successive waves of curricular changes, (Syllabus revisioning, C2005 and the NCS); Whole School Evaluation; the Development Appraisal System; and the Norms and Standards for Educators (1998), which define six roles for teachers, including those of curriculum developer, researcher and facilitator. Thabo and Martin

periodically referred to these roles that they have to play, but did not seem to be too concerned about acting them out, hinting at policy and role overload. This is consistent with the findings of the C2005 Review Committee (Chisholm 2000: 89), which reported that the lack of integration and coordination of the various policies led to wide-spread "uncertainty" and "burnout". At this point I must stress that *role overload* was not only linked to the multiplicity of roles embedded in the aforementioned policies. A more significant form of role overload was that both Thabo and Martin were expected to assume the new teacher roles which underpinned C2005 (Grade 9), while at the same time, continuing with the traditional teacher roles with their Grade 10 learners.

Fifthly, an oft-neglected aspect of the new curricular dispensation (C2005) is the impact of the fusion of a number of traditional subjects into broader learning areas, and particularly the way in which this adds to teachers' workload. So, for example, true to the compartmentalised and atomised nature of the traditional NATED 550 curriculum, the teachers in this study had gained experience and expertise in one or two of the traditional disciplines of Biology, Physical Science, Chemistry and Geography. None of them had taught Geography before, nor did they have any encounters with it during their teacher training. The collapse of these four different strands into one learning area, that is, Natural Science, holds implications for teachers' confidence, sense of competence and learning opportunities. It was evident that the LSM, skimpy as it was, provided a comfort cushion when dealing with concepts that were out of the teachers' domain of expertise.

For the teachers in this study, the 'threats of intensification' undoubtedly have a much greater debilitating impact than for those of the 'celebrated cases'. There is considerable evidence that their quiet conformity and unreflective acceptance of the shallow LSM, despite the professed belief that 'this book is not my bible', speaks of an effort to cope with the overwhelming demands of curriculum change in South Africa. Theirs is largely a functional response to the "complicated embeddedness" of their realities (Sarason, 1971; Paris, 1993: 123). For them there is just too much that is expected, just too much to do and too little time in which to meet all the demands. I must reiterate that during my extended engagement with the two teachers, it became abundantly clear that they were certainly not averse to the new outcomes-based thrust,

neither were they aggrieved by the fact that the changes are mandated, nor were they militant because they were not consulted. This explains why their response is not an offensive resistance by way of, for example, teaching purely in the traditional, NATED 550 way. Instead, they follow their 'survival instincts' to defend themselves against the total onslaught on their identity, time, energy and subject knowledge. This leads to a kind of *defensive teaching*, a term coined by McNeil (1983) to describe the teachers in his study who, disconsolate at the lack of control over their curriculum practices, oversimplified the content and structure of their lessons in defiance.

I want to argue that the evidence gleaned from this study suggests that that the notion of defensive teaching should be extended to include the slavish following of oversimplified texts to survive the forces of intensification. In this defensive formation, which does not have the defiant or offensive nature of McNeil's (1983) use of the construct, teachers largely relinquish their considerable discretion to select or design materials based on their learners' needs, skills and so on. In other words, they self-regulate their substantial space for personal initiative and intellectual engagement with the curriculum.

In developing contexts, particularly where OBE is pursued, the pedagogical implications of the threats of intensification are considerable. Contrary to Gitlin's (2001) First World sample, the danger is not so much a "deskilling" process, since one cannot really expunge skills (such as facilitation, material selection and developing) which were never developed. What it does mean, though, is that the desired "teacher agency in curriculum matters" (Paris, 1993: 16), implicit in OBE and C2005, will not be realised in the foreseeable future. Furthermore, when teachers' minds are preoccupied with survival, cutting corners and mere coverage of the texts, effective teaching and learning is severely compromised.

Apart from this, teachers then become too occupied with negotiating their own 'survival' with the confines of their classrooms, or at best, their schools, to bother with broader educational policy deliberations. This could well explain why both Martin and Thabo were not at all familiar with the debates around the revising of C2005, and the drafts of the NCS that had been in circulation for some time.

What this study shows is that the 'threat of intensification' on teachers' work, especially during complex curriculum change in developing countries, is very real. What it also demonstrates is that the resultant passivity in decision-making of teachers, coupled with their dependency on prepackaged curriculum texts, can only stifle the implementation of progressive educational policies in developing contexts. What perhaps is called for, particularly in the South African context, is to revisit Jansen's (1997) controversial arguments as to *Why OBE will fail*. He provides ten "principal criticisms of OBE", several of which point to a veritable 'threat of intensification' on teachers' work. In this "apocalyptic analysis" Rasool (1998: 179), Jansen (1997) cautions against some of the very same debilitating teacher decision-making frame factors which surfaced in this study, most notably the complexity and inherent contradictions of OBE, flawed policy assumptions of what happens in classrooms, and the inordinate administrative burden that C2005 places on a largely underqualified teacher corps.

IMPLICATIONS FOR POLICY IMPLEMENTATION

The disparity between the curriculum decision-making patterns of the respondents in this study, and those espoused in the C2005 policy statements, resonate in the extensive literature that points to the difficulty of bridging the gap between policy and practice (Fullan, 1991; Elmore, 1996; Jansen, 1999). What makes matters worse is when educational authorities adopt a "legalistic" or "technical-rational" (Miles, 1998: 43) approach to instituting educational change. According to this dated but still prevalent approach to change, officials see a linear link between policy and practice; they focus all their energies into the design and development of grand policies, but neglect to plan for their practical implementation.

As discussed in the literature review in Chapter 3, there is extensive evidence that policy-making in post-apartheid South Africa has been characterised by such a technical-rational or 'forward-mapping' approach to change. Christie (1999: 286), for example, notes that the education department

> … implicitly assumes that fundamental change in schools is achievable through national policy and, in its approach to the policy-making process, it assumes that changes may be effected through ideal-type, framework visions which do not engage with the conditions of implementation.

By looking at the decision-making of teachers through the bifocal lens of 'intensification' and 'teaching as work', this study reaffirmed *three* tell-tale signs of a technocratic approach to educational change in post-apartheid South Africa.

Firstly, wide-ranging curriculum changes were decreed on teachers without due awareness and sensitivity to the local conditions or contexts in which teachers work. Jansen (1999) concurs when he notes that policy deliberations on C2005 were largely "context-blind", in that all schools were expected to implement the same policies, to the same high degree. No discrimination was made between schools with regard to the human and material resources, their relative location, the background and experience of staff members or their access to support (Marnewick and Spreen, 1999). The danger of such insensitivity is reflected in the fact that Martin's decision-making, particularly with regard to practical work, was to a considerable degree shaped by the non-availability of laboratory resources. On the other hand, Thabo did not have similar resource problems.

Secondly, there was an assumption that teachers have the capacity and will to change their patterns of decision-making in line with the new policy directives. This was clear in that the very essence of C2005 is greater autonomy and decision-making space for teachers, yet all the official curriculum communications were characterised by a deafening silence on *how* teachers should adapt their decision-making. At this point it is instructive to consider Mitchell and Koedinger's (2000: 47) stark reminder that: "previous efforts at curriculum and instructional reform have fallen short partly because reforms failed to account for the decision-making processes of the teachers implementing the programs." Closer to home, Muller (1998) captures the general disregard of the most potent agent in the C2005 implementation process when he concludes: "The curriculum does not talk much about the teacher, but the teacher has to do a lot more work."

Thirdly, there were clear signs of a simplistic and myopic notion that policy mandates, and their underlying emancipatory value, are sufficient to alter teachers beliefs, practices and, indeed, their way of making decisions. In this regard, Jansen (2001: 243) makes the point that "new images of teachers, however compelling in political terms, do not translate into new ways of teaching and learning". Martin, for example, was very forceful in pointing out the political and emancipatory need to break away from the authoritarian and prescriptive traditional curriculum, and to adopt a new, democratic set of pedagogical principles. Yet, two years into his attempts at implementing the new curriculum, democratic decision-making and practice still eluded him.

The main policy insight from this study is that curriculum change is a multi-dimensional, complex, highly contested and highly 'personal' process that cannot be underestimated in its implementation demands. In taking a technocratic approach to policy implementation, there is the real risk that a host of unintended consequences might besmirch the process, One such unintended consequence could be seen in the way that the teachers in this study, instead of assuming the role of empowered curriculum developers and decision-makers, became mere technicians and implementers of somebody else's curriculum interpretation (Jessop & Penny, 1998: 401).

Another very important insight is that a technical-rational view of curriculum policy is out-dated and ineffective. Furthermore, rhetoric and pronouncements are not sufficient to bring about and sustain the 'root' changes underlying progressive policies. A more developmental and transformative "instructional view" (Darling-Hammond, 1997) of policy needs to guide policy development and implementation, whereby educational authorities gear all their efforts to the central question of how teachers can best *learn* and implement the new instructional requirements. Such an instructional conception of policy would engender greater attention to instituting structures and processes that would allow teachers to gain meaning and clarity of what is expected of them. It would also privilege the creation of professional communities at school, district and provincial level, to ensure that the change process runs on greater collaboration, interactive professionalism and continuous feedback. Such an increased social interaction, intellectual exchange and peer support among

teachers and supporting departmental officials would be invaluable in spreading the pockets of excellence, or "celebrated cases" across a wider spectrum of schools and teachers.

Yet another insight lies in the fact that, given the well-documented constraints and limitations of a vast number of South African teachers, the new 'outcomes-based' learning support material, and even the traditional textbooks, will continue to play a significant part in teachers' decision-making and practice. In fact, Altbach and Kelly (1988) observe that in developing countries, where large numbers of teachers typically are poorly qualified, student's schoolwork often begins and ends with the textbook. Furthermore, Ball (1990: 258) argues that generally textbooks "make good policy messengers" because they can represent the policy ideas in a familiar and concrete format, and because teachers would generally rather engage with a textbook than a policy document. As this study has revealed, the overwhelming sense of intensification of teachers' work makes ready-made curriculum texts very appealing to them. What becomes important then is for educational authorities to be proactive and ensure that teachers are equipped with the requisite skills and knowledge to evaluate LSM, and to be able to select the texts which are most suitable for their contexts. Policy administrators furthermore need to ensure that commercially prepared curriculum materials, which bear their stamp of approval, are genuinely in sync with policy intentions. Powell and Anderson (2002) convincingly argue that curriculum texts can and should play a critical role in educational change, and that their deployment should be accompanied by "transformative professional development" for teachers. Moreover, Potenza and Monyokolo (1998) conclude in their assessment on C2005 implementation, "the development, selection and supply of learning materials should … be seen as an integral part of curriculum planning, … and not be treated as an optional extra".

A final point that emanates from this study revolves around the fact that teaching, whether in the traditional or progressive sense, is essentially a decision-making enterprise. This effectively means that policy administrators hoping to change teachers' classroom practice need to take account of how new policies impact on the nature and extent of decision-making that teachers are required to do. As evident in the two case reports, deep change is unlikely if teachers continue to make decisions

the way they have always done in the past, or if they relinquish their decision-making power to agents external to their unique contexts. Consistent with the instructional view (Darling-Hammond, 1990) of policy implementation, this means that all efforts should be geared towards professional development aimed at equipping teachers with the necessary skills and knowledge to make the wide array of decisions that they are now expected to make. What the study has also highlighted is the extent to which the intensification of teachers' work, or more correctly the threat of intensification, stifles teacher autonomy and decision-making. Clearly, in order to realise the vision of teachers as autonomous, learner-centred decision-makers, greater investments will have to be made in supporting teachers who are at the interface of complex curriculum change. This support has to be multi-faceted and sustained. Training alone will not suffice – Martin was an enthusiastic consumer of C2005/OBE workshops and courses, but had the same passive decision-making pattern as Thabo, who was far less passionate about mastering the new curriculum. Instead, what this research has shown is that educational authorities should look more sympathetically and realistically at the work contexts, and the workload, of teachers operating at the interface of curriculum change.

IMPLICATIONS FOR FURTHER INQUIRY

Teacher decision-making is a complex, multi-faceted and personal activity, which cannot possibly be explored in all its various dimensions and configurations in a single research project. There are a number of key questions that I wished could have been attended to in greater detail, and which I think would make for worthwhile research inquiries. With the worldwide trend towards subject integration, specifically in Science education, and the currency of outcomes-based education in developing countries, the following questions are pertinent:

- What is the impact of policies aimed at 'curriculum integration' on teacher decision-making?

- How does the interactive decision-making of Science teachers differ from teachers in other subject areas?

- How do teachers who have demonstrated success in the classroom implementation of outcomes-based policies plan (pre-and post-active decision-making)?

SIGNIFICANCE OF THIS RESEARCH

The main significance of this study lies in the fact that it has linked teacher decision-making in developing contexts to "the intensification of teachers' work". Bearing in mind that the scholarship on these two critical dimensions of educational change is largely restricted to developed countries (Smyth, 2001), this research extends the knowledge base on educational change and policy implementation into new contexts. By peering into two classrooms through the bifocal lens of teacher decision-making and the intensification of teachers' work, I gleaned deeper insight into the perennial 'implementation problem', that is, why classroom practices are so hard to change.

In essence, this study provides another perspective on why progressive curriculum policies fail. I demonstrated that progressive educational policies aimed at greater teacher autonomy fail to impact on teachers' practices because, in the face of the overwhelming threats of intensification of their work, teachers resort to *passivity in decision-making*. More importantly, I provided evidence that McNeil's (1983) notion of "defensive teaching" could well be extended to include the passivity in decision-making that teachers resort to in order to curtail their intense workload. In contrast to the existing scholarship that believes that an overly detailed and prescriptive curriculum limits teacher decision-making (Broadhead, 2001), I demonstrated that even in non-prescriptive contexts, teachers still refrain from exercising their decision-making autonomy.

Lastly, I found that, contrary to popular belief, the availability of resources is not a sufficient and deciding factor in policy implementation. In this study, both teachers, from widely different resource environments, abdicated their considerable decision-making power to commercially prepared texts. This means that whereas the traditional pedagogy was characterised by the tyranny of the textbook, the progressive curriculum order could be marked by the tyranny of 'outcomes-based' learning support material.

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