

## CHAPTER FOUR

### The Research Methodology

*We are not human beings having a spiritual experience. We are spiritual beings having a human experience<sup>1</sup>*

In the previous chapter I advanced a broader conceptual framework for this study. In this chapter I shall describe and illustrate my role as a qualitative inquirer; an outsider and a non-participant researcher seeking to capture the assessment experiences, understandings and practices of two teachers in relation to the new assessment policy of the South African government. I will describe and explain my strategies to obtain data that would cast new light on the relationship between assessment policy and practice, and specifically to respond to the three research questions that provided the script for this study. The three questions can be summarised as follows:

- 1: *What are teacher understandings and beliefs with regard to the assessment policy?***
- 2: *In the context of official policy, how do teachers practice assessment in their classrooms?***
- 3: *How can the continuities and the discontinuities between official policy on assessment and teachers' assessment practice be explained?***

#### Choosing a Methodology - Qualitative Methodology

My methodological decisions derived largely from the established research literature. I will however complement this account with my own experiences and understandings of qualitative methodology.

Schools as educational institutions and the individuals, including teachers, who are involved in and with them are a heterogeneous group of beings having different human attributes, abilities, aptitudes, aims, ideologies, values, perspectives, needs and experiences. I required a methodology that would be able to capture this heterogeneity

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<sup>1</sup> Pierre Teilhard de Chardin, a French philosopher, in Bloomfield and Cooper (1995: 483)

from each teacher's perspective and, according to Bogdan and Biklen (1982) qualitative methodology enables the researcher to consider experiences from the informant's perspectives. This methodological stance resonated with the purpose of this study – to find out what **teachers**, as **key informants** in this study, were saying, understanding and doing. In other words, to gain access into teachers' professional and personal landscapes of understandings, knowledge, beliefs and actions with reference to the new assessment policy. It is an approach that does not evacuate the personal experiences of teachers in the educational change process. However, this focus on the personal is with due reference to the wider political, educational, social, economic and cultural debates, and not independent of them. Furthermore I recognize that schools and teachers inhabit complex social contexts with all the issues and influences that this entails. Accordingly the methodology chosen takes account of the complex social contexts that shape human experience and actions. I hold the position that qualitative research methodology is capable of accommodating and accounting for the myriad of differences and complexities that are involved in social settings such as schools (Bassey, 1999). Furthermore, schools do have their problems but the analysis and location of these troubles requires a methodology that is not simplistic, misleading and therefore procedurally and conceptually dangerous. In this sense, qualitative research does not ignore but rather addresses the complexities of the various aspects of schools and schooling and takes account of different objective experiences and subjective perspectives (ibid). The comprehensive and succinct definition of qualitative research provided by Denzin and Lincoln (1994) adequately summarises the reason underpinning my choice of this research methodology:

*Qualitative research is multimethod in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meaning people bring to them... Accordingly, qualitative researchers deploy a wide range of interconnected methods, hoping always to get a better fix on the subject matter at hand.*

(Denzin and Lincoln, 1994: 2)

As an interpretative researcher, a characteristic of qualitative research (Bassey, 1999), I was interested in describing and interpreting or explaining what I heard, read, and saw in each teacher's practice in the search for deeper understandings of beliefs into

assessment practice, and for obtaining richer theoretical insights. I recognized that it may offer possibilities but no certainties and absoluteness as to the outcomes of events in the future because of the sheer evolving complexities and variations in educational contexts. This brings me to another reason about the appropriateness of the qualitative tradition; that is, it accommodates the nature of the research context of South Africa, one that is undergoing rapid and unpredictable transformations.

### Why case study research

I shall explain why I chose the case study method as a preferred strategy in my study from the plethora of other approaches to educational research such as experiments, surveys and action research. This account will be informed by readings from the academic literature on the topic and my past experience of using the approach.

According to the literature on case studies there are a variety of positions and meanings taken by various authors (see Bassey 1999). It was from this melee of ideas that I was attracted to Yin's (1994:13) view that the essence of case study is that it is enquiry in a real-life context as opposed to a contrived context of experiments or surveys. This resonated with my study that aimed to explore teacher understandings and practices of the assessment policy in their real-life contexts, namely in their classrooms. Yin (ibid) added that it is an enquiry that investigates contemporary phenomena when the boundaries between phenomena and context are not clearly evident. This view is supported by Merriam (1988) who wrote that the variables of the phenomena will not be separated from the context, referred to by Cronbach as "interpretation in context" (10). I could see the link with my research study that focused on current issues in each context, each influenced by different social, ideological, political, economic, cultural and historical forces. It is also about enquiry into a "singularity" (Bassey 1999: 58) meaning that a "particular" (ibid) set of teachers is the focus of the study as illustrated by my research study. I was also drawn by Yin (1994:13) who wrote that case study inquiry:

*[Relies] on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis.*

To summarise, I chose the case study approach because

*It provides ‘thick description’, is grounded, is holistic and life-like, simplifies data to be considered by the reader, illuminates meanings, and can communicate tacit knowledge.*

(Merriam, 1988:28).

Although I was attracted by the positive claims made about case study research in terms of its “uniqueness, its capacity for understanding complexity in particular contexts” (Simons in Bassey 1999:36) I was also mindful of one of its disadvantages, namely the difficulty of generalising from a single case. Simons (ibid) views this as a “paradox, which if acknowledged and explored in depth, yields both unique and universal understanding” (36). I agree with Simons, and I also concur that “living with paradox is crucial for understanding ...To live with ambiguity, to challenge certainty, to creatively encounter, is to arrive, eventually, at ‘seeing’ anew” (ibid). Hopefully this case study would result in a new and alternative understanding of the relationship between policy and practice in the context of educational change.

Since the purpose of my enquiry is to explore and understand the relationship between the new assessment policy and teachers’ assessment practice, my study could be identified as theoretical research, the purpose of which is to describe, interpret or explain what is happening without making value judgements or trying to induce any changes (40). In other words it is a theoretical exploration.

The above account illustrates why I chose a qualitative case study strategy to conduct this research study. It resonated with the rationale, the broad aim or purpose and with the three research questions of my research study. I believe that the meticulous study of specific situations can gradually build theory that could later be tested and extended to a broader set of events.

#### Propositions about deep change – tentative “fuzzy propositions”

This study is guided by three propositions, which are describe as tentative and “fuzzy” (Bassey, 1999: 13). These propositions are informed by my experience as a classroom teacher, teacher educator and education policy maker. These propositions were discussed in detail previously in the conceptual framework on **deep change** that

focused on teacher change in response to the new assessment policy. I use these propositions not as statements that are absolutely true as used by physical scientists in the scientific method described by Karl Popper (1963). These propositions are neither located in nor linked to ‘hypotheses’ as in the quantitative research paradigm where hypotheses are fixed to be tested in controlled settings for pursuing patterns of cause and effects. The purpose of my research study was to explore, learn and understand the relationship between government policy and classroom practice, as opposed to assigning empirical properties to quantitative variables. The propositions I make must be seen as theoretical concepts to be tested in the classrooms of teachers; they are tentative and open for others to follow up and test their trustworthiness. They are tentative statements rather than absolute claims on knowledge; Therefore these propositions reside in the qualitative research paradigm where the qualitative data collected would allow me to consider the deep, often hidden meanings and structures of the life world of teachers as humans as it is experienced individually by each classroom teacher.

Since the propositions are closely linked to each research question, they served as a guiding framework to assist in constructing the research design discussed below.

***Proposition one: Teachers may not have a deep and sophisticated understanding of a new assessment policy even if there is evidence of strong rhetorical commitment to the policy***

The first research question ‘What are teacher understandings of the assessment policy?’ enabled me to test this proposition. The semi structured questionnaire (Appendix F), free writing schedule (Appendix G) and interview schedule (Appendix H) based on the assessment policy probed deeply into teachers’ understanding of the policy. This deep probing, characteristic of ethnographic, qualitative tradition unearthed each teacher’s understandings of the policy. Responses to the second research question were used as supplementary and complimentary evidence to test this proposition because I believe that their classroom practice would be informed by their understanding of the new policy. Based on this analysis the particular proposition could be confirmed or refuted. This is discussed in detail in each case study chapter, namely Chapter Five for Dinzi and Chapter Six for Hayley.

**Proposition 2: *Teachers may not be able to reconcile their own assessment beliefs and capacities with the stated goals of a new assessment policy***

Teachers will react to their perceptions of change in different ways depending on their own guiding beliefs and capacities. My proposition that teachers may not reconcile their own beliefs and capacities about a new policy with the stated goals of the policy is based on the fact that teachers seldom if ever, are provided with opportunities to overtly articulate their beliefs and capacities about new policies. This assertion is supported by House and McQuillan (1998) who observed that the broad goals of reforms remained far removed from the everyday lives of teachers. The way reforms are introduced to teachers is usually by telling them about the goals, aims and principles of the reform (see Chisholm, 2000). Beliefs and capacity are related to will and commitment, the essential requirements that matter in policy implementation (McLaughlin, 1998). I pursued this proposition by focusing on research question 3: “Why do teachers implement assessment in the ways observed?” I constructed interview schedules after I had observed each teacher’s classroom practice. This in-depth post-observation interview schedule enabled me to probe deeply into why teachers assess in the ways observed. The responses from the deep probing as well as the conceptual framework on deep change were used to analyse and explain teachers’ assessment practices in the context of the new assessment policy.

**Proposition 3: *Teachers may find the traditional assessment practices (that is, examinations and testing) to hold greater efficacy in the classrooms than the alternatives required in a new assessment policy***

I assert that their assessment practices will be based on their past historical context and experiences, in other words in ways that they were assessed as students, in ways that they are familiar with, by following the existing traditional practices present at the schools and by the present conditions, opportunities and constraints present in the classroom and the school. In other words they will use assessment in a linear, sequential manner, mostly for grading and promoting students rather than connecting it to teaching and learning. I tested this proposition by employing the second research question: ‘In the context of policy, how do teachers practice assessment in their classrooms? I observed the classroom practices of each teacher using structured

classroom observation protocols (Appendix L), conducted post-classroom observation interviews with the teachers that pursued issues emerging from the classroom observations with the intention of generating information of why they assessed as they did. The data collected was analysed against the intentions declared in the new assessment policy.

In using these propositions to explore and understand the relationship between policy and practice, I must reiterate and emphasize, and as stated previously, that if the propositions prove to be true, I will not use the information pejoratively by ascribing it to teacher deficiency, but rather to various other possibilities. Furthermore, as stated previously, I view teachers as active agents of and for change therefore I treat them as my key informants or 'primary unit of analysis'.

#### Prefiguring my Analytical Moves - Planning the Research Design

I will first describe the initial research design or plan of this research study, which constituted part of my research proposal. In addition to methodological issues it will also focus on theoretical and epistemological issues such as the nature of the research design including the data to be collected, the role of the researcher, and the role of the researched. The purpose of this is to show that the decisions made in the initial research plan and design had to be altered as a response to unforeseen and unpredictable contextual realities and complexities that rear their heads in schools. I raise theoretical questions and challenges around the inherent difficulties of conducting research in unstable contexts such as South Africa, a country caught profoundly in contested, complex and challenging grip of change.

I chose the purposive **sampling** method because I wanted to include teachers and schools who were willing and able to participate in the research study. The sample or key informants for this research study would be two teachers, each from two different, consciously selected schools, and one from a well-resourced school and another from an under-resourced school. These schools are typical of the context of a developing country such as South Africa. This would allow me to make a comparative cross-case analysis between the two teachers, in search of consistencies and differences. Within each school the teacher chosen would satisfy the following specific but varied criteria:

each teacher must be currently teaching Grade 8 Natural Science, qualified to teach science, experienced in teaching Grade 8 Science, confident and enthusiastic, and willing to participate in the research study. Information with regard to teachers' qualification, experience, competence, confidence and enthusiasm would be sought from the recommendations of the principals. Information with regard to willingness to participate in the research study would be elicited from the teachers themselves with the approval of the school principal. This sampling strategy could be viewed as resulting in "theoretical sampling and sampling adequacy" (Morse *et al*, 2002: 12) where the research participants, in this case study, the chosen teachers have knowledge, experience and perceptions of the research topic, in this case study, of the new assessment system. It is a strategy for working with rigour (*ibid.*). The reason for limiting my sample to two teachers was to obtain in-depth qualitative information from each teacher that would provide the opportunity of getting to understand deeply each respondent in terms of their assessment knowledge, understanding and practice. The teachers would be selected based on the subject matter that they were teaching such that there would be congruence between the subject matter taught by each teacher, for example, each teacher would be teaching 'electricity' and 'gravity', or any other relevant subject matter. This would then possibly rule out the variable of subject matter being taught to account for any discrepancies. The rationale for choosing Grade 8 classes was based firstly, on my experience as a classroom teacher and teacher-educator in this particular grade; secondly, since no exit examinations are written in this particular grade the emphasis and focus on examinations and assessment might be reduced, since exit examinations generally demand more attention to examinations and assessment and this could bias the findings. I chose Natural Science because of my own knowledge and experience of science - both as a classroom teacher and teacher-educator of Natural Science.

My **data collection** plan had included various methods to obtain information from the research sites, namely questionnaires, free-writing schedules, interviews - both pre-classroom and post-classroom observation interviews, non-participant classroom observations, records of teachers and learners, and documents. I chose various methods so that methodological triangulation would be possible. That is, information received from the various sources would be used to corroborate or refute one another.

I chose to conduct the major part of the research study in the third term because this is the term that the school and teachers are more settled compared to the other three terms, for example, in the first term schools are generally busy with admissions, new timetabling, new staff, and distributing textbooks and stationery before settling down to serious work, while the second term and fourth terms would be terms when half-year and year-end examinations are written respectively, and this might bias the research findings. I had planned to observe Dinzi from the under-resourced school for three weeks in the third term teaching for example ‘Gravity’ (could be another Natural Science topic), and another three weeks teaching say ‘Electricity’ (or another topic). I would similarly repeat this for Hayley from the well-resourced school, assuming that Hayley would be teaching ‘Electricity’ or the same topic as Dinzi for three weeks, and ‘Gravity’ or the same topic as Dinzi in the third term. In other words I would spend six weeks with each teacher teaching the same science topics. The documents to be analysed were assessment related documents/transcripts from the top five learners and the five bottom learners per school. This initial plan seemed practical, achievable, and responsive to the purpose and the three critical questions of the study.

I presented this research plan that I had titled “A Case Study of Implementing the Assessment Policy in Schools: Research Plan” at the Postgraduate Student Research Indaba held at the University. One criticism was received from a member of the audience who believed that the size of the sample was too small for the study. My response to the criticism was that this study was not a survey that would demand a large sample size, but a qualitative, case study, which required information rich in depth and description, and in context, about this particular aspect of educational life, hence a larger sample size would be irrelevant to the purpose of the study.

I developed a variety of **methods and tools** to collect the data. The rationale behind using this variety of research methods and tools is that it would provide me, a qualitative researcher confidence that the research is rigorous, credible and justifiable as research. I viewed the different data collection methods and tools not only as intimately interrelated and mutually reinforcing, but also as a necessary opportunity for the teachers to produce data in a variety of forms.

Each method and tool was informed by and aligned with each of the three critical research questions. The value of each method and tool is elaborated in the appendices (see Appendix D and Appendix E). These methods and tools were subject to review by my peers and critical friends as additional means of conferring rigour, legitimacy and confidence in the study. In addition the research tools were pilot tested with two teachers. The feedback received from my peers and critical friends, as well as from the pilot process informed the changes made to the research tools.

To respond to the research question: **What are teacher *understandings and beliefs* with regard to the assessment policy?** I chose three data collection, methods, namely,

- A Questionnaire containing both open and closed ended questions to elicit teachers understanding of the assessment policy (Appendix F)
- A Free writing schedule containing both open and closed ended questions to elicit teachers understanding of the assessment policy (Appendix G)
- An Interview schedule that was semi-structured to collect information before the classroom observations (Appendix H).

To respond to the sub question to the first question: How do teacher understandings of the assessment policy compare with the contents of the assessment policy? I chose the three methods mentioned above but added document analysis of the assessment policy (Appendix I).

For research question 2: **In the context of policy, *how do teachers practice assessment in their classrooms?*** I used the following four methods:

- A Questionnaire containing both open and closed ended questions to elicit teachers responses of their assessment practice (Appendix J)
- An Interview Schedule that was semi-structured to elicit teachers responses of their assessment practice before classroom observations (Appendix K)
- Classroom observation protocol to capture how teachers practiced assessment in their classroom (Appendix L)
- Analysis of documents and records to infer how teachers practiced assessment in their classroom (Appendix M).

To respond to the third research question: **How can the continuities and the discontinuities between official policy on assessment and teachers' assessment practice be explained?** I chose two methods, namely:

- Interviews with each teacher after classroom observations to elicit their responses as to why they assessed the way they did.
- Theoretical analysis of the accumulated data within the conceptual framework on deep change in order to explain the convergence and divergence from policy.

This research design was included in my research proposal, which was approved by the university authorities. I was ready to enter the field to collect the data from the two schoolteachers. I intended spending six continuous weeks with each teacher. Entering the world of the two teachers, the key participants of the study, would enable me to study each teacher's perspective about assessment - how their views and understandings were manifested in their speech and actions. I should add that while this narrative, the aim of which is to show how I worked towards achieving methodological coherence, looks linear and neat, I was mindful that in reality the research process characterising qualitative research is anything but linear and neat as displayed on paper. Sampling plans may demand to be treated differently, it may expand or change course; data collection methods may be modified; or data may demand to be treated differently, or the conceptual structure or theoretical thinking initially brought into the study may demand revision, - all responses to the research context that is not static but dynamic and complex. In other words, although I started with a well-formulated research plan or design, I was open to the possibility of the research process being influenced by specific contextual factors.

#### Gaining access to selected schools – Navigating the political bureaucracy

My past experience had informed me that one of the major responsibilities of a researcher conducting research in schools is to obtain official ethic clearance from the bureaucracy, that is, to seek permission from the education authorities to conduct research studies in schools. I first discussed my research study with the Deputy Director General of Education responsible for school education in the General Education and Training Band (Grades R to 9) at the national Department of

Education, (He is my Supervisor at work) with the intention of seeking his formal permission. He consented but requested that I seek formal, written permission from the relevant provincial Head of Department. I wrote the formal letter of request to the relevant provincial Head of Department, which was approved by the said Deputy Director General of Education, and faxed it and posted it to the relevant provincial Head of Department (Appendix A). I followed up telephonically with the office of the provincial Head of Department the following day to enquire whether the fax was received, and was informed that it was received and that I would be receiving a response soon. After two weeks when I received no response from the provincial Head of Department, I telephoned the office again to find out about the response. This time someone else answered and said she knew nothing of the fax and requested that I re-fax the letter, which I did. She confirmed receipt and promised that it would not be a problem, and a response would be forthcoming. Two weeks later there was no response. I telephoned the office of the provincial Head of Department again, and this time I was informed verbally that I could conduct my research and a formal, written letter will be forthcoming. To date I have not received a formal, written letter granting me permission to conduct the research in schools in the chosen province. This begs the question why no written formal response was given despite the promise to do so, and despite the many reminders. My personal experiences in communicating with provincial head offices inform me that there is seldom any coordination among the many officials working in the offices of the provincial Heads of Department. This results in documents being misplaced or lost or falling through the bureaucratic cracks. Furthermore, the staff compliment is rarely stable, for example, on different days of the same week one would find oneself communicating with different people about the same query, only to be told that the person one originally spoke with is not available, or is on leave, or has left. This instability might be one of the many unintended consequences of a rapidly transforming society such as South Africa – or to use the euphemism, the ‘challenges’ facing a young evolving democracy. I decided to use the verbal permission given as valid to conduct the research study.

The Field Experience

Gaining access to possible schools for field work – First Knock or Disruption to my Research Plan

I telephoned several principals of rural township schools and of urban schools as indicated in my preplanning stage as well as in my research proposal to obtain their informed consent to conduct my research study in their school. After I had explained the purpose of the call, explaining the nature of my research study and requesting permission, all responded that they were very busy, but that I should call later. The responses that I received were not as I had hoped. After many unsuccessful attempts to gain access into the schools, and filled with anxiety and despair I informed my Supervisor of my research study about my problems regarding gaining access into the selected, planned schools. I was informed about some schools that might welcome researchers into their schools. I chose two schools, one from an urban township area where it was likely that the school would be under-resourced and one from a suburban area where it was likely that the school would be well-resourced. This choice would ensure different contextual realities as indicated in the original plan.

This difficulty of gaining access into schools to conduct the research study knocked my assumption of gaining access easily into schools to conduct classroom-based research. The lesson for me here is that gaining access to schools that are willing to participate in research studies should not be taken for granted by researchers conducting school-or classroom-based research. Rather the selection of the research site should be problematised. The question is why were principals unwilling to allow me access to conduct research in their schools. Was it due to subtle forces they only knew? Was it because of the potential a research study has of revealing the workings of the schools and holding it up for close-up scrutiny? Was it fear of research being a kind of ‘inspection’ where their school and its practices would be observed and analysed by an outsider in ways that may be intimidating? Was it seen as threatening to the autonomy and professionalism of the school, especially in the controversial context of teacher and school evaluations? Why was promising anonymity and confidentiality not sufficient? Another lesson was the power of the principal in the decision-making process in terms of selecting the research site. Having personal or

professional connections with principals seem to make the process of gaining access into a school easier.

#### Gaining access into the 'township school' – School A

##### Terms of Entry

At the beginning of May I had telephoned the principal, informed him about my research study, and requested his permission to use the school and a Grade 8 Natural Science teacher who was qualified, experienced and competent to teach science. He indicated his willingness to participate, and agreed to nominate a Grade 8 Natural Science teacher in terms of the criteria mentioned. We agreed to meet to discuss the issue formally with him and the nominated teacher. He requested that I liaise with his secretary to set up a date for the meeting. After several unsuccessful attempts to set up the meeting in May and beginning of June, the principal agreed to meet me at the beginning of the third term. The third school term for this province had been changed to accommodate an international conference - the Johannesburg World Summit on Sustainable Development that had been scheduled for September 2002.

On the first day of the third term, I telephoned the principal to make an appointment to meet formally with him and the nominated teacher. He informed me that he would be available to meet with me two days later at eight thirty in the morning.

##### Entering the field - School A

I arrived as agreed with the principal for my first visit to the school. I had rehearsed how I would conduct myself and what I would say to the principal and to the teacher because I believe that how we conduct ourselves as researchers and how we interacted with potential research participants would inform them as much about us as researchers as would our words. I needed the principal and the teacher to volunteer to consent to and participate in the research study, and I believed that first impressions count. I also wanted to develop a mutual relationship based on trust and respect. I also recognised the unequal power relationships that existed between the principal and the teacher whose consent I needed, and me as researcher. As a researcher I needed their permission and willingness to conduct the research in the school hence they had

power over me. If they were not willing to participate that would mean continuing the search for another willing and suitable research setting. But I did not allow this recognition to discourage or to disempower me, rather to be cognizant of it so that I could address it effectively by being open and honest. I was also aware that as an ‘outsider’ researcher, I did not have much to offer the school in return beyond maybe a sensitive, listening and non-judgemental ear.

I met with the school secretary who directed me to the principal’s office. I stood outside the narrow passage before meeting with the principal at 08:30 in his small office. After exchanging introductions and greetings, I explained the nature of my research study in detail, assuring him that the goal of the research study was not to critique or evaluate the school or the nominated teacher, but to explore, to learn and to understand the relationship between policy and teachers’ classroom practices in the context of the newly released government assessment policy. I assured him that I would neither interfere, impose nor intrude into the activities of the school. I added that my role and status as a researcher for a doctoral degree was that of a learner rather than that of an expert and critic of the school and its staff. I promised strict confidentiality and anonymity, and further assured him of being sensitive to the significance of the data collected from the school, and promised that it would not be misused or misinterpreted. I explained in detail the actual terms of entry for the research study, that as a classroom-based case study it required that I visit the school every day in the third term for the teacher to complete detailed questionnaires, a free-writing schedule, to conduct in-depth interviews with the nominated teacher, both pre- and post-classroom observation interviews, to observe the selected Grade 8 Natural Science lessons of the nominated teacher, to observe and collect assessment related records and documents from the school, the nominated teacher and the selected Grade 8 Natural Science learners. I handed him a formal letter requesting his permission to conduct the research study in the school (Appendix B). His response was very positive and he expressed his willingness to participate by agreeing verbally to my request. In fact he shared with me his concern about the challenges facing education in South Africa and about the ability of the government to deliver on its educational mandate. He also added that he believed that research would contribute to our understanding of change in our struggling democracy. This disclosure from him at our initial meeting suggested that he not only valued research, but that he trusted me

as a researcher. This was important because achieving a trusting relationship with the research participants is central to the success of any research study (Howe & Moses, 1999). It creates opportunities and potential for greater sharing of information (ibid). He reported that this particular school faced many challenges related mainly to poverty. After thanking him for his willingness and openness towards my research study, I enquired whether he or the teachers were aware of and had the copy of the new assessment policy that was the focus of the research study. I showed him a copy of the new assessment policy. He replied that the Head of Department for Science and the science teachers would have the copy. He then informed me that the Grade 8 Science teacher who he had nominated was not in school on that day as she and some other teachers of the school were attending a training session arranged by 'Head Office' (meaning the provincial Department of Education). He requested that I return on the following Monday at 09:00. He promised that he would make arrangements for me to meet with the nominated teacher.

After the meeting I completed the 'Contact Summary Form' (Appendix N). I was concerned that the principal had not been aware that the nominated teacher would be attending a training session and would therefore not be at school on the day he made the appointment to meet with me. Why was this so? I now speculate. It might be possible that the school received the invitation for the training session late, or maybe it slipped his mind, or maybe both. This lesson reminded me of the unpredictable nature as well as the complexities of conducting school- and classroom-based research.

The general appearance of the school characterised that of a typical township school. The pathway from the road into the school was un-tarred therefore the surroundings were very dusty. The administration building was small, with very small offices to house the management team, and a small staffroom. The small offices of the principal, the management staff and secretary were sparsely furnished. There were many learners outside the classrooms.

First Meeting with Teacher Dinzi<sup>2</sup>

I arrived at school A at 08:45 as requested by the principal. The secretary informed me that the principal was not in. On enquiring whether I could meet the Deputy Principal I was informed that both Deputy Principals were teaching. I was requested to wait in the principal’s office. On the principal’s table I observed a document titled: ‘GDE Annexure A: Continuous Assessment Portfolios - 2002: School Principal’s Report Form’ with a line for the “Term” and a table as illustrated below:

Tick subject	Subject	Number of tests completed	Number of assessment tasks completed

I had enquired later about this document from both the principal and the research teacher who reported that it related to the Grade 9 classes only.

About forty minutes later, a Deputy Principal came into the principal’s office. I informed him about the purpose of my visit. He reported that he was neither aware of my research nor of my meeting with the principal. He called for the Head of Department (HOD) of Science. I repeated the purpose of my visit to her. She responded that she “was not sure of this as I just returned from USA on Friday” (personal communication). She said that she would need to discuss the matter with the teachers to find out whether they were willing to participate in the research study. The second Deputy Principal had joined us, and she also reported that she was not aware of my research study or of my appointment with the principal. She added that if the principal had agreed to the research study then the HOD needed to talk with the relevant teacher. The Deputy Principals and the HOD then left the principal’s office leaving me feeling anxious and helpless. The principal arrived thirty minutes later. He apologised for being late stating that he had to visit the optician. He left the office to call the recommended teacher who he introduced to me. I repeated the nature of my research to her, my request for her participation, as well as the expectations from her and the implications thereof. She agreed to participate in the research study but added that I should be aware that she and other teachers were “focusing on grade 9 because

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<sup>2</sup> Pseudonym used for the sake of confidentiality

of the GETC<sup>3</sup>, and not so much on Grade 8s” (personal communication). When I requested for her timetable, she left the principal’s office and returned about thirty minutes later with her timetable. I had asked both the principal and the teacher whether they had any questions or comments regarding the research study. Both had none. The principal left his office. I gave Dinzi the two Questionnaires (Appendix F and Appendix J). We went over them together while I explained in detail what was expected. She then perused over them herself and reported that she understood the contents and would have no problems in completing them. I emphasised that these questionnaires had to be complete before the interview and classroom observations. She reported that she would need two days to complete it. She requested that the pre-observation interview take place during her non-teaching period at the school. She reported that she was teaching ‘density’ to her Grade 8 Natural Science class. I thanked her for her cooperation, and provided her with my telephone number to call if she had difficulties answering the questionnaires.

There were many dilemmas that struck me at this meeting. First, the seemingly lack of communication between the principal and the other members of management about my research study. Why? I speculate again. Maybe he did not have the opportunity to inform them as yet, or maybe he did not think it necessary. Second, the teacher’s remarks of focusing on grade 9 classes and GETC. What did this mean? Why? Does this indicate that the teacher’s focus of teaching, learning and assessment was on classes that wrote exit examinations, while other classes that did not write exit examinations received less attention? Did this support my rationale for selecting Grade 8 classes in the research study, that is, because no exit examinations were written in this grade, a relative bias towards examinations may be excluded? Third, I was surprised that she took thirty minutes before she could provide me with her time table. Why? Maybe my assumptions that teachers have their timetables readily available needed to be questioned. I had to remind myself again of being cognizant of the complexities of conducting school- and classroom-based research.

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<sup>3</sup> GETC is an acronym for the General Education and Training Certificate awarded at the end of the General Education and Training Band, namely at Grade 9, signifying the successful completion of the compulsory attendance phase of schooling in South Africa.

Gaining access into the ‘suburban school’ – School B

In the middle of May I had telephoned the principal, explained the nature of my research and my request for permission to use her school and a qualified, experienced and competent Grade 8 Natural Science Teacher. She agreed but informed me that I should call her at the beginning of the third term, because the second term was a very busy term.

On the first day of the third term, I telephoned the principal to make an appointment to meet with her. We agreed to meet two days later.

Entering the field – School B and First Meeting with Hayley<sup>4</sup>

I arrived at the school as requested by the principal, prepared for this meeting as I had been for School A described above. The secretary ushered me into the principal’s office. We exchanged formal introductions and greetings. The principal formally agreed to the research study and had nominated a teacher. She informed me that this particular teacher was qualified, experienced and competent to teach science, and was teaching one class of Natural Science, namely Grade 8 D. She added that the other teacher who was teaching the other grade 8 Natural Science classes was unqualified to teach but had a science degree. I provided the principal with a formal letter requesting permission to conduct the research in the school (Appendix C). The principal had shared some documents with me, which I intended recording in the ‘Document Summary Form’ (Appendix O). I enquired from her whether she or the teachers had a copy on the new assessment policy, and I showed her a copy of the policy. When she looked at the date on the cover of the Government Gazette indicating the Assessment Policy, she replied that she did not have a copy because that particular policy was outdated - it was dated ‘1998’. She added that it had been relevant during the time of the previous Minister of Education, namely, Professor Bengu, but that when he left and a new Minister of Education, namely Professor Asmal was appointed that policy was changed. She did not have a copy of the changed policy as such but did have many related documents that she had given me.

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<sup>4</sup> Pseudonym used for the sake of confidentiality

The nominated teacher then joined us. I explained the nature of my research study, the expectations from the school and the teacher, as well as the implications thereof. Both the principal and Hayley agreed to participate in the research study. The principal however requested that I return the following day to finalise arrangements with Hayley who informed me that we could meet the following morning during her non-teaching time in her classroom. I enquired whether they had any questions regarding the research study. They had none. I provided them with my contact details should they need to contact me. I thanked them for their time and for granting me permission to conduct the research in the school.

I completed the Contact Summary Form (Appendix N). I was puzzled by the response of the principal that the Assessment Policy had been replaced. Was it replaced? When? Why? I was unaware of this alleged change but was open to the possibility that due to the many changes affecting education I may have slipped up. I followed up with the Curriculum Section as well as with the Legal section in the national Department of Education with regard to the status of the new assessment policy, the focus of this research study. I was relieved that it had not been changed. But this begs the question: Why did the principal believe that it had been changed? What are the implications of this belief on implementation of the policy? Could it be related to the Review of Curriculum 2005?<sup>5</sup> Could it be related to lack of relevant information from higher authorities? Could it be related to conflicting information? Could be related to too much information that seems confusing? It was beyond the scope of this research to pursue these questions.

I was struck by the attractive appearance of this school – the first impression indicated that it was a well-resourced school. The visible spaciousness of the school was appealing and inspiring. The large administration building housed a large reception area with attractive tables and chairs; fresh flowers on the table, and beautifully draped curtains. Two secretaries working in a large, well-furnished, well equipped office received visitors and students. The administration area was strongly secured with burglar-guarded gates that were controlled by the secretaries. The large garden

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<sup>5</sup> In 1999, the second democratic Minister of Education, Professor Asmal, had commissioned the Review of Curriculum 2005, a new curriculum for South African Schools introduced in 1997. The Report of the Review Committee was released in May 2000 (see Chisholm, 2000). This resulted in a Revised National Curriculum (see Department of Education, 2001)

and playgrounds was attractive and well-maintained. There were no students visible outside the classrooms. This appearance was a conspicuous contrast to School A in the township.

#### First meeting with Hayley

The following morning, I met with Hayley in her classroom, which happened to be a laboratory. This was her non-teaching time. I explained again the purpose and nature of my research study, as well as the expectations and demands it would make on her time. She replied that she was very happy to participate and added that she was glad that somebody was doing research to find out whether policies are working in the classroom, because her experience was that she and most teachers in the school were “confused” (personal communication). She shared her timetable and some of her records with me. I made a note of these records that were to be analysed later using the ‘Document Summary Form’ (Appendix O). I provided Hayley with both Questionnaires (Appendices F and J). We reviewed them together while I explained in detail what was expected. She then perused over them and reported that she understood the contents and would not have problems responding to them. We made arrangements for the first pre-classroom observation interview and for the commencement of the classroom observations of her Grade 8 Natural Science class. She reported that she was teaching ‘Energy and Change’. I thanked her for her cooperation, provided her with my telephone and fax numbers to call me if she had difficulties answering any questions.

I was extremely pleased at Hayley’s response to the research study. She seemed willing and welcoming. She had prepared for my visit by having all her files and documents ready for me to view. She seemed very open to share her work with me. To me her behaviour made a statement about both her willingness and commitment to participate in the study and her trust in me as a researcher. Her ‘large, thick files’ with documents overwhelmed me.

Second Knock or Disruption to the research plan

After the first meetings with both Dinzi and Hayley I realised that the subject matter each was teaching differed. Dinzi of the township school was teaching ‘Density’ which I traced to be related to the theme ‘Matter and Materials’ indicated in Natural Sciences Senior Phase Policy Document (Department of Education, 1997). Hayley from the suburban school was teaching the theme ‘Energy and Change’ indicated in Natural Sciences Senior Phase Policy Document (ibid.). I realised that my simple and neat plan of the two chosen teachers teaching the same subject matter had been naively conceived. This knocked my assumptions regarding uniform subject matter being taught by two teachers. I decided that I would continue but would make this fact known upfront in the research study – that the subject matter of each teacher was different and this could or could not affect their assessment practices. Closer analysis of both the Assessment Policy and the Natural Science Senior Phase Policy Document revealed that the different themes taught would not alter the assessment practices because the specific outcomes, the assessment criteria, range statements and performance indicators were the same for the different themes (ibid.). What would differ were the key concepts and phenomena of each theme.

Negotiating Classroom Observations and Interviews – Third Knock or Disruption to my Plan

I realised that it would not be possible to observe each teacher for two sessions of three weeks each as indicated in my initial plan. Circumstantial realities demanded that the two teachers be observed and interviewed simultaneously in the third term. This meant that I had to analyse the timetables of both teachers to determine a schedule for the interviews and classroom observations. From the timetables obtained from each teacher I developed a schedule for the school visits to each school. I observed that there was a clash on Tuesdays, that is, the teaching times of both teachers coincided. I decided that I would alternate the classroom observations between the two schools on Tuesdays. I realised that this could create gaps in terms of continuity of observations. I addressed this dilemma by enquiring from each teacher what each did on the unobserved days, as well as requesting the teachers to audiotape the lessons for me after negotiating this request with them.

With regard to the interviews, I had negotiated places and times that were convenient for each teacher. Some would be conducted in school during the teachers' non-teaching periods and after school, others outside school during hours and venue convenient to the teachers.

### Data Collection and Storage

#### Systematic recording of data

I kept detailed written records of what I observed and heard, and of documents received from each teacher for each visit in two separate journals, one for each teacher. The date, time and place were noted. I created two files in my computer, one for Dinzi and one for Hayley. I simultaneously created hard files for each teacher. This was the start of the building of a case record for each teacher. For each teacher I created a sub-file in my computer, as well as hard copies. Each sub-file contained data from each teacher in line with each research tool, for example, 'Questionnaire A' meant that this was a response to the questionnaire from Dinzi and it went into the sub-file of Dinzi which was clearly labelled 'Questionnaire A. This procedure was repeated for all the other data sources for both teachers. As I engaged in this exercise, ideas about the trustworthiness of the data, issues for further exploration and modes of analysis emerged. I had inserted annotation notes where follow up was necessary, the nature of the follow up and when insights were forthcoming. This process not only contributed to the initial stage of data analysis, but it also stimulated me to make initial, temporary speculations regarding the outcomes to the research questions.

#### Profile of the Schools and Teachers

I developed detailed profiles of each school and teacher by using information from the contextual information form (Appendix P), contact summary forms, questionnaires, free writing schedules and during the classroom visits. These profiles were used to explore and understand the contextual realities of each teacher. The contextual realities of each teacher would be used to offer and support explanations for their assessment practices. These profiles are provided in the chapters on each case study teacher.

### Questionnaires

I administered two set of questionnaires simultaneously to each teacher to complete prior to the classroom observations. The first set of questionnaire (Appendix F) was aimed primarily to elicit information about their understanding of the assessment policy, the focus of critical question one. Some questions elicited information about the teachers themselves. The second set of questionnaire (Appendix J) aimed to collect information about how the teachers practiced assessment in their classrooms, which was the focus of critical question two.

Responses to these questionnaires served as the starting point of the data analysis and also served as a platform from which other fine-grained, deeper questions emanated. As soon as I received the questionnaires from the teachers I began preliminary analysis of this data, primarily to capture their understandings and to guide me into probing deeper into their responses during the follow-up interviews, and to add to the construction of the profile of each teacher and school. The gaps noticed were followed up. Time was reported to be the primary constraining factor in completing the questionnaire. The open-ended questions were very briefly answered, contrary to what I had prepared and hoped for. The nature of these responses demanded that these issues be followed up in depth in subsequent interviews.

A revealing result of the initial analysis of the questionnaires and its consequent oral follow up was that neither of the teachers had been aware of, or seen or had a copy of the gazetted National Assessment Policy document - the specific policy used in this study as means to explore and understand the relationship between policy and practice. Dinzi had a copy of the Draft Assessment Policy from the provincial Department of Education (Gauteng Department of Education, 1999), which Hayley did not have; Dinzi and Hayley had copies of 'Circular Number 5/2000', the topic of which read "National Assessment Policy as it relates to OBE and the implementation of Curriculum 2005 and Assessment in GET Grades". Hayley reported that she had "lots of documents" (response to questionnaire 1 and personal communication) related to assessment and did not know "which policy" the study related to (personal communication). Dinzi did not have copies of similar documents. This begs the

question about the unequal distribution of assessment related documents to different schools and teachers. Why did the selected schools and teachers not have a copy of the gazetted National Assessment Policy? Why did Dinzi have a copy of the Draft assessment policy of the provincial Department of Education and not Hayley – both from the same province? Why did Hayley have so many assessment related documents that Dinzi did not have despite both being in the same province? How would this affect implementation of the new assessment policy? This last question will be pursued further in the concluding chapter.

This revelation was a further knock to my assumption that each school would have copies of this gazetted National Assessment Policy as indicated in my initial research plan. It made me question my assumption - was my assumption naïve or was it valid? How would I know? I suppose I believed that in our educational change landscape with the sounds of Curriculum 2005 and OBE so loud, this new assessment policy, an inherent part of the new curriculum would at least be in the schools, if not with teachers. But I did not change the research questions that were based on the gazetted National Assessment Policy because national policies are foundations that guide and inform provincial policies as indicated in the National Assessment Policy (1998:7):

*This new assessment policy for the General Education and Training Band, alongside the new national curriculum framework, provides the pedagogic basis for our new education and training system. It will guide the provincial education authorities in designing their own assessment policies and will therefore become a vital instrument for shaping educational practice in the thousands of sites of learning across the length and breadth of our country.*

*...[Over] the next many years we will promote this policy ... Provincial departments of education will develop assessment guidelines based on this policy for use ...*

(Emphasis added)

### Free writing schedules

Before the classroom observations, but after receiving the completed questionnaires, I administered the free writing schedule to the teachers (Appendix G). It allowed teachers to provide information that they might not have written in the questionnaires or said in the interviews. This free writing schedule was used as a triangulation tool to corroborate information received from the questionnaires, interviews, classroom

observations and documents, as well as to construct questions to follow up later for greater depth of information.

### Interviews

I conducted personal, face-to-face interviews with each teacher before classroom observations and after classroom observations. The interviews provided the discursive space and opportunities for teachers to reveal their understandings, beliefs and actions in their own words.

#### Pre-classroom observation interviews

The interviews were semi-structured explorations of their understandings of the assessment policy. The purpose of this interview was to respond to the first critical question, namely: *What are teacher understandings and beliefs with regard to the assessment policy?* This interview was shaped primarily by the semi-structured interview protocol developed (Appendix H) that provided the framework within which the teachers could express themselves in their own terms. Supplementary and complementary questions were added as the need arose to probe deeper into respondents' views. These interviews were conducted in the school/classroom of the said teachers at their request. The interview lasted from thirty to sixty minutes depending on the availability of the teachers. I had to be flexible to suit the particular conditions of each teacher. With the permission from each teacher the interviews were audio-taped.

At the first and subsequent audio-taped interviews, I ensured that the teachers felt comfortable and at ease by explaining the purpose of the interview, assuring them that this was not a critique of them personally, and promised strict anonymity and confidentiality. These interviews saw me poised with the list of questions seated opposite the teacher as suggested by them. This arrangement enabled me to make face-to-face contact with each teacher in the hope that the interviewees would not feel nervous and intimidated. At first each was nervous but gradually the nervousness gave way to candid responses. I tried to make running notes while listening to the interview but found this extremely challenging. Making eye contact with each

teacher, and showing that I was appreciating their responses, and simultaneously writing notes was extremely difficult. I decided to abandon writing detailed notes and rather focused on the teacher's responses. However, when I noticed something striking and relevant in terms of the interview, I made a note of it. For example when a teacher made a statement like "new ways of assessing" (interview notes) and I probed further requesting the teacher to mention the new ways and explain how she used it in her class and its consequences, I noticed a conspicuous feeling of anxiety and nervousness – this was noted. The question it raises is why did the teachers feel anxious about responding to 'why' questions.

These interviews resulted in uneven outcomes. The interview with Hayley from the suburban school was successfully completed because she had provided time during her non-teaching periods and after school to complete it. However, with Dinzi, from the township school, it was not possible to complete this interview before the classroom observations because she was unable to find the time to accommodate the interviews. The question is why? What was it about Dinzi in school A that prevented the completion of the interview? Were there inherently unique and complex contextual forces at play, and what were they? I realised that the issue of the unsuccessful attempts with Dinzi was not simple but might be intricately woven to political, social, personal and especially historical contexts. I hoped that data from the other data sources would help compensate for the gap in the data collected from this interview with Dinzi.

The audio-taped interviews were transcribed verbatim. Initially I started the torturous process of transcribing, but soon gave up as it was too time-consuming. I recognised that these tapes were part of the heart and soul of the study, the hard data about, not only what, but about how each felt at the moment of the interview. However, since I personally conducted the interviews and made brief notes during the interview, I did not believe that the quality of the data would be compromised if I outsourced the transcriptions, so I decided to have the tapes transcribed by qualified transcribers. The audiotapes were transcribed verbatim and the transcriptions were shown to each teacher for validation.

### Post-classroom interviews

I conducted many small post-classroom interviews that were informed and shaped by what I had observed in each teacher's classroom and school, and by each teacher's responses to the questionnaire and free writing schedule. This allowed me to uncover the outer layers of perceptions and go deeper to discover the world below, perhaps a different world to gain new and different insights. The results were different for each teacher, which I describe below.

#### Dinzi from the township school

This teacher was unable to provide the time for the many interviews that I hoped to conduct to elicit her responses about why she practiced assessment the way I had observed. This resulted in limited post-observation data from this teacher. This raises questions: Why was she unable to provide the time for the interviews despite promising to do so? Was she unwilling to provide the time, and if so why? Did the relationship between the researcher and researched change, and if so why? Did I as a researcher play a role in this change if there was a change? Did she now view our relationship as polarised with different motives, priorities and perspectives, that is, me as a doctoral student-researcher focused on making a scholarly contribution to knowledge, and her as teacher focused on the daily process of educating the youth? How could I know? How does a researcher address this issue? Will this compromise the integrity, rigour and confidence of the research study? I felt helpless, disillusioned and intimidated until I discussed the issue with my Supervisor and critical friends who advised that I continue the study with the data sets that I managed to collect from this teacher.

#### Hayley from the suburban school

I conducted many interviews with Hayley based on my observations of her assessment practices, her records and her learners' records. Some of these interviews took place in the school during her non-teaching times, and after school, and some in my house, at her request. This resulted in a fuller set of data for this particular teacher than for Dinzi. This raises theoretical and methodological questions: Why was it

possible for Hayley to provide the times for the interviews? Why were the data sets from Hayley fuller and deeper? Did her contextual realities frame her responses and how? What was her view of our relationship? Did this impact on her decisions to make the time to respond to the interview questions? Would this affect the research study, and how?

The process and procedure I followed to conduct this interview after classroom observations were similar to that for the pre-classroom observations in that I ensured each teacher felt comfortable and was not nervous. Each interview was audio-taped with each teacher's permission. I also made brief notes during the interview to capture salient features of the interview process. I tried to ensure that the note-making process did not adversely affect the process of interviewing by continually making face-to-face contact with them during the interview process. The audiotapes were transcribed verbatim and the transcriptions were shown to each teacher for validation.

#### Follow up visits (Examination, recording and reporting)

As a result of setting up dates for the follow up interviews in the fourth school term I was informed by each teacher that they were very busy preparing for the November examinations. I decided that I would visit the two schools during this time to obtain information and relevant documents about the November examinations and the process of assessment during this period. This was not part of my initial research plan, but I felt that it was important because the November examination is part of the assessment system. However my observations during this period were limited because of my work schedule as a full time employee. I had to find gaps in my work schedule to rush to the schools to gather data. From each school I collected the following:

- The examination time table, including grade 8 Natural Science;
- The question paper for Grade 8 Natural Science and the marking memo,
- The mark sheet of the observed Grade 8 Natural Science class
- The schedule information as required by the District and provincial Department of Education;
- Reports of learners, samples given by the teachers.

The purpose of this exercise was to explore how this examination was related to each teacher's understanding of the assessment policy, and to explore the reasons for the observed activities, and whether they reflected changes as intended by the new assessment policy.

I interviewed each teacher about each aspect of what I had collected and observed with respect to the November examination. These interviews were audio-taped, transcribed verbatim and given to each teacher for validation.

### Classroom Observations

The purpose of the classroom observations was to elicit information in response to the second research question, namely: **In the context of policy, how do teachers practice assessment in their classrooms.** It would also assist me to make inferences regarding the second critical question, namely: **What are teacher understandings and beliefs with regard to the assessment policy?**

I was a non-participant, outsider observer – a 'fly-on-the-wall'. I had to extend the observations into part of the fourth term because of disruptions to observations in the third term brought about by contextual realities of the school. This is another knock or disruption to the original plan. However each teacher was willing to accede to the arrangement. Each teacher's classroom observation will be described separately.

### Observations in Dinzi's classroom

I observed seventeen classroom lessons in Dinzi's classroom over a period of seven weeks, five in the third term and two in the fourth term. At the first observation lesson I had been requested by Dinzi to sit in the front right corner of the classroom. This seemed to be the only place that was available because the classroom was relatively small compared to the number of chairs and desks in the classroom. Dinzi informed me that there were fifty learners in this Grade 8 Natural Science class although the average number that I observed was forty learners. Even for forty learners the classroom lacked sufficient space. One of the seventeen lessons had been conducted in the science laboratory. I made detailed running notes of the observed lessons,

audio-taped the lessons and completed the prepared classroom observation protocol that captured the teacher's assessment practice. These were given to the teacher for validation.

Dinzi reported that she did not have a Grade 8 Natural Science preparation file as yet but that she was in the process of preparing one, and added that a temporary teacher who had since left the school had taken the preparation file. I assumed that there had been a Grade 8 Natural Science preparation file that the said temporary teacher had taken with her. I consequently learnt that the temporary teacher had taught this particular Grade 8 class in the second term only because the school had been understaffed. However the provincial Department of Education had terminated the contract of the temporary teacher at the end of the second term. So the temporary teacher who I was given to understand prepared her own preparation file for this Grade 8 Natural Science class left the school without returning the preparation file. The Head of Department (HOD) reported that she was not at school during that time therefore she could not ensure that the preparation file was returned.

I also attended and observed a Natural Science Learning Area meeting during the course of the observation period in the third term. This was important because it enriched the contextual characteristics of this case study.

#### Observations in Hayley's classroom

I had observed twenty lessons in Hayley's classroom over a period of seven weeks, five in the third term and two in the fourth term. Hayley had agreed to the extension of time. This was a knock to my initial plan as stated for Dinzi above.

At the first observation lesson I had been requested by Hayley to sit at the back of the laboratory. I made detailed running notes of the observed lessons, audio-taped the lessons and completed the prepared classroom observation protocol.

Hayley had a comprehensive and detailed lesson preparation file.

### Records and Documents

I collected a variety of learner and teacher records from each of the teachers, although not equally as will be indicated below. Each record and or document collected was to be analysed in terms of specific criteria (see Appendix M).

### Learners' Test Records

Both teachers had informed me that learners had written tests on pages that were supposed to be pasted into the learners' workbooks/notebooks. Each teacher reported that they did not see the need to have a separate book for tests, that it was more useful to have the tests with the work/notebooks. I collected copies of test question papers from Dinzi and copies from Hayley. The purpose of this was to explore whether the tests reflected each teacher's understandings of the new assessment policy and whether the intentions of the policy were being achieved. These were to be analysed later using the analysis framework developed (Appendix M). I also used them to construct questions for the follow-up interviews.

### Learners' work/notebooks

I collected random samples of learners' workbooks from each teacher's class. The purpose of this was to explore whether learners' note/workbooks reflected the teachers understandings and practice of assessment. I constructed follow up questions after analysing the workbooks in order to find out why they assessed the way they did.

### Learners' assignments

I collected two sets of assignments, randomly selected, from Hayley's class only. Dinzi reported that her class had not completed any assignments. The purpose of this was to explore whether they reflected both the teachers' understanding of assessment as well as how they practised assessment. I constructed follow up questions after analysing the workbooks in order to find out why the teacher assessed the way she did.

### Learners' Reports

I collected samples of the June and November reports of learners from each teacher. The purpose of this was to explore whether the reporting process was aligned with the teachers understandings of the policy and with the new policy intentions.

### Case Records and Audit Trails

I developed a case record for each teacher, that is a case record for Dinzi and a case record for Hayley, and developed audit trails for the study. The audit trail points to the trustworthiness of the study. The audit trails could also be provided to other researchers to enable them to validate or challenge the findings, or construct alternative arguments.

### Pitfalls and problems - Challenges and lessons learned during data collection

A fundamental issue that emerged is the dual role that I played in this study, one as a researcher and another as a teacher development agent in a national government department. While these different roles are complementary, allocating adequate time to each role proved to be extremely challenging, especially when the role of the teacher development agent demanded much travelling to other provinces, working with international sponsors on their terms, and managing national teacher development projects. Does this allow for slippage of rigour? The lesson for me is engaging in qualitative case study research for a doctoral programme demands focused attention and therefore should be pursued full time, if possible, after negotiation with the employer and supervisor. This arrangement will not only enhance the quality of the study but would also prevent any compromises that could result as a result of the divided attention between employment demands and research study demands.

During the process of data collection I had been amassing unequal amounts and quality of data from each of the research informants. I began to grow anxious fearing that the rigour of the research study may be compromised, despite reminding my self that as a researcher my role was “not an automation shorn of human interests and

programmed to execute a design devoid of socio-political consequences” (Kemmis, 1980 in Bassey 1999: 25). I was also cognizant of the observations of Valero and Vithal (1998: 1) that “disruptions to carefully conceived plans are the norm rather than the exception” in research contexts that are undergoing fundamental transformations politically, socially, economically, culturally and educationally. The lesson for me as a researcher was that being aware of what the academic literature observed and suggested was insufficient to cope with the dilemma I was experiencing. I am not suggesting that it was not helpful, it was, but I found that I had to struggle with my own conscience and feelings about the unequal data I had collected. I realised that my research plan was not devoid of socio-political underpinnings; I foregrounded the complexity of conducting research within the shifting ecology of an unstable, developing social contexts; I was also open to the possibilities of changes to the research design. But I was still struggling with the questions: Did I make false assumptions about the conditions that actually existed in schools? What did I overlook? Would the unequal data sets compromise the rigour, legitimacy, credibility and confidence of the research? I must add that this made me feel helpless as a researcher. Until I decided to discuss it with some of my critical friends and my Supervisor who advised and assured me that I had sufficient data sets even if unequal, to continue with the data analysis and the research study.

Being a non-participant observer in the classrooms, I often noticed learners make mistakes that distorted and fatally impacted learning. Should I just watch what was happening or go forward and help the learners (and teacher)? This dilemma proved extremely challenging - my intention as a non-participant observer and the seduction of being drawn into the classroom dynamics. I had to make the tough choice informed by the principles and standards of being a non-participant researcher or an outsider to this classroom milieu. I could not interfere or intrude – a seemingly simple and single answer to this complex phenomenon, but one that caused much angst.

#### Shifting the weight and analytic move to data analysis

How was I to analyse this corpus of research data yielded from the research field? The data sets included data from the questionnaires, free-writing schedules, interviews – pre-and post-classroom observations, records and documents from teachers and

learners, and documents from the principal of one school and documents from the Science HOD from another school.

Early during the conceptualisation of the research study I had been confronted by the dilemma of deciding how to analyse the data; should I analyse it manually as I had done in the past, or use a computer software programme, a process that was totally new to me and would demand much learning and practising time. I had discussions with groups of researchers who used one or other of the two approaches of data analysis in order to assist me make an informed decision. I heard different views, some pro computer and some anti-computer analysis - and this was understandable. For example, those who used the computer software reported that it took a few clicks of the mouse to find something rather than scratching through a pile of papers. I also went to a two-day 'training session' at the university to learn how to use a computer software programme, namely AtlasTi, to analyse qualitative data. It was my experience at this 'training session' that finally informed my decision not to use the computer software because firstly, it was too time consuming to learn, and time as a part-time researcher is a scarce resource. I must add that this had nothing to do with not wanting to learn something new. I had to be pragmatic and realistic. Working simultaneously as a part-time researcher and full time employee of a government department made it impossible to find the time to learn this new approach to data analysis, even though I wanted to. Secondly, I was informed that the limited number of qualitative researchers experienced in the using the computer software programme to analyse data, did not have sufficient time to support me as a novice learner if I decided to use the computer software to analyse my data. I realised that as a novice learner I would demand much and sustained support to be successful. Thirdly, and this is my own untested intuitive feeling of the perceived 'coldness', and the linearity, limited lateral and creative thinking and processing of data by a computer programme.

Before the actual analysis began, I made plans to arrange the data as I collected them into a logical order by placing it into two different arrays, one for each teacher. I constructed a matrix of categories related to each research question with its accompanying research method and tools in which to place the data. I created a data display wall chart based on each research question for each teacher to examine the data and to tabulate the frequency of different events and to place the data in a

temporal scheme (Miles and Huberman, 1994). Two general strategies were used, one relying on and following the critical research questions that led to the case study and developing a description for each case (Yin, 1994), and second, including pattern making and explanation building (Miles and Huberman, 1994; Yin, 1994), that constituted the second level of analysis.

As I collected data I simultaneously started the initial or first level of analysis. This entailed the process of reduction, display, and verification (Miles and Huberman, 1994). This early start to analysis was informed by the advice of Cohen, et. al., (2000) who advised that it reduced the problem of data overload by selecting out significant features for future focus. As data from the questionnaire was collected I coded it in line with the three critical questions and its linkages to the assessment policy and the conceptual framework. Let me illustrate. For research question one, ‘What are teachers understandings of the new assessment policy’, I asked a sub-question in the questionnaire: “What do you think are the main reasons why the new assessment policy has been introduced into our schools?” Dinzi responded:

*...[In] the perception that all learners can learn and succeed although not necessarily at the same time or level. Through the assessment the learners’ achievement on this road to success can be measured against the expected outcomes.*

(Questionnaire A)

Hayley responded:

*To vary methods used to assess learners (to give the bigger picture) not just theoretical. To give tools to assess the weaker learners, to credit learners at whatever rate they may have acquired the necessary competence. To encourage lifelong learning.*

(Questionnaire B)

The new assessment policy (Department of Education, 1998: 8) provides two reasons for developing a new assessment policy, firstly, the “requirements of the new curriculum” based on outcomes-based education and the “shortcomings of the current assessment policy *A Resumē of Instructional Programmes in Public Schools, Report 550 (97/06)*” that prescribed a complex set of rules and regulations for subject groupings and combinations, that lacked transparency and accountability, that had

inadequate assessment practices, that made inappropriate use of tests and examinations, and absence of meaningful feedback or support for learners.

In the conceptual framework on ‘deep change’ I suggested in Chapter Three, I differentiated between superficial and deep changes. According to Fullan (1991) and McRel (2000) superficial changes involve changes to the surface features of the change without understanding the rationale for the change, while Fullan (ibid) notes that that deep change involves constructing deep, sophisticated meaning of the change in terms of its purpose. Using this conceptual framework as an analytical tool, I asked what type of understanding each teacher had regarding the purpose of the new assessment policy. Was it superficial or deep? How did it compare with the policy? Why did they have this type of understanding? How would that understanding affect their further understanding of the policy as well as their assessment practices? This analytic stance assisted in the construction of the case study reports for each teacher that I provide in the later chapters, Chapter Five for Dinzi and Chapter Six for Hayley.

I compared data collected from the various sources, a process known as methodological triangulation to construct patterns on their understandings and practices. These patterns became themes that I refined and challenged against data from competing sources. As I subjected the data from the various sources to content analyses, distinct categories were identified.<sup>6</sup> Tentative conclusions began to emerge. I returned to the data “over and over again to see if the constructs, categories, explanations, and interpretations made sense” (Patton, 1980: 339). This process revealed the interaction between me as researcher, the topic and the sense-making process – referred to as “validity-as-reflexive-accounting” (Creswell and Miller, 2000: 125).

I developed a detailed account of how each teacher understood the new assessment policy and practiced assessment in her classroom, that is, a descriptive case study (Merriam, 1988:27), followed by explanations of each teacher’s understandings and practices based on each teacher’s response to the post-observation interviews and the conceptual framework on deep change. These accounts are provided in the chapters on each case study teacher, namely Chapter Five for Dinzi, and Chapter Six for

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<sup>6</sup> These categories were analytical statements yielded from the analysis of the assessment policy

Hayley. I then used the descriptive data to develop conceptual categories, to test the propositions that I proposed prior to data gathering, to develop a typology of assessment practice for each teacher, to explain the assessment practices of the teachers, to suggest relationships between the teachers understanding of the assessment policy and their practice, and to explain the continuity and discontinuities of their assessment practice with the assessment policy.

Using the data from the case report of each teacher I developed within- and cross-case data displays (Miles & Huberman, 1994; Yin, 1994). Each case report facilitated cross-site comparisons and helped identify emerging themes. The cross-case analysis revealed similarities and differences between the two cases. This is synthesized in Chapter Seven.

During the data analysis phase I reminded myself to be cautious about interpreting processes in another culture (school and classroom culture) versus my current bureaucratic culture (policy environment culture) and jumping to conclusions that I think I know what is going on. I rigorously questioned my judgements, feelings, and perceptions without stifling the development of my unique research self, because I recognised the influence of my subjectivity hence I continually clarified and reconsidered my decisions, speculated about alternatives and drew upon the data for insights such that my assumptions were continually being questioned. Continual interrogation of my assumptions was fundamental because as Senge (1992: 243) suggests that one way to further understanding about particular practices is “being aware of our assumptions and holding them up for examination”. This enabled me to adopt a more reflective research disposition.

#### Validity concerns

While the concerns about validity in this research study are infused in the above account, I shall repeat it here as a matter of emphasis. I used the following variety of strategies to ensure that my research study is valid that maximized its quality and credibility.

- A fundamental political concern that I had been confronted with from the beginning of the study was contending with the duality of roles imposed by this study on me – one, an employee within the national Department of Education responsible for formulating policies and the other a researcher exploring policy implementation? Would this lead to negative or positive tensions? How would my employers view my research stance? How would they receive or respond to its findings? Furthermore, and more importantly, my Supervisor for the study was a vociferous and fearless critic of the education system. Would engaging in this study with my chosen Supervisor make my employers question my loyalty to them? I addressed this dynamic tension by firstly recognizing it, and secondly viewed it as an opportunity to develop both a critical thinking and risk taking mentality - essential tools for learning in our dynamic, complex educational transformation process.
- The ethical issues in this research study centred around informed consent which I addressed by obtaining informed consent from each of the two schools and teachers as discussed previously in this chapter; around confidentiality and anonymity which I addressed by promising confidentiality and providing pseudonyms for the schools and teachers; around the unequal relationship between myself as the researcher and the teachers as research participants in terms of who benefits from the research study, which I addressed by acknowledging that as a doctoral student I was to benefit not only in advancing academically but also advancing the frontiers of knowledge. In addition I did not adopt a hierarchical position of expert in relation to my research participants, but rather that of a learner, which I made explicitly clear to each school and teacher. There was also the issue around the duality of my roles while in the schools, a role as a political bureaucrat and that of a researcher. I decided at the beginning of the research study that I would remove my bureaucratic hat in the research settings and use a researcher hat. This proved to be very challenging as I was often tempted to inform the participating teachers and schools of recent and relevant educational documents and discussions that I had been privy to as a bureaucrat. But I had to exercise extreme caution and restraint – a difficult task for a ‘born teacher’ that I believe I am.

- I returned to the data “over and over again to see if the constructs, categories, explanations, and interpretations make sense” (Patton, 1980: 339). This process revealed the interaction between the researcher, the topic and the sense-making process and is referred to as “validity-as-reflexive-accounting” (Creswell and Miller, 2000: 125).
- The raw data and its interpretations were taken to the teachers concerned for their verification, to check how accurately I have represented their realities and to assess whether my interpretations accurately represent what they said and did (Creswell and Miller, 2000). I incorporated the teachers’ comments into the draft case study report that they would have reviewed. By giving the teachers a chance to react to the data and to the final account ensures that the participants add credibility to the qualitative study (ibid). This ensured construct validity (Yin, 1994).
- I gave the final draft case study report to a critical friend and colleague who would be an external reviewer to help establish construct validity (Creswell and Miller, 2000).
- By using multiple sources of evidence from questionnaires, free-writing schedules, interviews, classroom observations, records and documents, that is, a process of triangulation, construct validity was established. I searched for convergence among the multiple and different sources of information to form themes and categories.

#### Limitations of the Research Study

Because I, as researcher am the primary instrument for the collection and analysis of data in this case study, researcher bias could be introduced in the research study. This is related to issues such as ethics, reliability, lack of rigor and validity concerns. This had been dealt with by following a variety of strategies that ensured credibility to my research study as discussed above for validity concerns.

This study cannot be used to make broad generalizations because it is a case study and as such provide little basis for making scientific generalisations. However by making the purpose of the research study explicit, namely, the use of a specific policy, the new assessment policy could be used as a window to explore and understand the relationship between policy and practice in a particular context of investigation. The study may be “generalizable to theoretical propositions” (Yin, 1994: 10) but not to all policies, and not to all teachers and all schools.

The policy itself is being taken as given, that is, it is not being conceptually critiqued, but the policy intention in terms of its implementation is being investigated. It may seem that policy implementation is seen as being separate from the policy process. I embrace an integrated view of policy, meaning that I view policy implementation as inextricably linked to the policy making process. I also recognize that many other conditions are required to effect change, for example, vision, enthusiasm, commitment, resources, material, financial and human, not only policy interpretation and implementation.

This case study research resulted in voluminous amount of data that needed to be managed and secured properly. Slippage can be costly in terms of continuity essential for coherence of the study. For each set of data, I created a logical case study database that was easily retrieved. Manual and electronic copies of the case study database were made and stored in various places for safe keeping.

Being a researcher and educator, possible tensions arose when working in schools. I made my position very clear when seeking permission to conduct the research in the schools willing to participate. I implored the teachers and the schools to see me as a colleague seeking their assistance in learning to understand educational change in a complex, evolving and challenging political, cultural, economic and social landscape. Confidentiality and anonymity was promised and honoured.

Another limitation is conducting research in transitional context such as South Africa that is undergoing substantial changes politically, economically, socially and culturally. In such contexts Valero and Vithal (1998:9) suggest that “disruptions to carefully conceived plans may take on more dramatic alterations”. For example:

- Researchers may be unable to gain access to the schools within which research was intended. This may be due to class boycotts, student or teacher strikes, unscheduled closing of schools due to social or political problems. The school context is merely a microcosm of wider social changes, and therefore, a variety of macro- and micro- level factors come to be played out within the school context. As educational researchers, the clearly laid out plans of data collection are often unable to be carried out.
- Researching the subjective interpretations of research subjects may alter significantly in relation to time, place and context during the data collection process.
- The research subjects within the context of a rapidly changing society are also characterised by a kind of evolutionary (if not radical) transformation of their own personalities, ideologies, and beliefs. The evolutionary status of such change entails that data collected from subjects about their beliefs, ideologies, attitudes, etc. are potentially subject to a range of fluctuations. These fluctuations do not (as to be expected) progress in neat trajectories.

I will only make modest claims about change based on the initial set of observations emanating from this research study.

This research methodology guided my entry into each school to collect the data from each teacher to construct the case study report for each teacher. I construct these case reports in the following two chapters.

#### **Summary of Chapter Four**

This chapter describes the qualitative case study method used to respond to the three research questions explored in the study. I make three propositions to be tested by the study. The chapter describes the research design and the various methods and tools used to collect data from the two teachers, each teaching Grade 8 Natural Science, but from two different contexts. I highlight the disruptions to the data collection process as well as my response to these disruptions. In this chapter I explain how validity was

established. Limitations of the study are identified and responses to the shortcomings were provided.

In the next chapter I develop a case study report of Dinzi.