Chapter 4

Research Design and Methods

4.1 Introduction

This is a qualitative inquiry based on a comparative case study methodology in which the "cases" are represented by three technical colleges subjected to fundamental reforms in the further education and training sector. The case study data was collected using mixed and multiple modes of data generation including semi-structured interviews, document analysis and questionnaires. Having worked in the Department of Education in the FET college directorate, I also record my experiences of the policy implementation process.

In this chapter I provide a narrative account of my research design. I provide insights into how the design unfolded, a description of the methodology I adopted, and substantiated reasons for my choice of the case study method and sampling decisions. I conclude by reflecting on ethical considerations and decisions made in conducting the research and the methodology adopted in analysing the data.

4.1.1 Getting started

Before starting with the data collection process I had already formulated the key questions and the research strategies that I planned to use in my study. Even though I had a clear plan for collecting my data I was aware that changes might be necessary when considering the specifics of enacting the research design. As the study unfolded I found that it was necessary to make several changes and adaptations to the research process. These changes were mainly due to the various contextual factors that presented themselves, particularly with the data collection and analysis.

My data collection plan changed for various reasons. Two key persons that I had identified as crucial at the national level had left the sector and felt that they were no longer be in a position to add value to the research. They were of the opinion that a long time had elapsed since they had been involved in the policy development process and that they were not in touch with the realities on the ground when it came to

implementing the new policy. At the provincial department level many of the officials that had been involved during the policy development, adoption and implementation stages had also left the department and could not be reached. However, I was able to interview two key actors at the provincial level and they provided me with substantial insights into the policy implementation process as adopted in the provincial department.

One of the critical amendments that I had to make to my sample was the exclusion of the largest teacher union the South African Democratic Teacher Union (SADTU), in the country from participation in the research study. Although I had made numerous attempts to interview the representatives from SADTU, this was not possible because of the unavailability of the representatives owing to their hectic work schedules. Meetings were set up on five occasions, only to be postponed because of some other more pressing issue. At the time of writing the report I tried again to get hold of a representative from SADTU so as to include their views, but it was evident that, with time running out, the report would have to be completed without incorporating their comments. Furthermore, my experiences of the participation of SADTU in the FET processes during the time that I worked in the FET Directorate in the Department of Education made me realise that it would be virtually impossible to get an interview from SADTU. It had always been difficult to elicit comment or participation, especially when it came to FET colleges, since much of SADTU's focus was on the reforms and transformation of the school sector where the majority of its members are to be found. The concerns over the FET implementation and policy were raised in most instances by the two unions with which I was able to hold interviews viz. Suid Afrikaanse Onderwys Unie (SAOU)[63] and National Professional Teachers' Association of South Africa (NAPTOSA). Furthermore, both SAOU and NAPTOSA were considered to be unions of which the majority of members were white. Given the fact that the majority of the technical college staff was white these unions could be seen to have a vested interest in the merger.

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[63] Translates as South African Teachers Union

4.1.2 The case study

In this case study I examined the structural and cultural constraints on policy implementation in the FET college sector. According to Yin (1994:1), the study of contemporary phenomena in a real-life context is one of the distinguishing characteristics of case study design. Miles and Huberman (1994:28) define case contexts as the physical location (involved parties, history of contacts) and the relevant aspects of the social system in which the actors appear (e.g. department, college, sector). Through this explanatory case study I sought to discover the meaning of phenomena such as the events or practices that influenced policy implementation by placing these within the specific social context of the FET sector in South Africa.

The unit of analysis refers to "what" the researcher will investigate, that is, the phenomenon of interest (Yin, 1994:21). The unit of analysis is one of the key considerations that a researcher has to bear in mind in case study research (Yin, 1994:31). In this comparative study I chose multiple units of analyses (three FET colleges) that were embedded subunits within the larger unit of analysis (Yin, 1994:44) of the technical college sector within the Gauteng Department of Education. The three colleges selected for this study were clustered together to be merged into one institution and shared the larger unit of analysis as context.

My choice of multiple cases was based on the premise that multiple cases have been found to increase the methodological rigor of the study through "strengthening the precision, the validity and stability of findings" (Miles & Huberman, 1994:29) and more so because "evidence from multiple cases is often considered more compelling" (Yin, 1994:45). The multiple-cases provided me with opportunities for both qualitative and quantitative cross-unit comparison. My intention was that the end product would be a holistic, intensive description, interpretation and deeper understanding of the structural and cultural constraints on policy implementation within the context of the FET college sector.

The last and probably the deciding factor for my research design was that this study also focused on a "bounded system" as the focus of the investigation. This study was an

"empirical inquiry that investigates a contemporary phenomenon (the case) within its real life context, when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used" (Yin, 1989). The case study approach aims at uncovering the interaction of significant factors (structural and cultural) characteristic of the phenomenon (the implementation of the FET policy).

I used naturalistic methods of inquiry in this study because these methods enabled the representation of the multiple realities that characterise human behaviour, and enabled me (the researcher) to strive for conformability, or agreement among a variety of information sources (Guba, 1978). Naturalistic inquiry is an appropriate method when undertaking "value laden" research (Guba, 1978).

While undertaking this research I was at all times aware of the volatility and sensitivity that prevailed in colleges during the *restructuring* process. This made it paramount that I respect the rights, privacy, dignity and sensitivities of the research population and the integrity of the colleges in the study. Because of my position as an employee of the national Department of Education it was necessary to reassure technical college staff that all discussions would be accorded the greatest degree of confidentiality. Respondents were assured that pseudonyms would be used, as the majority of the respondents were understandably uncomfortable with the use of their names in the text. However, the Rectors were comfortable with the use of the college names. In addition, I provided all stakeholders with sufficient details of my findings, thus ensuring them that I had consciously refrained from withholding or selectively communicating my findings.

4.1.3 Data collection

Access and acceptance

As I was employed as an official at the Department of Education in the FET directorate at the time of commencing this research study, I felt confident that access and acceptance would not be an issue of concern to me. This unique situation provided me with access to documentation and information first-hand, as I was also a member of several teams involved in overseeing the implementation strategies for the FET merger.

In June 2002 I began communicating my intention of using the Gauteng province for my research study to the relevant authorities. My informal, verbal request was formalised with a letter to the Head of the Gauteng Department of Education, requesting permission to conduct my research study in this province. I was informed telephonically that I had been granted permission to conduct my research in the six colleges identified in the Tshwane metropolitan region, as identified in my sample. Letters were sent from the Gauteng Department of Education to the six technical colleges informing them of the research study and requesting their assistance and support. From then on it was fairly easy for me to have access to the colleges, as all the Rectors knew me from my interactions with the colleges during which time I had become acquainted with them. Rectors were willing to share documentation, records of deliberations and discussions that had been held with their staff, although two of the three Rectors encountered some difficulty locating the necessary information.

However, within weeks of preparing to conduct my interviews with the colleges, I had accepted a job offered at the National Treasury. I made it clear to college staff that I would no longer be working at the Department of Education, and that they should be as open as possible with their responses. I felt that it was important to reveal this to the respondents, as it would alleviate any reservations that they might have had in being open in their responses, considering the position I occupied in the Department of Education and my interaction with the officials from the provincial department of education. I reiterated my assurance that all discussions held with them would be guaranteed the greatest degree of confidentiality.

The interviews with the provincial department officials, despite their willingness, proved to be challenging because of their heavy work schedules. They were often out of office in meetings or attending to other line management functions that needed to be prioritised. These interviews had to be rescheduled several times.

At the national level it was fairly easy to make the arrangements to hold interviews with the persons involved in the development of the FET policy, since they were colleagues of mine. Access to the Department of Education officials remained easy even after I had left the Department. My interview with the official from the Department of Education was held after I had taken up my position at the National Treasury.

Collecting data

4.2 Research strategy

I commenced my study by conducting an extensive literature review on *restructuring* and *reculturing* as theories of educational change. Thereafter I proceeded to develop a theoretical framework that guided my "case" selection and helped me to identify and define the specific measures that were important in the design and data collection processes.

I then went on to conduct a pilot study on the structural and cultural factors that influenced FET policy implementation. This pilot study was conducted in the North West Province in two out of the 11[64] technical colleges in that province which were not part of the full-scale research study. The pilot study helped to identify the concerns, validated the research instruments to be used, and informed the overall research design strategy.

After refining my data collection instruments, I commenced with the full-scale multi-case study investigation at the national level (from the perspective of the policymakers), and in the Gauteng province at both the provincial Department of Education and the three selected technical colleges in order to obtain provincial and institutional perspectives on implementing the FET policy.

I collected data over a period of one year using a multi-method design approach to data collection typical of the case study design (Yin, 1994:91). This included in-depth semi-structured individual and focus group interviews with stakeholders, the analysis of documentary evidence, archival records and questionnaires. However, because the "case" involved a retrospective analysis of the phenomenon and because the decision to study the events was taken sometime after the events themselves had taken place, the use of some of the data collection techniques originally identified was impractical. For example, direct observation and participant-observation were not possible.

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[64] The two colleges for the pilot were from the Klerksdorp area. The reasons for selecting Klerksdorp was its proximity as well as it being one of the areas in which there has been great resistance to change.

Each individual case study of the identified FET colleges consisted of a "whole" study from which I sought convergent evidence regarding facts and conclusions for my broader "case" investigation of the FET sector. The conclusions drawn from each individual case were considered as the information needing replication by the other individual cases. The results from the individual cases and multiple-case results were used as the focus of my summary for my comparative study report indicating the extent of the replication logic.

4.2.1 Data collection instruments

The instrument was developed in a deeply iterative process. I was guided by my supervisor in the development of the questions in the instruments used. Once I had developed a basic set of questions they were reviewed by my supervisor and fellow doctoral students, and revised according to suggestions and comments provided. The reviews assisted in focusing the questions more directly on my two research questions, thereby ensuring that the data collected would be relevant only to the two research questions. All the instruments were piloted before the actual case study and the responses were used to refine the instruments.

The instruments used for data collection are depicted in the table below:

Table 4.1 Data collection instruments

	Type of instrument
College	• Semi-structured individual interview with Rector of the college • Semi-structured focus group interview with college management staff • Questionnaire • Agendas and minutes of meeting • Written reports from workshops • Internal documents and other communiqués
Provincial department	• Semi-structured individual interview with provincial co-ordinator/ Head of the FET Unit • Semi-structured individual interview with senior member of the provincial FET Directorate
National department	• Semi-structured individual interview with an official from the National

Policymakers	Department of Education
	• Semi-structured individual interviews
Stakeholder interest groups	• Semi-structured individual interviews

4.2.2 Sampling

As this was a multiple-case design "the typical criteria regarding sample size" was "irrelevant" (Yin, 1994:50). According to Kuzel (1999), one of the important things to bear in mind when conducting multiple-case designs is that in order to increase the quality of the research design, the selection of cases needs to be driven by the two issues of appropriateness and adequacy. Appropriateness involves demonstrating relevance to the purpose of the research and the phenomenon of inquiry, while adequacy is concerned with how much is enough or how many cases are sufficient (Kuzel, 1999; Miles & Huberman, 1994).

In terms of appropriateness, the purpose of my case study was to identify the structural and cultural factors that influenced policy implementation in the FET college sector. When I commenced with my research design the intention was that my sample of interest would comprise all six technical college in the Tshwane region of Gauteng Province. As stated in my research design I proceeded to conduct interviews and collect data from all six colleges. The interviews in respect of all six colleges were conducted during the same period i.e. between June and October 2002. I then transcribed all these interviews and submitted the transcriptions to my subjects for verification or amendments. Not one of the respondents had any major concerns regarding the contents of the transcripts. In fact they added to the data either by providing additional information or clarifying what they had meant. I was faced with a huge volume of data from the six technical colleges – a volume which seemed overwhelming considering the time I had to complete my study. I scanned the data and identified recurring themes. The dilemma I then faced was how best to narrate my story within the time constraints without comprising the quality of the report. I discussed this with a colleague who served as a peer reviewer throughout my study, and recorded my overall observations from the six case data. There was a great deal of overlap across all six colleges with respect to the data collected under the themes identified in my theoretical framework. It

was then that I decided that I would reduce the sample size to be used in this study from six to three cases.

I was also faced with the moral obligation of not disappointing any of my subjects by choosing certain colleges over the others. All the colleges were eager to be included in the report. How was I to make this decision? I proceeded to consider all other variables. Since my original intention had been to base my sample on geographic location I decided to stick to this and divide the colleges as identified in terms of the northern and southern regions. Next, I considered the historical contexts within which the colleges had emerged.

The three colleges in the north comprised of 2 state and one state-aided college that were to merge. In the south there were 2 state-aided and 1 state college. The historic beginnings of all 3 state colleges were more or less the same in that they had been built from the late 1980s onwards to address the government's policy of skills advancement for black learners. Two of the state-aided colleges, Pretoria and Centurion, had been established in the 1920s and 1930s respectively, while Pretoria West College had come into existence in 1975.

Since the focus of this study was to be on structure and culture, my decision to reduce the number of samples was informed by the level of cultural diversity among the colleges. For this reason the colleges in the south proved to be a suitable choice. It was important for this study to establish whether historical contexts (Cole & Knowels, 2001) had any influence on the culture of the organisation. After making this decision I returned to the colleges in the north to thank them for their contribution and time but to inform them that I no longer intended to include them in my study. I did, however, agree to share the finding from my research with them.

The three colleges ultimately forming my sample for my "case" provided a homogeneous cluster (Patton, 1990:182-183) in that there were minimum variations between the cases, thus simplifying the analysis and keeping the study focused. The three selected cases also provided me with the number of replications (replication logic of case inquiry) that I thought adequate from which to draw my conclusion and recommendations.

In essence these three colleges in the southern part of Tshwane were sampled using the following criteria: Firstly, they were in the same geographic are i.e. the southern region of the Tshwane region in Gauteng province Secondly, they comprised a mixture of one state and two state-aided colleges. Since this study focused on structure it was important that I included both state and state-aided colleges in my sample as there are definite structural difference between these colleges as identified in Chapter 2. Thirdly, they each displayed contextually different social and historical contexts which could have a bearing on the culture of the colleges, and fourthly, the sample size of three colleges was adequate to provide sufficient replication from which conclusions and recommendations could be drawn. Cole and Knowels argue that the formation of relationships is crucial in conducting life stories, and believe that fewer participants, rather than many participants, should be used as the goal should be one of depth, rather than breadth. The historical and social context of each of these colleges is elaborated upon in Chapter 5 of this research report.

To gain the perspective of the policymakers that operated at the national level, I interviewed a senior official of the Department of Education, two ex-officials of the Department of Education who were involved in the FET policy development, two consultants who were involved in drafting the policy, and two teacher union representatives (SAOU and NAPTOSA). Individual interviews were held with each of the persons identified in the sample.

In the provincial department I held individual interviews with the Provincial Coordinator for FET (Head of the FET Unit) and two line function officials in the FET Directorate.

4.2.3 Research strategy for critical question I

What are the organisational influences and constraints on policy implementation?

This critical question was answered through multiple sources of evidence collection. This entailed in-depth interviews with selected policymakers and implementers, an in-depth document analysis of budgets, minutes of meetings, internal documents and other archival records. In addition I used the survey method of data collection in the form of questionnaires to elicit from technical college staff and council members their

understanding of the FET policy, and the influences and constraints on policy implementation.

Interviews

I conducted both individual and focus group interviews. My intention was to obtain reasonable coverage from respondents with various perspectives, self-interests and attitudes.

In order to gain the national perspective, I interviewed respondents from both within and outside government that had played a role in the FET policymaking process. Some of the persons identified had previously occupied key positions in the Department of Education. I also made use of the snowballing technique by which respondents were asked to identify others whom I should see, in order to reach important influential people who could serve as knowledgeable informants. The "identified persons" were able to inform me about the events and perspectives of people who were in close contact with key decision-makers, but were not decision-makers themselves. The purpose of these interviews was to establish their (the policymakers) understanding of the FET policy and what was expected of implementers at all levels of the implementation process.

Interviews with the officials from the provincial department of education provided an insight into their understanding of and preparedness to implement national policy, and their understanding of policy imperatives imposed from a national department, whose role it is to set norms and standards for policy implementation. Provincial department officials also provided information on their organisational priorities and expectations, and the structure, roles and relationships of their department with the colleges under their jurisdiction.

Interviews with the Rectors and technical college management staff provided valuable data on their understanding of policy implementation, roles, responsibilities and expectations of the various tiers of governance, and their preparedness to embrace change.

Individual interviews were conducted with the line function officials in the provincial FET Directorates and college management staff, in order to establish their understanding of the FET policy, and what was expected of them at provincial level as well as at other levels in the implementation process. In addition I conducted semi-structured interviews (individual and focus group) with both policymakers and implementers (provincial education department officials in the FET units and Rectors of technical colleges) who were involved with the reorganisation of the FET sector as they allowed me to respond to the situation on hand, to the emerging worldview of the respondents, and to new ideas on the topic (Merriam, 1988).

All interviews, that is, those with the policymakers and implementers, were tape-recorded for ease of transcription and analysis later on. Permission was sought from all interviewees to have these interviews recorded. The advantage of this approach is that a verbatim transcription of recorded interviews provides the best database for analysis. On the other hand, the transcription of interviews was an expensive and time-consuming exercise. For this reason I also made use of the interview log system, as all the interviews were longer that one-hour in duration (Merriam, 1988). This involved playing the tape and taking notes on important statements or ideas expressed by the interviewees. Words, phrases or entire sentences were quoted verbatim so as to provide the reader with the nuances of the interviewees. The notes were coded to the tape counter so as to establish the exact location of the words, phrases and sentences on the tape for use at a later stage. The hand-written notes provided a contingency plan in the event of something going wrong with the tape recording and for the interview log system.

Bearing in mind the possibility that information could be distorted or exaggerated, I found it necessary to crosscheck the interviewees' accounts with the documentary material. Merriam (1988) points out that "comparing an informant's accounts with accounts given by other informants" is a way to detect and correct distortion. Transcriptions of the tape recordings were sent to interviewees for corrective and elaborative comments and verification.

Examination of Documentary Evidence

I used the visits to the provincial education department and colleges to gather documentary evidence that was likely to contribute to the evidence from other sources, such as interviews. "For case studies the most important use of documents is to correlate and augment evidence from other sources" (Yin, 1994:81). I made use of agendas and minutes of meetings, written reports from workshops and internal documents and other communiqués.

These sources of documentary evidence enabled me to gain a better understanding of the process involved and the factors that influenced the change agenda. They also provided information on what subjects or topics occupied the attention, time and energy of implementers during the period under study. According to Merriam (1988) documentary data is a particularly good source for qualitative case studies as it grounds an investigation in the context of the problem being investigated. The analysis of documentary data lends contextual richness and helps to ground an inquiry in the milieu of the writer.

Questionnaires

I used the survey method of data collection in the form of questionnaires to explore the understanding technical college staff and council members have of the FET policy, as well as to elicit factors that influenced the policy implementation process. I commenced by identifying topics that related to my two critical questions, and developed subsidiary questions in order to design the questionnaire. The questions entailed some general information about the respondents, their understanding of the FET policy, level of knowledge, skills, roles and relationships.

As none of the colleges in the sample could provide me with the exact numbers of the staff complement at the time of conducting the survey, I provided each of the three colleges with a hundred questionnaires. The reason provided by the colleges for not having staff numbers available was firstly, that the teaching staff of colleges is made up of full and part-time staff, and secondly, that they offered both semester and trimester courses which sometimes overlapped. At the time of administering the questionnaires the trimester staff was on vacation. It was agreed that the questionnaires would be

handed out to the full-time staff at the college who were present during the period of collecting the data and conducting the interviews. The Rectors proposed that they assist with the administration of questionnaires at the colleges by getting the heads of the various departments to assist with the distribution and retrieval of the questionnaires. They were asked to communicate the reason for distributing the questionnaires to members of staff who were participating in the research study. Of the one hundred questionnaires distributed at each of the colleges the response rate was as follows:

Table 4.2 Response rate on questionnaires

College	Number returned	% of response rate
Atteridgeville	46	46
Centurion	53	53
Pretoria West	45	45

Biographic details:

The questionnaires targeted mainly the lecturing staff in the three case study colleges. The questionnaires were completed by 46 respondents at Atteridgeville College (i.e. 46 percent response rate), 53 respondents at Centurion College (i.e. 53 percent response rate) and 45 respondents at Pretoria West College of Engineering (i.e. 45 percent response rate).

4.2.4 Research strategy for critical question II

What are the cultural constraints and influences on policy implementation?

Reculturing is seen as developing professional learning communities in a school (Fullan, 2000). In answering this question I examined the norms, organisational policies, beliefs, practices, leadership styles, values, shared meanings and social relationships that exist at the provincial and institutional levels.

This critical question was answered through multiple sources of evidence collection. This entailed in-depth interviews (individual and focus group) with selected policymakers, decision-makers and implementers (provincial education department officials in the FET units and Rectors of technical colleges). In addition, I also conducted an in-depth examination of documentary evidence, and made use of questionnaires.

Semi-structured individual and focus group interviews (same as for critical question 1) were used to understand the cultural constraints and influences on change. Semi-structured interviews are used when the researcher wishes to uncover the emergent narrative of the respondents' "lived experiences" (Guba, 1979). The approach that I adopted in the interviews for this critical question was the same as that for critical question 1.

The use of predetermined open-ended questions ensured that the interview assumed a conversational quality. I followed the set of questions derived from the case study protocol. The questions were carefully worded in order to allow respondents the opportunity to provide a fresh commentary on the factors that contributed to policy implementation. The interviews provided me with insight into and understanding of the norms, organisational policies, beliefs, practices, leadership styles, values, shared meanings and social relationships that existed at the provincial and institutional levels, and how these factors influenced the adoption of new policy changes.

Transcriptions of all interviews were sent to the interviewees for the purpose of validating the procedure.

During my visits to the provincial department of education and the technical colleges, I collected documentary evidence that could provide some insight into the cultural factors predominant in these institutions. I examined a wide range of documents to supplement and corroborate the data from the interviews. These included agendas and minutes of meetings, written reports from workshops, internal documents and other communiqués.

Questionnaires

I used the same questionnaire as for critical question 1. Data from technical college staff and council members was collated in order to explore their understanding of the FET policy, and to elicit information on factors that influenced and constrained the policy implementation process. The questions elicited some general information about the respondents, their understanding of the FET policy, embedded beliefs, practices, behaviour and assumptions.

As the same questionnaire was used for both critical question 1 and critical question 2 the sample and response rate was the same for both questions.

4.3 Establishing validity

I used several methods to evaluate the reliability of the study with regard to the applied methods of data gathering and analysis of material. I planned the research design carefully and followed the plan throughout the study. In order to make the quality of the research available for the reader to evaluate, I reported on each phase as thoroughly as possible.

In adopting the multiple-case method for my comparative study, I addressed the issue of the external validity of the study in that the findings could be established through the replication logic of the multiple case study design (Yin, 1994:35).

In this case study research I provide a "thick description" of the specificities of the research context. According to Geertz (1975), the very "thickness" or richness and complexity of the description is in itself a suitable and sufficient form of verification. As a naturalistic researcher my intention was to discover (uncover) the meaning of what I had observed. The credibility of the study is established through describing the setting of the participants and the themes of the study in detail to the extent that the readers would feel that they had experienced or could have experienced the events being described. The objective was to provide as much detail as possible in order to present the reader with a concise narrative account of the study. I provided a narrative of the experiences, actors, and feelings of the "actors" as they experienced the phenomenon (from interview transcripts). This enables the reader to visualise and understand that the account is credible. Readers are also at liberty to choose the degree of distance between the contexts described in this case study and their own contexts. They have the choice to decide to transfer ideas, insights or interpretations across into their own context.

As this was a qualitative study the analysis of data would be the views of the people who participated in the interviews, as well as those who read and reviewed the study. It was therefore important for me to ensure the validity of the study. In checking the accuracy of the participants' realities, I made use of the following validity checks.

Firstly, I conducted a pilot study in the North West Province. This was not part of my full-scale research study. The pilot was intended to identify the concerns of the officials in the provincial department of education as well as those at the institutional level, regarding structural and cultural constraints and influences on policy implementation, to validate the research instruments to be used and to inform the overall research design.

Secondly, I used multiple sources of evidence and established chains of evidence while collecting the data. Construct validity was fostered through using data triangulation (Denzin,1984) in that different types of empirical material (interviews, questionnaires, minutes of meetings and workshops) were contrasted with each other when categorising the various types of material. The information collected from the multiple sources of evidence was converged to form themes or categories in the study (Creswell, 2000). In addition, I related my conclusion from these findings to the theories that underpinned my conceptual framework. The triangulation of data obtained through the application of naturalistic inquiry methods allowed me to investigate the phenomenon within, and in relation to, its naturally occurring context.

Thirdly, member checking is described as "the most crucial technique for establishing credibility" (Creswell, 2000). By using member checking I took the data and interpretations back to the participants in order to confirm the credibility of the information and the narrative account. In doing so I made use of both focus groups and also requested individual participants to review the raw data. The participants were requested to view the raw data in the form of word-by-word transcriptions of the interview transcripts and to comment on the accuracy. Participants were allowed to give defining comments on the narratives. The working drafts were reviewed and where specified or small errors were found these were corrected. This fostered the credibility of the empirical analysis.

Fourthly, I made use of peer review. A colleague who was familiar with the research served as a sounding board for the ideas and assisted me in providing written feedback after reviewing the data and the research process. This provided me with support, challenged my assumptions and asked searching questions about the methods and interpretations I had used during the study.

Fifthly, I provided clear documentation of all research decisions and activities by including appendices in the dissertation. To this end a colleague was requested to conduct an external audit of the documentation. I also kept a record of the procedures used for sampling, the development of the research instruments, data collection and analysis.

4.4. Modes of analysis and representation

I adopted the interpretive perspective in analysing the data. My aim was to produce an understanding of the context of the policy implementation in the FET college sector and the factors that influenced the implementation of the FET policy. In this section I provide some insight into how I went about conducting both surface-level and deep structure analysis of the data I collected.

My objective was to build a general explanation that fitted each of the individual three cases based on the descriptive approach provided in my theoretical framework in Chapter 3.

All interviews were transcribed as explained above in the section on the research design. The responses to particular questions were then transcribed into a brief narrative form. I proceeded to compare the responses from the various interviews of each individual case so as to categorise responses with the view to identifying structures, patterns and trends, divergent responses and possible explanations. The responses were structured around my two critical questions. This provided a common structure to compare the data. This information was then crossed-checked with the data generated through the document analysis. This was a manual exercise.

The objective of explanation-building as the mode of analysis was to analyse the case study data by building an explanation around the concepts *restructuring* and *reculturing* used in the case (Yin, 1994) in order to develop ideas for further studies. This was done by examining the data collected, categorising it and tabulating evidence in relation to my three individual cases and then interpreting the data at the single case level (collectively). The conclusions from the multiple cases formed the explanation for the

overall study. The explanations reflect the theoretical framework used to direct the investigation.

To analyse the questionnaires I made use of a computer-based programme. The first step entailed editing the questionnaires. This involved checking, firstly, whether there was an answer for every question, secondly, that all questions were answered accurately and, thirdly, that all the respondents interpreted the questions uniformly.

Thereafter, with the assistance of a colleague, a data-coding grid was developed to capture all the data from the questionnaires. This was necessary as the coding was developed after the questionnaires had been developed, and answered by the respondents. The post-coded answers were captured on a coding frame. The open-ended questions were not included in this data capturing exercise. Instead I opted to do this manually as I had done for the interviews.

The data captured on the electronic coding frame allowed me to conduct routine frequency counts and cross-tabulations. These were designed so that I could assemble the organised information in an accessible, compact form thus making it possible to see what was happening and draw justified conclusions.

4.5 Role of the Researcher

In qualitative research designs, the researcher could be perceived as the main "instrument" of data collection. According to Creswell (1994:145), "data is mediated through this human instrument, rather than through inventories, questionnaires, or machines". Although there are several advantages to this design, one of the consequences is that researchers could bring personal biases to their studies (Glesne & Peshkin, 1992; Goetz & LeCompte, 1984; Marshall & Rossman, 1995; Wolcott, 1995).

In terms of my research roles I moved between being "participant as observer" (internal researcher) (Robson, 1993) to "marginal participant" (external researcher). In other words my role varied with the context. Being a doctoral student employed in the FET Directorate of Department of Education (Robson, 1999) I had to reconcile my insider and outsider roles. My credibility as a researcher was dependent upon my acceptance by

the Gauteng Department of Education and by case study college staff as a partial insider with sufficient experiential knowledge to understand the system and also to understand and interpret what l learned from my research.

The politics of positionality meant legitimizing my presence in the field. Before commencing with my study I requested entrance into the field from the Head of the Gauteng Department of Education. The response from the Gauteng Department of Education was obtained via the office of the Senior Manager for ABET and FET who later also informed me that he had indicated to the Head of Department that I was also an employee of the Department of Education in the FET Directorate. The Gauteng Department of Education informed colleges that the department had granted me permission to conduct my research study. This facilitated formal access to the Gauteng Department of Education and the colleges.

The challenge for me was, that by playing the role of both internal and external researcher, I had to understand the personal, political and procedural issues in order to maintain a balance between the productive and the stressful (Burgess, 1980). For example I assumed the role of participant when I was a member of the Merger Operational Task Team, while at other times my role was mainly one of observer (Bogdan & Biklen, 1982). At the outset of my study my relationships with my numerous subjects varied. The provincial department officials were contemporaries with whom I had over a period developed a professional relationship. Our relationship was such that we could comfortably adapt to being colleague or friend depending on the situation that prevailed at the time. The College Rectors knew me through my interactions at various workshops or meetings where I had represented the Department of Education. In managing relationships with my subjects at the institutional level my experiential knowledge and acceptance as a partial insider allowed me to advance from "stranger to friend" with certain of the key informants in the colleges (Powdermaker, 1966).

Brislin & Holwill (1979) claim that reciprocity is important in field research, and even more so in settings where the researcher is an outsider. My subjects urged me to convey to the national Department of Education and to the Gauteng Department of Education that they had encountered several problems in implementing the merger. They also

wanted their concerns to be addressed so that the next stage of policy implementation would be easier and more or less trouble free. My role as researcher necessitated that I honour their requests. The dilemma was where and how this would be appropriate. I had assured anonymity to all my subject. On the other hand the Rectors were comfortable with the names of the colleges being disclosed. They were of the opinion that either way the historical contexts of each of the colleges were so unique that the particular college would be easily traceable. My main concern was the potential effect my research and narrative could have on my respondents at the colleges and the provincial department. I had to deal with issues of what Lather (1986) referred to as "catalytic validity". Most of the respondents were downhearted and it was not my intention that my narrative adversely affects my respondents. All three Rectors felt comfortable knowing that they could be identified. Two of them were close to retirement while the third, a black male, was relatively young and had many more years to serve in the department. The question of ethics arouse while at the same time I had a moral obligation to my respondents. Nonetheless, Lather's conception of catalytic validity still applied, not so much in terms of the effects on individuals but rather in terms of my aspirations that my report could have a positive effect on the way in which policies were to be implemented in the future.

I was often faced with the dilemma that my partial insider status and my acceptance by informants resulted in an element of risk to the subjectivity of my analyses in the study. I therefore had to make concerted efforts to manage my subjectivity so that my interpretations were not compromised. I had at all times to be conscious that I did not over identify with my subjects. It was important that I acknowledged my biases from the outset (LeCompte, 1987), because my personal views had positively predisposed me to the FET change agenda. The challenge for me was to balance my reactions to events with my findings and with the perspectives of my informants (Spindler, 1987). My subjectivity was evident from my desire for the transformation of the FET colleges to succeed. At the same time I found that the problems and constraints I had discovered in the process of implementing the merger had also resulted in despondency and disappointment. It was here that the need emerged to search for and analyse the paradoxes inherent in the situation as recommended by Peshkin (1988) so as to separate the problems from the progress made. Of equal importance was the need for me to consider my "null research behaviour". Was I missing important questions and issues,

blinded by my personal perspective? At other times I had to deal with the anger and frustrations experienced by the college staff who lacked an understanding of what was intended with the merger. In these situations I was forced not to focus too emotionally on a single incident, but rather to reorient my thinking and regain my perspective. When I drew conclusions from the research findings my subjectivity again needed to be reviewed in view of the premises and predilections that shaped the study.

I provided all my respondents with written transcripts of the interviews. They either verified or added to the data. Furthermore, since I had used multiple cases I compared the data across the three colleges to identify similarities and contradictions. I did not accept everything said as the truth and questioned the contradictions as they appeared. In addition I used a colleague who was familiar with the FET college sector and the dynamics around the merger as a sounding board. She provided me with ideas and reviewed the data and research process. She also read my narratives and pointed out where my subjectivity had become blurred. This provided me with objective judgments and helped me maintain focus. At the same time I kept a journal of all the events and noted the contexts in which events unfolded. The use of multiple sources of data, as mentioned earlier in the chapter, provided a basis for the triangulation of data across the various sources. In order to be able to draw balanced conclusions my narrative needed to be rewritten several times in order to be "tamed" (Peshkin, 1988:20).

In this case study, it was important that I monitor and reflect on my subjectivity as it had influenced my initial desire to embark on the study, and it shaped the study in regard to the selection and sampling, questions posed, and conclusions drawn. By using my experiential knowledge I was able to shape and redirect the study so as to increase the external validity or fit of the study to the local contexts (Guba & Lincoln, 1981). Consequently, my biography and experiential knowledge were key ingredients in the research, as was my involvement as an employee of the Department of Education. My experiential knowledge made it possible for me to understand the complexities and multiple dimensions, for example the interplay of structure and culture, involved in the study. Nevertheless a complete understanding of such complexities was still inadequately served by my experiential and tacit knowledge. The study highlighted for me as researcher the difficulty of conducting research when subjectivity is a powerful issue. I was left to wrestle with conflicting emotions. I learned lessons about the finer

points of boundary spanning and how I had had to negotiate my insider and outsider roles. It was necessary for me to differentiate between my private research and interpretations, and the study conclusions that were to be made public, conclusions which include the presentation of information that informants wanted conveyed to outside audiences about the dilemmas they faced, and the realities of the situation from a variety of perspectives.

Time constraints are a lesson in themselves, as is found in any research. Several changes were continuously taking place between the time that I collected the data and completed my study. My desire to document "all" that was happening and to be "on the scene" needed to be curbed. However, the most important lesson I learnt from this was that as a qualitative researcher I needed to be honest with myself, and I needed to know who and what I was as a researcher.

4.6 Limitations of the study

As the researcher in this case study I am the primary instrument for the collection and analysis of data. One of the limitations of this is the possibility of the introduction of researcher bias into the research study. Because this is related to issues such as ethics, reliability, lack of rigor and validity concerns I made use of a variety of strategies as described under Section 4.3, in order to establish validity.

Since this is a case study it provides little basis for making scientific generalisations and can therefore not be used to make broad generalisations. By stating the purpose of the research study explicitly, namely structure and culture, the FET policy could be used to investigate the constraints these factors had on policy implementation in a particular context of investigation. According to Yin (1994:10) the study may be "generalizable to theoretical propositions" but not to all FET colleges.

In addition the research study resulted in a huge volume of data that needed to be managed and suitably secured. The loss or omission of information could result in a lack of continuity or incoherence in the study. It was therefore important that I create a logical case study database for each set of data collected. Both electronic and manual databases were made and stored in various places for easy reference.

4.7 Summary

This comparative study of three FET colleges was designed to explore and understand the structural and cultural factors that influenced policy implementation in the FET college sector. I approached the "case" from an interpretative perspective using multiple methods of data collection. As a naturalist researcher I wanted to gain a deeper understanding of the implementation of the FET policy assuming multiple realities. I ensured the validity of my data by conducting a pilot study to validate the research instruments and to inform the overall research design, providing a "thick description" of the "case", the use of multiple methods of data collection, peer review, and an audit trail. I also identified the limitations of the case study and provided responses to the shortcomings. In the next chapter I provide an account of the inquiry context.