

Chapter Three

Research design

3.1. Introduction

The purpose of this study was to investigate the effectiveness of learner support services to distance learners in the DPE programme. This puzzle drove me to record the participants' perceptions, views and opinions about the contribution of such services to distance learners' progress and completion. In this chapter, I describe the research design which I chose to help me solve the academic puzzle. I give the rationale for using a qualitative research approach, the research context and the criteria for selecting the research sample, the methods I used for data collection, the ethical considerations involved, and the logistics I put in place to ensure the trustworthiness, credibility and dependability of the findings. I also offer a justification for choosing content analysis as the most suitable strategy for data analysis and interpretation. The research design enabled me to collect data to answer the research question which intended to understand: *The effectiveness of learner support services to distance learners in a primary education diploma in Botswana*. In seeking solutions to this academic puzzle, I formulated four research questions:

- What are the strengths and weaknesses of learner support services in the DPE programme?
- What are distance learners' perceptions about the effectiveness of learner support services in the DPE programme?
- How do tutors and other stakeholders perceive their roles and responsibilities in the provision of learner support services in the DPE programme?
- What barriers and opportunities exist in the implementation of effective learner support services in the DPE programme?

In the next section, I discuss the traditional research approaches and give a justification for why I found the qualitative interpretative approach the most suitable for this study.

3.2 Research approaches

Two types of approaches are used in educational research, the quantitative or positivist approach and the qualitative or interpretivist approach (Cohen, Manion & Morrison, 2000; Merriam, 1998; Patton, 2002). The qualitative-interpretivist approach posits that knowledge and reality are socially constructed and are given meaning and interpretation by people through the sharing of experiences (Beck & Kosnik, 2006; Creswell, 1998; Driscoll & Wood, 2007; Easterby-Smith, Thorpe & Jackson, 2008). Further, this approach is characterised by the concern for the individual and the subjective human experience, seeing reality as it is experienced by people in real and natural settings. As such, it seeks to interpret reality by drawing on participants' own experiences of the situations in which they live (Creswell, 1998). The interpretivist approach is therefore context-specific, applying techniques and processes for which meanings cannot always be experimentally examined or measured in terms of quantity, amount, intensity or frequency, as is the case in the positivist paradigm (Denzin & Lincoln, 2005).

I chose the interpretivist approach because my research question focused on participants' perceptions about the contribution of learner support services to distance learners' progress and programme completion in the DPE programme in Botswana. My aim as a researcher was to facilitate the construction of knowledge from the participants' perspectives, as they understood the phenomenon under investigation in their natural settings. I needed to interact with the participants and listen carefully to them in order to record and explore their perceptions, attitudes, opinions and experiences with the support services in the DPE programme, since they were the primary source of data. It was from this perspective that in the theoretical framework in Chapter 2, (§ 2.5), I made a case for learner support services which are designed to develop independent learners who would be capable of constructing their own meanings, as contended in the theories of ODL and constructivism, discussed in detail in sections (2.5.1 to 2.5.5).

The interpretive approach contends that knowledge can be presented in different ways, other than as a single objective reality as in the case of positivist approach (Creswell, 2003; Denzin

& Lincoln, 2000; Lincoln & Guba, 1985; Patton, 2002). Further, interpretivists believe that reality is subjective and determined by people, rather than by objective and external factors. As such it cannot be measured objectively through the proving of hypotheses and statistical measurements, except with rigour in research methods (Patton, 2002). The interpretivist approach focuses on how people make sense of the world and uses the case study as the most natural mode of reporting their interpretations and the meanings they derive from their life situations (Lincoln & Guba, 1985). It was on this assumption that I selected the case study approach and used semi-structured interview questions to collect data in both individual and group interviews. I used fewer respondents than would have been the case had I taken a quantitative approach, which depends on larger samples. In adopting an interpretivist approach, I assumed the role of a human instrument and became part of the learning process. I recorded the what, where, why, when and how of the phenomenon by collecting in-depth data from a small but information-rich sample of participants, which as indicated in the reviewed literature, renders the issue of numbers meaningless (Creswell, 2003; Denzin & Lincoln, 2005; Trochim, 2006; Voeten, 2006).

I did not select the quantitative or the positivist research paradigm because it would not have answered the research question. The quantitative-positivist approach assumes that knowledge is objective and that its judgment is based on the observation of external reality, with the researcher playing the part of an observer (Patton, 2002). The positivist view defines life in measurable terms, rather than in terms of inner experiences, and uses quantification, experimental designs and statistical measurements to test pre-formulated hypotheses (Cohen et al., 2007; Hall & Hall, 2004; Jones, Vasti & Arminio 2006). Reality is perceived as existing independently of the observer (researcher) who observes social phenomena objectively and proceeds through the application of laws that are deduced from a hypothesis to confirm or refute the truth of a proposition (Creswell, 1998). In the interpretivist approach, however, the researcher interacts with the knower (the participants) in an inseparable manner (Cohen et al., 2007). To generalise findings on social behaviour in the positivist approach, it is necessary to select samples of sufficient size from which inferences about the wider population can be drawn (Patton, 2002).

The positivist and interpretivist research approaches seem to agree that reality exists, but differs in the methodology for investigating this reality. The positivist approach treats reality as objective and external, while the interpretivist approach stresses subjectivity and multiple realities. The present study sought an in-depth understanding of participants' perceptions of the contribution of learner support services to distance learners' progress in the DPE programme. As such, it dealt with the real experiences of distance learners, tutors and stakeholders in their natural settings, which could only be investigated through an interpretivist approach. The interpretive approach was appropriate for this study since it allowed me to explore participants' subjective interpretations of the effectiveness of learner support services. The respondents included both distance learners, who were the recipients, and tutors and other stakeholders who were involved in the provision of support services in the DPE programme. My aim was to listen to the participants and interpret their reality, treating it as a subjective concept from their point of view, rather than as one which needed to be measured quantitatively. Researching a complex phenomenon of this nature, involving multiple players and influences, meant that a simple cause-and-effect approach of the kind commonly used in quantitative research (Cohen et al., 2000; Gatsha, 2007), would not adequately have addressed my research question.

3.2.1 The case study

Reviewed literature (Cohen et al., 2007) contends that case studies are carried out in organisational and institutional settings, often to explain events in real life contexts, and are defined by participants' roles and functions in a particular situation. As such, there is resonance between case studies and the interpretive approach. By seeking to understand the perceptions of participants, a case study blends description of events with analysis (Cohen et al., 2007), because it focuses on participants' perceptions, views and interpretations of multiple realities so as to arrive at the meanings of the phenomenon under investigation (Denzin & Lincoln, 2000; Walliman, 2005). It may involve one or more specific case studies, enabling the researcher to conduct analysis of qualitative data in greater depth in order to resolve a research problem (Merriam, 1998; Patton, 2002). Furthermore, this method involves interaction between the researcher and the participants in unique locations (Newman, 2006 and Opie, 2004a). It is system-bound in terms of space and time situations (Hancock & Algozzine, 2006

and Stake, 2005), since it investigates the specific experiences of individuals. A case study could involve events, groups of people, academic programmes, schools or communities. In this study, it involved real people in form of distance learners and the learner support providers who were interacting in real situations.

I selected the case study approach because I could secure explanations and understanding of the effectiveness of learner support services on the DPE programme. By involving different participants, I was able to gather information for the same case study from different sources, making verification of data possible through the triangulation of data sources and the research method. In the interpretivist approach, the main strength of a case study is its ability to replicate quantity with quality by separating the significant few instances from the insignificant many. The significance of the data generated, rather than its frequency and statistical inferences, is the hallmark of such a study (Cohen et al., 2007:258; Patton 2002; Trochim, 2006; Voeten, 2006). In this regard, the issue of numbers is not relevant since a case study aims to assemble a picture of a certain behaviour or activity in a particular situation in a unique setting, rather than dealing with numbers of participants to show the representativeness of the sample in the population (Opie, 2004a). The case study approach was found appropriate for my study because it investigated the participants' perceptions of the effectiveness of learner support services in the DPE programme in order to gain an understanding of their views, not their statistical frequencies.

3.2.2. Role of the researcher

The first thing I did as the researcher was to embrace the interpretive approach in the naturalist enquiry (Lincoln & Guba, 1985). I also became aware that before entering the field to collect data, I had to read around the topic under investigation so as to be mentally, physically and intellectually prepared to interact with the participants and assess their experiences and the context within which they were operating (Hall & Hall, 2004; Patton, 2002). During data collection, I assumed the role of a facilitator to moderate the interview processes, using an objective rather than a subjective lens so as not to contaminate the data collected. My decision

to adopt this approach was informed by Cohen et al. (2000:125), when they argue that a researcher:

- requires good knowledge of the phenomenon under investigation so as to guide and moderate the interview sessions effectively;
- requires a clear structure of the interviewing instruments to facilitate a clear focus on ideas through probing, clarifying and confirming; and
- must be a good listener so as to avoid frightening or intimidating participants during the interview process.

I started by reviewing the literature on the meanings of ODL so as to have a firm grasp of the phenomenon I was investigating as discussed in Chapter 2 (§2.2). I then reviewed the literature on qualitative research methodology. This enabled me to design the data collection instruments. I then purposively selected the research sites and participants whom I considered to have the information I needed to answer the research questions. In selecting the DPE programme as a case study, I considered the possibility of gaining access to the research site in the limited time available so as to collect appropriate data reasonably, readily and quickly, in the research context and at the convenience of participants.

3.2.3 The research context

Easterby-Smith et al., (2008) argue that research participants are grounded in their environment in terms of locality and time. As such, the researcher must be sensitive to the contexts, the settings, and the situations in which the participants live or work, since these factors affect their behaviour. In the interpretivist research approach, the context forms the framework and the reference points of participants. From these, 'thick' descriptions and interpretations of their actions and gestures emerge (Patton, 2002). To answer the research questions, I had to anticipate the type of evidence I sought and decide on the research method which would yield the anticipated results. Before collecting data, I reviewed the documents relevant to the problems surrounding the provision of learner support services in the DPE programme.

The study was carried out in Botswana and involved respondents from the Ministry of Education and the University of Botswana. The two colleges of education selected for this study, at both of which distance learners attended tutorial sessions, were 75 kilometres apart. In terms of geographical location, the Molepolole College of Education is situated in the rural areas, while the Tlokweng College of Education is about 15 kilometres from the Gaborone urban area in Botswana. The Kanye Education Centre, where the ODL office is located, is 90 kilometres from Gaborone. As primary school teachers, the distance learners were scattered all over Botswana. Some taught in geographically remote locations such as Khalagadi desert, which is far from the colleges of education, making attendance at residential sessions and access to resources such as libraries a big challenge, as explained in the findings in Chapter 4 (§4.3). Given this context, the learner support services were offered in the centralised colleges of education at specified times, so that distance learners could access them during the school holidays when the facilities and other resources were not in use by the full-time students.

3.3 The research design

A research design is determined by its fitness of purpose for the study which is being undertaken (Patton, 2002). It should specify the research problem, the theoretical framework, and the research questions. Through the review of relevant literature, the researcher should specify data collection methods, sampling strategies and the study sample, data analysis, interpretation, the expected product and presentation strategies, including budgets (Hall & Hall, 2004; Lincoln & Guba, 1985). It should anticipate the information to be obtained, and estimate the timescale for conducting the research (Denzin & Lincoln, 2005; Hall & Hall, 2004; Silverman, 2000). For this study, this entailed spelling out what I wanted to know and how I could access the relevant information. During the planning stage, I went through various phases of defining the objectives and purpose of the study. This was followed by a convergent phase, in which I sifted through various ideas to select the most plausible concept as the topic of investigation (Cohen et al., 2000). I then devised a plan to guide me on the following issues:

- aligning the focus of the enquiry to the research questions;

- defining boundaries of the investigation within the theoretical framework;
- selecting the research sample and context, including sampling strategies;
- developing data collection instruments and strategies for recording and analysing data;
- deciding measures to be taken to ensure the trustworthiness and dependability of the research findings.

The next step was to link the research questions and the purpose of the study to the identified data sources and data collection methods, as shown in Table 3.1 below.

Table 3.1: Rationale for the research design

Research question	Purpose	Data sources	Data collection methods
What are the strengths and weaknesses of learner support services in the DPE programme?	To find distance learners' perceptions about the effectiveness, strengths and weaknesses of learner support services	Distance learners Tutors Managers and decision makers	Group interviews. Group interviews. Individual interviews with managers and decision makers.
How do distance learners perceive the effectiveness of learner support services in the DPE programme?	To understand distance learners' perceptions about the effectiveness of learner support services in their studies.	Distance learners Programme and learner support coordinators Managers and decision makers	Group interviews. Group interviews Individual interviews.
What are tutors and stakeholders' perceptions about their roles and responsibilities in the DPE programme?	To gather views of stakeholders about their roles and responsibilities in the provision of learner support services in the DPE programme. To gather views from institutional managers about supervision and monitoring of learner' support services in the DPE programme.	Tutors. Programme and learner support coordinators. College management.	Group interviews. Group interviews. Individual interviews.
What barriers and opportunities exist for the implementation of effective learner support services in the DPE programme?	To gather the views of distance learners, tutors and decision makers about the implementation mechanisms and how these affect distance learners' progress and completion.	Distance learners. Tutors. Managers and decision makers.	Group interviews. Group Interviews. Individual interviews.

3.4 Sampling

I used purposive sampling to hand-pick the participants. In this study, the respondents did not have an equal probability of being picked. As noted by Creswell (1998) and Scaife (2004), in the purposive sampling technique, the researcher subjectively applies her or his own judgment to select the respondents whom he/she considers most appropriate for the study. The choice of the sample depends on what the researcher wants to learn from it, within the available time and resources, and not the sample size (Patton, 2002). For this study, I picked the participants on the basis of their knowledge of learner support services in the DPE programme. They were all actively involved in the implementation of learner support services, either as distance learners themselves or as intermediaries, such as part-time tutors, programme coordinators, or policy makers. In using the purposive sampling technique, I kept in mind that the credibility, dependability, meaningfulness and insights generated from the qualitative case study approach had more to do with the information richness of the case, the methodological skills and analytical capabilities of the researcher, than with the sample size (Patton, 2002).

3.4.1 Number of participants

The significance of a case study lies not in the frequencies commonly used in the positivist approach but in the in-depth data that can be generated through a small but information-rich group of participants (Cohen et al., 2007). In this study, my intention was to gain insights into the phenomenon under investigation by recording participants' perceptions, views and opinions about the effectiveness of learner support services to distance learners, through an in-depth qualitative case study approach based on my judgment of the typicality and appropriateness of the participants in terms of their knowledge about the DPE programme. Thus, I purposively selected 12 final-year distance learners from the 2002/2003 cohort of the DPE programme, who received support from Tlokweng College of Primary Education and Molepolole College of Secondary Education. The criteria used were that the DPE syllabus was being implemented on a conventional basis in the primary colleges, while the secondary colleges were used as study centres for distance learners, to enable them to have access to

academic support and other learning resources. I needed to understand the similarities and/or differences in the provision of learner support services in these institutions.

To help me assemble the research sample, I requested the DPE college coordinators to identify 12 distance learners (6 from each college) and eight tutors (4 from each college). Two college principals, one from Molepolole College of Education and the other from Tlokweng College of Education, were handpicked to give their insights about their roles and responsibilities in the implementation of learner support services. As policy makers, they were responsible for monitoring the provision of learner support services in those institutions. Participants from UB included the programme coordinator, two learner support coordinators and one quality assurance member of staff, all of whom were involved in the monitoring of learner support. I also included three officers from the Kanye ODL office in the Kanye Education Centre who supported distance learners in the regions in between the residential sessions. A breakdown of the participants is shown in Table 3.2 below:

Table 3.2: Number of participants

Category of participants	Site	Total number
Distance learners (5 who have completed and 7 still on the programme).	2 colleges of education.	12
Tutors.	2 colleges of education.	8
Programme coordinators (managers).	2 colleges of education.	2
College management (decision makers).	2 colleges of education.	2
One programme coordinator and one learner support coordinator.	UB.	2
Regional learners' support coordinators.	Kanye ODL office at the Kanye Education Centre (Ministry of Education).	3
Assessment and quality assurance.	UB.	1
Total.		30

To gain a holistic view of the effectiveness of learner support services to distance learners, I included both completers and non-completers among the distance learners because they were actively involved in the DPE programme activities. The other selection criterion was that distance learners and tutors were chosen according to subject specialisations (Maths/Science, Social Studies/Religious Studies, English/Setswana) and practical subjects (Art, Craft and Design, Agriculture, Home Economics, Music and Physical Education), since these subjects

posed different resource demands during the provision of learner support services. The criteria for selecting participants are explained in Table 3.3 below.

Table 3.3: Sample selection criteria

Participants	Selection criteria
Distance learners	To give their perceptions about the effectiveness and contribution of learner support services to their progress and programme completion.
Tutors	To give their views on the effectiveness of academic, counselling and administrative support provided to distance learners, feedback mechanisms, assistance with study skills, and how these forms of support contributed to distance learners' progress and programme completion.
Decision makers or policy makers	To provide answers on monitoring and supervision mechanisms of academic, counselling and administrative support, assessment, and access to learning resources such as libraries, computer and science laboratories for practical work, and their contribution to distance learners' progress and programme completion.
Regional learner support coordinators	To provide information on their roles and responsibilities in supporting distance learners in between the residential sessions.

3.4.2 Learner profiles at enrolment stage

The age range given at the data collection stage, and confirmed from existing records (University of Botswana, 2005b), was between 35 and 60 years, as indicated in Table 3.4 below. The sample comprised of 10 females and 2 males. At the time of enrolment, distance learners' work experiences ranged between 10 and 30 years, as shown in Table 3.4 below.

Table 3.4: Age range and work experience

Learner profiles		
Age range	Number of learners	Work experience in years at enrolment stage
35-40	1	10
41-45	2	15
46-50	4	20
51- 55	3	25
56-60	2	30
Total	12	

The subject combinations and the educational backgrounds of distance learners ranged from Primary Lower (PL) and Primary Upper (PU) to Primary Teacher Certificate holders (PTC), as shown in Table 3.5 below, indicating that many of the learners had over twenty years' teaching experience from the time they graduated from the pre-service teacher training colleges.

Table 3.5 Previous academic backgrounds and subject combinations

Previous academic background		Subject combination on the DPE programme		Completed	Incomplete
Std 7+ PL	1	Maths/Science	3	5	7
JC + PU	1	English/Setswana	1		
JC + PTC	10	Religious Education/Social Studies	2		
		Home Economics/Agriculture	3		
		Music/Physical Education	1		
		Agriculture/Physical Education	1		
		Agriculture/Art, Craft and Design	1		
		Education	All		
		Communication and Study Skills	All		
		Research Project	All		
		Teaching Assignment Portfolio	All		
Total	12		12	5	7

As explained in Chapter 1 (§1.2), primary school teachers with the qualifications shown in Table 3.5 above, plus five years of teaching experience, were eligible for upgrading through the DPE programme by ODL (University of Botswana, 1999, 2005b). In order to gain a balanced view from the participants, purposive sampling was used to select six completers and six non-completers from the distance learners. At the data collection stage however, one of the completers was unable to participate in the interview and was replaced with a non-completer, leading to 5 completers and 7 non-completers, as shown in Table 3.5 above. Considering the high incidence of non-completers and of data saturation during the data collection stage, this change was not deemed to contribute negatively to the results of this study. In selecting the distance learners and tutors, I took into consideration the different subject combinations, as shown in Table 3.5 above, in order to get participants' views about distance learners' access to learning resources and how this influenced their progress and programme completion.

3.4.3 Preparation for field work

To enhance the trustworthiness, credibility and dependability of the findings in a qualitative case study, Lincoln and Guba (1985) and Scaife (2004) advise researchers to explain their data-gathering procedures, including the constraints they encounter during the data collection process. The field work for this study was carried out between September 2009 and January 2010. In preparation for the interviews, I sent out letters to the institutional managers, asking for permission to conduct field work in their institutions (see appendices 5, 6 & 7).

3.5 Data collection methods

In their discussion of data collection methods, Cohen et al. (2000), Easterby-Smith et al. (2008), and Patton (2002) assert that interviews, review of relevant documents and observations are the main tools of qualitative research, because the researcher is interested in discovering peoples' perceptions, interpretations and meanings about multiple realities. In this study, the interview method was used to collect primary data from the participants and discussed in section 3.5.1 below.

3.5.1 The interview method

The interview method allows the researcher to probe for meanings, clarify concepts, and obtain rich and in-depth information, which is unlikely to be obtained through other methods (Creswell, 1998; Hall & Hall, 2004; Lincoln & Guba, 1985). In this regard, interviews are not simply tools for collecting data; rather, they allow respondents to describe and interpret the external realities of the world in which they live, in the form of facts, events and internal experiences such as feelings and meanings, and by so doing express how they regard a given situation from their own points of view (Silverman, 2000). I was able to collect data by holding conversations with participants to find their views, perceptions, feelings, motivations, claims and concerns about the effectiveness of support services for distance learners in the DPE programme. In the process, I was able to develop the interview questions, comparing insights from participants' responses and seeking further clarification during the interview process. To do this, I adopted the guidelines suggested by Cohen et al. (2000: 268):

- **Thematising:** This involved clarifying the purpose of the interview by relating the research questions to the theoretical framework and the practical need for the study.
- **Designing:** Involved translating the research questions into interview questions so that the content and format of the questions reflected the information I wanted to get from participants.
- **Interviewing:** I audio-taped the interviews to reduce bias and ensure trustworthiness, dependability and credibility during the transcription, analysis and interpretation of data. I also listened to the audio tapes as I transcribed the data, and conducted a literature review of relevant documents.
- **Transcribing:** Data were transcribed from audio tapes to the written word. To avoid data loss or distortion, I listened to the audio tapes many times.

- **Analysing:** This process entailed analysing and interpreting the data to generate natural units of meaning; these units were then classified, coded, categorised and clustered thematically and orderly, as discussed in the findings in Chapter 4.
- **Verifying:** This was done by triangulating the data sources and data collection methods. Participants were also asked to confirm the accuracy of the information collected by reviewing the transcripts.
- **Reporting:** During data analysis and interpretation, quotations from the interviews were used verbatim to ensure that the findings reflected the participants' views.

Using this approach, I developed semi-structured interview questions which enabled me to collect data and probe deeper to clarify ideas as the interviews unfolded. The interviews were conducted at times convenient to the participants in their own natural environments. To arrange for the interviews, I contacted distance learners, tutors, institutional managers and policy makers by telephone or by e-mail. Individual interviews lasted between one and one and half hours, while the group interviews lasted between one and two hours.

Group interviews with twelve of the distance learners (Interviews 7, 11 and 13, see Table 3.7), were conducted on different dates at the Molepolole and Tlokweng Colleges of Education, depending on the convenience and availability of participants. My initial plan was to conduct two group interviews with these learners. However, during the interviewing process, it became clear that because of their teaching schedules, it would be difficult to get all of them together at the same time. Instead, I conducted three separate group interviews at times which were convenient to most of them. The group interviews with tutors and part-time programme coordinators (Interviews 2, 8, 12 and 14), and the individual interviews with decision/policy makers (college principals, Interviews 4 and 5), were conducted at the Tlokweng and Molepolole Colleges of Education on separate occasions. Interviews with learner support regional officers (Interviews 1 and 10) took place at the Kanye Education Centre on two separate occasions, as the participants were not available at the same time. To avoid conflict of interest and contamination of data, the other interviews (3, 6, and 9) were conducted by my

research assistant with respondents at the University of Botswana. Before she ventured into the field, I explained the purpose of the study, its ethical issues, and discussed the research instruments with her. I also asked her to emphasize to the participants' their right to privacy before the start of the interviews so they could make informed decisions about whether to participate. For purposes of identification, the interview sessions were given numbers (1-14) and the participants were identified by pseudonyms; these were later used during data analysis and interpretation, as shown in Chapter 4.

A major challenge during data collection was the failure by participants, particularly distance learners, to adhere to interview schedules, due to their busy work schedules. I had to schedule and reschedule interview sessions so as to secure a time slot in which the majority of them would be available to come to the interview venue, but my patience paid off. At other times, I would visit a research site only to find that, although the interview had been confirmed, the participant's diary was full. I had similar experiences with decision makers and learner support coordinators. At other times, respondents did not turn up and my efforts to reschedule did not bear fruit. This experience made me aware of the challenges faced by the participants, and also made me appreciate their multiple responsibilities.

3.5.1.1 Individual interviews

I selected the individual interview method so as to give busy participants, such as decision makers, a voice in this research, allowing them to give their views on the nature and relevance of support services in meeting distance learners' demands. The detailed information I gathered from this category of people would have been difficult to capture using other data collection strategies, such as group interviews or questionnaires as used in the quantitative research approach. The in-depth information I obtained through the use of semi-structured interview questions is presented in the findings in Chapter 4. In addition, such interviews gave respondents the freedom to comment on sensitive issues such as the commitment of tutors to their duties, which they might have found difficult to raise in a group interview.

3.5.1.2 Group interviews

In qualitative research, group interviews are an essential tool for collecting data, particularly where the participants have been working together for some time or for a common purpose (Cohen et al., 2000). In the case of the DPE programme, where the participants were aware of what everyone in the group was doing. In using group interviews, my assumption was that distance learners, tutors, part-time programme coordinators and other stakeholders knew what everyone in their group was doing in the provision of learner support services in the DPE programme. I found such interviews appropriate in this study because, as stated by Morgan (1997), Cohen et al., (2000) and Patton (2002), group interviews:

- give group members the opportunity to interact and comment on each others' ideas during discussion, thus allowing for triangulation of ideas at the data collection stage;
- enable participants to express their attitudes and opinions about the topic by sharing and comparing ideas;
- are self-contained research instruments, and allow the results obtained to stand on their own;
- are time-saving and cost-effective compared to other methods, such as individual interviews;
- allow for group interaction among participants which enhances data quality through checks and balances of each others' responses.

Group interviews were used to gather information from distance learners, tutors, learner support and part-time programme coordinators. Given the limited time I had to conduct my study, I found group interviews quicker, more economical, and capable of generating a wider range of ideas than individual interviews. During data collection, I bore in mind the advice of Patton (2002) that the researcher should guard against certain shortcomings, such as individuals bringing out negative personal opinions during an interview, with the risk of

reprisals from other members of the group. To avoid this, I used probes to encourage participation by all group members. This approach was convenient for the participants since they were all responding to the same interview questions. Pseudonyms were used to notate participants' responses and to protect their right to confidentiality and anonymity.

In this study, group interviews facilitated interaction among participants with the information being triangulated through immediate crosschecking of facts and opinions during the discussions. I also gained in-depth information by probing for clarification of ideas during the sessions. I used two tape recorders in case the electronic one ran out of power, in which case I had the back-up of the manual tape. After an interview, I immediately checked the tape recordings to ensure that I had captured all the material on both the electronic and the manual tapes. This strategy paid off because whenever the manual and/or the electronic recorder occasionally failed, I resorted to the other recorder and the field notes to reconcile the collected data. This happened sometimes when the capacity of the electronic recorder was full and needed to be cleared before the next interview.

3.5.2 Review of relevant documents

In the qualitative research approach, the review of documents and records, such as minutes of meetings and policy documents, can illuminate events or a programme by exposing its historical and contextual perspectives (Creswell, 1998; Hall & Hall, 2004; Lincoln & Guba, 1985; Pittman, 2003). Documentary evidence may yield important information illuminating initial decisions and policy recommendations that were made before the implementation of a programme (Glesen, 2006; Robson, 2002). Such documents also help the researcher to avoid anecdotal narratives by challenging, expanding and enriching the research approaches. Consulting organisational records enables the researcher to verify facts from field data and give him/her the chance to corroborate information by triangulating multiple data sources and different data collection methods.

For this study, I reviewed both published and unpublished in-house materials, such as organisational schedules, class lists and record-keeping reports. Pittman (2003:29) refers to

these as 'fugitive literature', since they are not published but contain valuable evidence, not only about the history of a programme but also about other leads which were used in its implementation. Review of documents also allowed me to crosscheck respondents' views against available documents and by so doing triangulate data from the participants with records kept by the programme coordinators, gaining deeper insights from the interviewees about their interpretations and meanings of the data that was obtained. To find background information about the implementation of learner support services in the DPE programme, I reviewed relevant documents, such as the 1994 National Policy on Education RNPE (Republic of Botswana, 1994), the Distance Education Mainstreaming Policy (University of Botswana, 2005a), the DPE Special Academic Regulations (University of Botswana, 2005b), and the 2007 MoU of UB and the MoESD. This document analysis enabled me to crosscheck findings with the information given by the participants, as shown in Table 3.6 below:

Table 3.6: Document review

Document	Purpose	Anticipated benefit
Revised National Policy on Education (1994).	Assess recommendations for upgrading primary teacher certificate holders (PTCs).	To provide insights about the policy position for launching the in-service upgrading diploma for PTC holders.
Distance Education Mainstreaming Policy of the University of Botswana (2005a).	Understand the policy position in the implementation of learner support services in the DPE programme. Provide guidelines for the implementation of learner support services by the University of Botswana.	To guide stakeholder involvement in the integration of ODL activities in the institutional core activities.
Memorandum of Understanding (MoU) between the University of Botswana and the Ministry of Education (2007).	To inform collaboration and cooperation between the UB and the MoESD, who were the main stakeholders in the provision of learner support services.	Guide and direct stakeholder partnership and involvement in the implementation of learner support services and delivery of the DPE programme.
Diploma in Primary Education Special Academic Regulations of (2005b).	To inform academic content and methodology, assessment and quality assurance in the development, delivery and award of the diploma.	Facilitate smooth provision of the distance-taught diploma programme by ensuring the integrity of the diploma certificate as per curriculum requirements.

3.6 Research ethics

One of the most challenging responsibilities for a researcher involves safeguarding participants' ethical requirements, avoiding putting them at risk or disempowering them through deception, misinformation or betrayal (Creswell, 1998; Creswell, 2003; Merriam 1998; Merriam & Associates, 2002). It is unethical for researchers to expose participants to pain, stress or embarrassment by concealing the true purpose or conditions of the research (Graziano & Raulin, 2004; Walliman, 2005). To obtain ethical clearance from the University of Pretoria (see Appendix 8), I first of all asked permission from the MoESD through the Office of Research and Development (ORD) at UB to conduct research in Botswana (see Appendix 5). A further consideration was ensuring the protection of the respondents' right to privacy, as explained below.

3.6.1 Voluntary participation and informed consent

In order to protect participants' rights to freedom and self-determination, Cohen et al. (2000:51) and Patton (2002:407) emphasise the need for researchers to secure their cooperation and consent by explaining to them the importance of the information being solicited, including the benefits and risks involved so that they can make competent and informed decisions about participation. In this study, I ensured the anonymity, privacy and confidentiality of the respondents by disclosing to them the purpose of the research and explaining that their participation would be voluntary. They could give their informed consent (see Appendices 6 & 7), but were also free to withdraw if they chose to do so. I also asked their permission to record their responses on tape to facilitate correct transcription (Silverman, 2000), since it would have been difficult for me to recollect conversations or note down all the words correctly during the interview sessions.

3.6.2 Anonymity and confidentiality

I avoided the risk of false information by transcribing the interviews verbatim, thus enhancing the dependability and the credibility of the findings. I used pseudonyms to protect participants' identities and confidentiality, assuring them that the information they gave during interviews

would not be revealed or traced back to them. Their anonymity in the data analysis and presentation was protected using group designations, such as `distance learners`, `tutors`, `managers` and `decision makers`, and `learner support coordinators`, and through the use of verbatim quotations, as demonstrated in the presentation of data in Chapter 4.

In qualitative research, data analysis is an interpretive and progressive process which commences at the data collection stage and continues through to data analysis and drawing conclusions from the main findings (Cohen et al., 2000; Creswell, 2003; Easterby-Smith et al., 2008; Glesen, 2006; Patton, 2002; Saldana, 2009). It is also a result of reflexive and reactive interactions between the researcher and the interpretations of social encounters which emerge from the interviews. In order to draw meaning and understanding from participants' views and perceptions, I developed codes which enabled me to group the data into patterns and clusters of related concepts as shown in Chapter 4. From these patterns and clusters of the data, I was able to generate the themes which emerged from the coding process.

3.7 Data analysis

As discussed in Chapter 4, data were analysed to answer the main research question which sought to understand *the effectiveness of learner support services to distance learners in the DPE programme*. In qualitative research, data analysis is a cyclic process which involves data collection, analysis and interpretation (Graneheim & Lundman, 2004; Saldana, 2009). It entails coding and recoding of data, then classifying, prioritising and integrating the data corpus in order to develop categories from emerging themes. The themes guide data analysis by exposing the social reality underlying the findings (Glesen, 2006; Opie, 2004b). Coding is also an interactive process which requires the identification of a word, phrase or sentence to represent a concept or area of interest in the data (Easterby-Smith et al., 2008; Hall & Hall, 2004; Saldana, 2009). Since I was analysing large chunks of written data, the content analysis method was the most appropriate, because it gave me an opportunity to compare and contrast data from different sources and identify links or interconnectedness between the categories and emergent themes. In this study, coding was done *in vivo*, as explained in the next section.

3.7.1 Coding procedures

According to reviewed literature (Cohen, et al., 2007), my study fell in the category of language-based interview transcripts. After reading and re-reading the transcripts, data patterns began to emerge around words and short phrases (such as *assignments, assessment, academic support, incomplete, loss of scripts, record keeping, tutorial support, barriers, feedback, library, laboratories* and *policy*) which were mentioned frequently in relation to some of the factors that contributed to the provision of both effective and ineffective learner support services in the DPE programme. Because I was investigating the perceptions, views and opinions of the participants, I found the *in vivo* coding method (also called verbatim coding), (Saldana, 2009:74) to be the most appropriate. It gave me the chance to explore the findings in the light of participants' interpretation of learner support services in the DPE programme. The *in vivo* method enhanced the findings both by giving participants a voice and by keeping track of what was participant-inspired and not researcher-generated. During the coding process, I selected words and short phrases from the interview transcripts which appeared to interconnect participants' responses across the 14 interviews. The codes produced patterns and overlaps of related content clusters which enabled me to compare and contrast similarities and differences of data and determine a structure for organising the findings into a written report as presented in Chapter 4. This method also enabled me to triangulate my data by comparing and corroborating information from different sources so as to gain a better perspective and enrich the findings of the case study.

Data were analysed through the computer-assisted qualitative data programme (CAQDAS) using the Atlas.ti platform. Each primary document was given an Interview Number (1-14). Through the Atlas.ti software, all 14 tape-recorded interviews were transcribed into MS Word documents, saved as rich text format (rtf) documents, and then imported into the Atlas.ti software where they were converted into hermeneutic units of 14 Primary Documents. During data analysis, I replaced some codes which appeared too general with new ones. Despite this limitation, the Atlas.ti software was beneficial in that data for each interview were grouped separately, which made it easy to go back and forth to the participants' views. There were 14 primary documents, 53 codes and 1537 quotations in all the primary documents, as shown in Table 3.7 below:

Table 3.7: Codes - Primary document table

CODES-PRIMARY-DOCUMENTS-TABLE (CELL=Q-FREQ)

Report created by Super - 09/01/11 10:12:26 PM

"HU: [C:\Users\user\Documents\Scientific Software\ATLAsTi\TextBank\Learner support analysisPDs3.hpr5]"

Code-Filter: All [53]

PD-Filter: All [14]

Quotation-Filter: All [1537]

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		PRIMARY DOCS							
CODES		1	2	3	4	5	6	7	8
9	10	11	12	13	14	Totals			

absenteeism		0	0	0	0	0	0	1	4
0	2	1	0	0	0	8			
academic support		1	0	3	1	2	0	0	8
1	1	0	0	0	0	17			
accountability		1	0	0	1	0	0	1	2
0	1	2	0	1	0	9			
administrative support		1	2	0	0	0	0	0	8
0	0	0	0	1	0	12			
assessment		4	10	21	8	4	8	3	20
6	2	0	6	1	4	97			

assignments					1	1	2	2	2	3	4	4
1	2	4	3		2	3	34					
assignments					13	11	13	3	7	1	20	48
14	12	30	10		51	27	260					
attendance					1	2	5	2	3	0	0	4
6	4	1	0		0	0	28					
barriers					1	1	2	2	2	2	0	0
0	0	0	0		0	0	10					
child					3	3	2	0	6	0	8	4
4	6	12	0		7	3	58					
communication					1	0	0	1	2	1	0	2
1	4	1	0		1	1	15					
completion					2	2	3	2	8	3	2	8
3	1	1	0		1	0	36					
counselling					10	5	13	0	4	0	0	22
10	6	1	0		0	0	71					
counselling support					4	3	1	0	2	0	0	6
2	1	0	0		0	0	19					
difficult concepts					0	0	0	0	0	0	0	0
0	0	0	0		2	1	3					
diploma holder					0	0	0	0	0	0	0	2
0	0	3	0		1	0	6					
expectations					0	0	0	0	2	1	0	0
3	1	0	0		0	0	7					
family					1	0	0	3	0	3	8	2

2	4	10	1	15	0	49						
feedback				5	6	3	2	8	2	1	14	
7	3	4	2	17	9	83						
friend				0	0	0	0	0	1	5	0	
0	0	6	0	7	1	20						
husband				2	1	0	0	0	0	1	0	
2	4	1	0	0	1	12						
incomplete				4	0	0	0	1	2	1	0	
0	2	4	0	4	0	18						
laboratory				1	0	0	0	2	0	1	0	
0	0	2	1	1	1	9						
labs				4	8	0	0	8	4	8	0	
6	0	1	0	3	1	43						
learner support				4	5	19	2	1	0	2	22	
5	8	6	10	2	10	96						
library				6	9	15	0	10	6	10	12	
3	6	5	7	2	4	95						
loss of scripts				1	0	0	1	0	0	1	2	
0	1	2	0	1	0	9						
motivation				2	0	1	0	0	0	0	2	
1	2	0	0	0	0	8						
neighbours				0	0	0	0	0	0	0	0	
0	0	2	0	0	0	2						
network				1	0	1	0	0	0	0	0	
0	10	0	1	1	0	14						

noise				0	0	0	0	0	0	0	0
0	0	2	0	0	1	3					
payment				1	1	1	5	5	0	0	0
0	0	0	3	0	2	18					
policy				13	0	0	3	2	0	0	2
4	3	2	0	1	0	30					
programme ownership				0	0	0	0	0	2	0	2
3	0	0	0	0	0	7					
promotion				0	0	1	0	0	0	0	0
2	0	6	0	0	0	9					
qualifications				2	0	2	2	0	0	1	2
1	0	6	0	2	2	20					
recognition				0	0	0	0	0	0	0	0
1	0	2	0	0	0	3					
record keeping				0	0	0	0	0	4	5	10
0	1	1	0	4	1	26					
remote areas				2	0	1	0	0	1	0	2
0	1	1	0	2	1	11					
research projects				2	4	0	0	0	5	2	0
4	0	3	5	4	6	35					
resources				20	7	4	1	15	6	1	12
6	3	4	5	5	7	96					
salary				1	1	0	0	1	0	0	0
1	0	8	2	0	0	14					
study centres				1	1	2	2	2	3	4	4

1	2	4	3	2	3	34						
study group				9	0	2	0	0	0	0	5	0
0	3	5	0	6	3	33						
study leave				2	0	0	0	0	0	0	0	0
1	1	0	0	0	0	4						
supervision				1	3	0	1	0	6	0	2	
2	1	0	2	3	1	22						
supervisor				1	6	0	0	0	4	0	2	
4	1	2	3	3	7	33						
telephone				6	3	0	1	0	1	0	2	
4	2	0	1	4	0	24						
training				14	0	15	0	9	1	1	2	
12	10	2	3	7	0	76						
transfer				11	7	8	1	1	1	2	0	
1	2	2	0	3	2	41						
tutorial method				0	0	0	0	4	0	0	0	
0	0	0	0	2	0	6						
tutorials				8	15	7	5	14	0	7	28	
10	9	2	6	8	12	131						
workload				1	0	0	2	8	0	1	0	
1	0	6	4	1	0	24						

Totals				169	117	147	53	135	71	106	266	
135	122	157	78	178	114	1537						

The primary documents were analysed line-by-line by reading and re-reading the coded data, developing meaning units, categories and sub-categories, and grouping data under emerging themes. The sample of codes below shows the hierarchy of the code list in alphabetical order.

Code hierarchies

The code hierarchies enabled me to establish relationships of related concepts. For example, the code 'accountability and supervisor' led me to the data clusters that dealt with management, monitoring and supervision of DPE programme activities and of research projects. An example of a code hierarchy is shown below:

Code-Filter: All

HU: Learner support analysisPDs3

File: [C:\Users\user\Documents\Scientific Software\ATLASi\TextBank\Learner support analysisPDs3.hpr5]

Edited by: Super

Date/Time: 09/01/11 09:56:16 PM

absenteeism <is> Root

academic support <is> Root

accountability <is> Root

supervisor <is part of> accountability

administrative support <is> Root

assessment <is> Root

assignment <is> Root

The illustration below is a selection from the list of quotations which were generated on the Atlas.ti

platform after the data had been coded.

All current quotations (1537). Quotation-Filter: All (extended version)

HU: Learner support analysisPDs3

File: [C:\Users\user\Documents\Scientific Software\ATLAsTi\TextBank\Learner support analysisPDs3.hpr5]

Edited by: Super

Date/Time: 09/02/11 08:48:55 PM

P 1: INT1.rtf - 1:51 [when you talk to the learners they say t..] (205:205) (Super)

Codes: [resources]

P 6: INT6.rtf - 6:3 [You know access to technology is not the..] (88:88) (Super)

Codes: [assignment] [resources] [study centres] [supervisor]

P 7: INT7.rtf - 7:108 [They would just come in some days and at..] (136:136) (Super)

Codes: [absenteeism]

P11: INT11.doc - 11:155 [I joined because of the salary scale.] (42:42) (Super)

Codes: [salary]

P12: INT12.rtf - 12:59 [Even our payments are delayed and someti..] (383:383) (Super)

Codes: [payment]

An explanation of one of the quotations is given below.

(P 1: INT1.rtf - 1:51 [when you talk to the learners they say t..] (205:205) (Super)

Codes: [resources]

In the above example, P stands for Primary document 1, which refers to Interview 1, quotation 51, interview number 1, lines (205:205), where one of the codes is 'resources'. This continues for all the other interviews. In this case, the code 'resources' indicates different views and different experiences of participants in their perceptions about the effectiveness of learner support services in the DPE programme. Other views regarding resources could be: *Gorata:...I have never used the practical part of the computer but just theory. P13:11 (65:65).* (Primary document 13, quotation 11, lines (65:65)).

From the data patterns and clusters of the coded primary documents, I generated categories and sub-categories which formed the code families CF), as shown below:

Code family: Facilitating two-way communication

HU: Learner support analysisPDs3

File: [C:\Users\user\Documents\Scientific Software\ATLASi\TextBank\Learner support analysisPDs3.hpr5]

Edited by: Super

Date/Time: 09/05/11 05:25:26 PM

Created: 08/01/11 11:39:53 AM (Super)

Codes (7): [assessment] [assignments] [completion] [feedback] [incomplete] [loss of scripts] [record keeping]

The example below shows the list of quotations that were generated from the Atlas.ti computer software for each interview.

List of current quotations (1537). Quotation-Filter: All (extended version)

HU: Learner support analysisPDs3

File: [C:\Users\user\Documents\Scientific Software\ATLASi\TextBank\Learner support analysisPDs3.hpr5]

Edited by: Super

Date/Time: 09/05/11 08:03:14 PM

1:19 Take the case of a project, if the teach.. (149:149)

3:17 I just wish we had at least 1 counsellor.. (34:34)

4:19 They are coming from their own employing.. (92:92)

5:17 The staff provide counselling to convent.. (35:35)

6:30 They need teachers to supervise them, ev.. (88:88)

7:25 The family was really supportive. (273:273)

8:20 It's the counselling support to me which.. (52:52)

9:60 Some of them do not attend tutorials bec.. (116:116)

7:25 The family was really supportive. (273:273) This means it is quotation 25 in Primary document 7, which is interview number7 and lines 273:273.

In order to answer each research question, I looked for concepts, ideas and issues which could explain the questions, such as distance learners' access to learning resources, and the major barriers that may have prevented access to the learning resources.

3.8. Trustworthiness, credibility and dependability

In the qualitative research approach, researchers are required to demonstrate the worthiness and genuineness of their research findings through critical investigations, in order to avoid

arriving at quick conclusions through anecdotes (Denzin &, Lincoln, 2000, 2005; Lincoln & Guba, 1985; Merriam, 1998; Silverman, 2000). Unlike in quantitative research, where truth is refined through careful sampling, instrumentation and statistical treatment of data, trustworthiness in qualitative research is enhanced to include the honesty, richness, scope and in-depth knowledge of the participants, as well as through the data collection methods (Patton, 2002).

To enhance credibility and dependability, which are important factors in improving trustworthiness, I collected data from a wide spectrum of participants which included distance learners, who were the recipients of the learner support services, intermediaries such as part-time tutors and programme coordinators, as well as policy makers. I used different data collection methods which as articulated by Lincoln & Guba (1985), allowed for triangulation of methods and gave participants the opportunity to interact and comment on each other's views, thus allowing for contextual triangulation and validation of data at the data collection stage. I avoided influencing and manipulating participants' perceptions by transcribing data and using quotations verbatim during data analysis and interpretation, as presented in Chapter 4. To improve credibility and dependability, the transcribed scripts and analysed texts were given to the participants so they could check and confirm that the texts and findings reflected their views and inputs.

3.9 Limitations of the study

This qualitative case study focused on the effectiveness of learner support services to distance learners' progress in the DPE programme in Botswana. It recorded the perceptions of distance learners and the different stakeholders who were involved in the provision of such services. Since the results from a case study are case specific, I lay no claim that my findings could be generalized beyond the DPE programme. A further limitation was that, due to the short time that was available, I found myself collecting and transcribing data simultaneously in order to keep within the time frame.

3.10 Conclusion

In this chapter, I discussed the research design, and explained why I chose a case study approach. I also explained the criteria used for sample selection, my data collection methods, and the data analysis and interpretation techniques that I used. I showed examples generated from the Atlas.ti software to demonstrate how the data were analysed and interpreted to facilitate reporting of the findings. I also explained the ethical considerations that ensured the participants' right to privacy.

In the next chapter, I will discuss data analysis and interpretation of the findings.