

Chapter 3

Research design and methodology

3.1 INTRODUCTION

In the previous chapter, I discussed the literature review and theoretical framework. In this chapter, I will explain the research design and chosen methodology. Table 3.1 provides an overview of the research methodology and research process that I applied in my study. In this chapter, I explain methodological decisions pertaining to Table 3.1.

Table 3.1: An abstract of the research methodology and research process

PARADIGMATIC ASSUMPTIONS	
Methodological paradigm	Concurrent mixed method design
Metatheoretical paradigm	Constructivism, more specifically social constructionism
RESEARCH DESIGN	
Instrumental case study	
Selection of case	Convenience sampling
Selection of participants	Purposeful sampling
DATA COLLECTION	
Quantitative data collection techniques	Quantitative data documentation techniques
Questionnaires	Paper-based questionnaires
Questionnaires of facilities and activities in early learning centres by teacher students	Captured in questionnaires
Qualitative data collection techniques	Qualitative data documentation techniques
Face to face structured interviews with teachers by students (fieldworkers)	Verbatim written transcripts of answers given to questions in the interviews
Face to face structured interviews with mothers by students (fieldworkers)	Verbatim written transcripts of answers given to questions in the interviews

Observation of relationships, interaction and the atmosphere in the early learning centres	Research journals with field notes, visual documentation (photographs)
DATA ANALYSIS AND INTERPRETATION	
Quantitative data analysis Statistical analysis of data derived from questionnaires	Qualitative data analysis Constructivist thematic analysis of data derived from interviews, reflective journals and photographs
QUALITY CRITERIA OF THE STUDY	
Quantitative quality criteria	Qualitative quality criteria
Internal validity, generalisability, external validity, reliability, objectivity	Credibility, transferability, dependability, confirmability, authenticity
ETHICAL CONSIDERATIONS	
Informed consent, confidentiality, anonymity and trust, positional discrepancies, cultural differences, sensitive information obtained, role of the researcher	

3.2 PARADIGMATIC APPROACH

3.2.1 Metatheoretical paradigm

A constructivist — more specifically a social constructionist — metatheoretical paradigm informs my study. Goldenberg and Goldenberg (2008: 342) explain that constructivism addresses the nature of knowing and rejects the idea of describing an objective reality. They argue that each of us brings different assumptions to the same situation and interprets reality differently, as a result of our own “mental and symbolic processes and meaning-making structure”. Constructivism is associated with the writings of Maturana (1978), Varela (1979), Von Foerster (1981) and Von Glasersfeld (1987). These theorists, focusing on the biology of perception and cognition, have argued persuasively that since sensory data go through several transformations as they are received and processed, it is impossible to know what external reality is “really like.” They claim that there is no such thing as “direct perception” (Hoffman 1990: 2).

Schwandt (2000: 197) describes constructivism in a less technical way:

In a fairly unremarkable sense, we are all constructivists if we believe that the mind is active in the construction of knowledge. Most of us would agree that knowing is not passive — a simple imprinting of sense data on the mind — but active; mind does something with those impressions, at the very least forms abstractions or concepts. In this sense, constructivism means that human beings do not find or discover knowledge so much as construct or make it.

Mertens (2004: 9) compares four theoretical paradigms: positivist/postpositivist, constructivist, transformative and pragmatic, functioning in the field of education (see Table 3.2 below).

Table 3.2: A comparison of theoretical paradigms

Basic beliefs	Positivist/ post positivist	Constructivist	Transformative	Pragmatic
Ontology (Nature of reality)	One reality; knowable within probability	Multiple, socially constructed realities	Multiple realities shaped by social, political, cultural, economic, ethnic, gender, and disability values	What is useful determines what is true; participants perform reality checks by determining increased clarity of understanding
Epistemology (Nature of knowledge; relation between knower and would be known)	Objectivity is important; the researcher manipulates and observes in a dispassionate manner	Interactive link between researcher and participants; values are made explicit; created findings	Interactive link between researcher and participants; knowledge is socially and historically situated	Relationships in research are determined by what researcher deems as appropriate to that particular study
Methodology (Approach to systematic inquiry)	Quantitative (primarily); interventionist; decontextua- lised	Qualitative (primarily); hermeneutical; dialectical; contextual factors are described	Inclusion of qualitative (dialogic), but quantitative methods can be used; contextual and historical	Match methods to specific questions and purposes of research; mixed

Basic beliefs	Positivist/ post positivist	Constructivist	Transformative	Pragmatic
			factors are described, especially as they relate to oppression	methods can be used

According to constructivism's *ontology*, reality is socially constructed, hence the notions of constructivism or social constructionism (Goldenberg & Goldenberg, 2008: 342). Freedman and Combs (1996: 16) explain social constructionism as follows:

[I]ts main premise is that the beliefs, values, institutions, customs, labels, laws, divisions of labor, and the like that make up our social realities are constructed by the members of a culture as they interact with one another from generation to generation and day to day. That is, societies construct the "lenses" through which their members interpret the world. The realities that each of us take for granted are the realities that our societies have surrounded us with since birth. These realities provide the beliefs, practices, words, and experiences from which we make up our lives.

Therefore, on the basis of a constructivist *ontology*, multiple mental constructions should be expected, some of which may be in conflict with each other. Perceptions of reality may even change throughout the process of the study (Mertens, 2004: 14). The concept "quality", for example, is also a socially constructed phenomenon that could mean different things to different people. My goal was to understand the multiple social constructions of meaning and knowledge. This view invites a collaborative way of exploring issues in a research context and it is interested in assumptions that underlie societal discourses that are interwoven with people's lived experience. Furthermore, from a constructivist research paradigm I attempted to understand the complex world of lived experience from the point of view of those that live it, which means that in research that involves quality in early childhood education, the whole spectrum of stakeholders comes into view (Mertens, 2004: 13).

According to a constructivist *epistemology*, the inquirer and the inquired are interlocked in an interactive process. Each influences the other. The constructivist therefore prefers a more personal, interactive mode of data collection. In my research it is achieved through the involvement of students (fieldworkers) who entered into a relationship with several of the stakeholders at early childhood institutions. The concept of objectivity is replaced by confirmability. It is assumed that data, interpretations, and outcomes are rooted in contexts and persons apart from the researcher. Such data are not fabrications of the imagination. Data can be tracked to their sources, and the logic used to assemble interpretations can be made explicit in narrative (Mertens, 2004: 15). The researcher's *methodology* is guided by these ontological and epistemological assumptions. Methodological considerations will be discussed in more detail in 3.5 that specifically deals with methodological considerations guiding this study.

Mertens (2004: 9) states that a constructivist *methodology* is characterised by at least four considerations. Firstly, it emphasises primarily, but not exclusively, qualitative research. Gergen (2001a: 423–424) agrees that this paradigm can accommodate various methodological approaches, including a mixed method approach. According to him qualitative (QUAL) and quantitative (QUAN) methods are not incompatible due to their supposed association with paradigms that differ epistemologically. He argues that to employ a particular method or mode of research “is not to subscribe to any particular philosophy (metaphysics, ontology, epistemology) that wishes to claim the conventions as their private reserve” (Gergen, 2001a: 423–424). A mixed methods approach, therefore, can be accommodated in a constructivist or social constructionist paradigm. If no claim of objectivity is made in the sense of personal distance from the inquired-into, the validity of the researcher's claims will be supported by the multiple sources of data that are used and the multiple methods that are used to collect the data (Ary, Jacobs & Razavieh, 2002: 435; Mertens, 2004: 15). Table 3.6 presents an overview of all the multiple sources and methods that I applied in my study. Detailed discussions are provided in 3.6.1 and 3.6.2.

Tashakkori and Teddlie (2010: 818–819) state that “mixed method research's most common criticism has been based on the ‘incompatibility thesis’, indicating that

QUAL and QUAN methods should not be mixed in the same study due to the paradigms that differ epistemologically”. However, they argue that “methodological eclecticism” is valuable, because successfully combining QUAN and QUAL methods results in research that is multilayered and different from QUAL or QUAN research alone. They conclude with their own belief in mixed methods “as a humanistic methodology closely mimicking our everyday human problem solving... and as an extension of everyday sense making”.

Secondly, a constructivist methodology is characterised by a hermeneutical stance, which means issues of interpretation are addressed. In 3.7 I reflect on matters pertaining to the interpretation of both quantitative and qualitative data.

Thirdly, a constructivist methodology can also be described as dialectical, since the interplay between views and experiences that are potentially in tension with each other becomes apparent. In my study, I opted for taking into consideration the experiences and views of a variety of participants that in principle could be in tension with each other, and it therefore requires that my methodology should include a dialectical component. See Chapter 5 where parallel sets of data are dealt with.

Finally, contextual factors are described by constructivist researchers. Qualitative methods such as interviews, observations, and document reviews are predominant in this paradigm. These methods are applied (see 3.6.2) through the interaction between and among investigator and respondents. This interactive process is sometimes described as hermeneutical and dialectical in that efforts are made to obtain and appreciate multiple perspectives that yield richer interpretations of meanings. In a dialectical interchange, (conflicting) interpretations may also be compared and contrasted, forcing reconsideration of previous positions (Mertens, 2004: 15).

Social constructionism shares most of the assumptions of constructivism, but also leans towards a transformative paradigm. The social constructionist, Gergen (2001a: 419), explicitly states that the chief aim of his research is transformative, not informative. The aim of my study is not merely to describe a state of affairs, but to be transformative in the sense that beneficiaries develop new, rich understandings of

quality in the context of early learning centres, and that these centres be transformed in view of such new understandings.

Hoffman also appreciates a constructivist framework, but supplements it with the idea that the realities which are constructed by us are *socially* constructed. According to Hoffman (1990: 3), social constructionism

...posits an evolving set of meanings that emerge unendingly from the interactions between people. These meanings are not skull-bound and may not exist inside what we think of as an individual "mind." They are part of a general flow of constantly changing constructions or narratives.

Social constructionists challenge individualist cognitive constructivists such as Piaget who claim that the world acquires meaning as it is filtered through internal, personal cognitive schemata, which are open to developmental process. Social constructionists would suggest that "schemata" (constructions that give meaning to acts) are developed and held *socially* in texts, traditions and practices, and one of these constructions is the personal (Bleakley, 2004: 2).

Social constructionists, in fact, challenge both endogenic (mind-centred, such as Piaget) and exogenic (world-centred) views of knowledge. Both espouse a dualist epistemology of subject-object opposition. According to Gergen (2001b: 127), knowledge is neither "in" the person, nor "in" nature to be experienced, but is produced or constructed through social relations, dialogue and social practices. Such relations and practices are themselves embedded in changing — therefore unstable — historical and cultural traditions. Gergen (2001b: 127) argues that all claims to knowledge grow from culturally and historically situated traditions. Hence, social constructionism attempts to "reduce the powerful tendency for local truth to become universal, and with it the destruction of all traditions save one" (Gergen, 2001a: 423).

According to Gergen (2001b: 132), a social constructionist framework also suggests a particular stance on researching others' texts or practices. As is custom in academic literature, social constructionists quote from texts and textual representations of practices. However, others' views and critique primarily serve as a component of reflexive deliberation within their own texts (Gergen, 2001b: 132).

Hence, the main purpose of quoting “authoritative” sources would not be to bolster the researcher’s own arguments, but to allow others to “comment” on the researcher’s assumptions, ideas and arguments. Quoting and referring to sources are seen as part of a reflexive posture (Bleakley, 2004: 3). This is part of what has brought social constructionism into a “productive self-consciousness” (Gergen, 2001b:3).

Such self-consciousness calls for a *reflexive posture*. Gergen (2001a: 423) says a reflexive posture toward the often blinding force of tradition is a way of preventing an attitude of “anything goes”, for which constructivist approaches have been blamed. Bleakley (2004: 3) lists three dimensions of a reflexive methodology. First, any perspective must acknowledge and learn from effective criticism of its position. A second kind of reflexivity is to recognise where critique has its limits and where (postmodern) pluralism must also include tradition. Social constructionism does not, in principle, abandon longstanding traditions. Social constructionism does not claim to being “a first philosophy, a foundation upon which a new world may be erected” (Gergen, 2001b: 124). A third kind of reflexivity is self-critique. Gergen (2001b: 4) has sensed that social constructionist arguments have too often functioned as a sword, with the elimination of empirical study, ethical foundationalism, realism and so on as its seeming goal, which he regards as nihilistic. In my study, evidence of reflexivity can be found in the reflective journals of my student-participants (discussed in 3.6.2.1), as well as frequent discussions with colleagues and my promoter on the collected data of my research and its interpretation.

In an attempt to practice self-reflexivity myself, I was aware of some of the main criticisms of social constructionism. This framework has been criticised for its views on the referentiality issue, being relativistic, containing internal contradictions, and being anti-science. With regard to the issue of *referentiality*, Hibberd (2001: 301–302) argues that Gergen’s socio constructionist view “is that language is nothing more than a set of social conventions and that this precludes the possibility of external reference.” Gergen (2001a: 421) responded by quoting from his own writings to show that Hibberd’s description of his social constructionist stance is inaccurate, since he, like many other social constructionists, do not deny the possibility that words “can be said to furnish pictures of an independent reality” (Gergen, 1994: 86),

and “[f]ar more than words and actions are required in order to play the game. We typically require objects of various kinds within particular settings” (Gergen, 1999: 36).

Related to this criticism, Liebrucks (2001: 364) claims that since, in social constructionism, “there are no independent criteria to assess research results, any research project must appear to be as legitimate as any other.” This claim amounts to criticising social constructionism for espousing a *relativist position*. Relativism implies a position from where one can survey the field and declare that all positions are equal. However, Gergen (2001a: 423) explicitly states:

We cannot step out of all traditions, for to do so would be to lose all means of generating intelligibility. It is never a matter of “anything goes” in practice, because little goes except within a tradition of social collaboration.

Maze (2001: 393) criticises social constructionism for contradicting itself:

[W]hile it denies that any assertion can be true, and that there are any independent realities to be referred to, it nevertheless treats discourse as having objective existence, and assumes that its own statements about discourse are true. Thus in asserting its own basic premise it contradicts it.

Maze’s criticism is also based on the erroneous assumption that social constructionism espouses anti-realism (there are no external realities to refer to).

A distinction drawn by Edley perhaps clarifies some of the issues raised above. He distinguishes between the *ontological* and *epistemic* senses of social construction (Edley, 2001: 436–439). With reference to the work of Edwards (1997: 47–48) he argues that a concept such as “mind” is socially constructed in the *ontological* sense. Researchers talk about “mind” (or “quality”, or “stakeholders”). Our descriptions or accounts of such concepts are social constructs in the *epistemic* sense. “Any attempt to describe the nature of the world is subject to the rules of discourse. It points to the fact that as soon as we begin to think or talk about the world, we necessarily begin to represent. Talk involves the creation or construction of particular accounts or stories

of what the world is like” (Edley, 2001: 436–437). So a mistake that critics of social constructionism often make is to assume that when social constructionists say “there is nothing outside the text”, they are making an ontological rather than an epistemological pronouncement (Edley, 2001: 437).

Given my social constructionist paradigm, I do not regard ‘quality’ as an abstract theoretical principle, but as a concept that has taken shape through the beliefs, practices and experiences of particular communities. Therefore I attempted to consider and respect the different realities of various role players associated with early learning centres in my study.

3.2.2 Methodological paradigm

For the purpose of this study, I chose to work from a constructivist paradigm and I opted for a mixed method design. Nieuwenhuis (2008) explains that researchers who opt for using mixed methods, adhere to the compatibility thesis. The idea is that quantitative and qualitative methods are compatible and that both can be used in a single study. “Mixed method” researchers adhere to the philosophy of pragmatism or functionalism, which implies that researchers use a mixture of approaches that works best in a real world situation regardless of assumptions. The fundamental principle of mixed methods is that the researcher uses a mixture or combination of methods that has complementary strengths and weaknesses that are non-overlapping. Triangulation seeks convergence, corroboration and correspondence of results from different methods (McMillan & Schumacher, 2006: 374; Nieuwenhuis, 2008). In my opinion mixed methods approach is the appropriate way to work in this study, because one of the strengths of mixed methods research is the provision of a complete picture to the research problem and the incorporation of qualitative and quantitative data in a study.

Gray (2009: 209) argues that mixed methods designs do not have to be interdependent at all times. He aptly states that quantitative and qualitative elements can sometimes “be constructed quite independently and not in any particular order – hence, they could be carried out concurrently, sequentially, with qualitative before

quantitative or vice versa”. Different methods can deal with the same research questions or focus on different aspects of the research (Gray, 2009: 209). I opted for a concurrent triangular design. Creswell (2005) explains that the purpose of this design type is to collect both quantitative and qualitative data simultaneously, to merge the data and to compare and use the results to understand a research problem. He argues that a basic rationale for this design is that “one data collection form supplies strengths to offset the weaknesses of the other form”. In this design the researcher values both qualitative and quantitative data and sees them as equal sources of information (Creswell, 2005: 514).

I chose a concurrent triangular mixed method design (as depicted in Figure 3.1) because of its suitability for my specific study (Creswell, 2008: 29; Tashakorri & Teddlie, 2003: 226). I found a mixed method design suitable for my study because it offers a way of comparing and contrasting different findings in the service of well validated conclusions (Creswell, 2008: 557).

Figure 3.1 illustrates how the QUAN and QUAL data collections and analyses take place concurrently. The results of both the QUAN and QUAL data are then compared and interpreted to enable the researcher to draw conclusions.

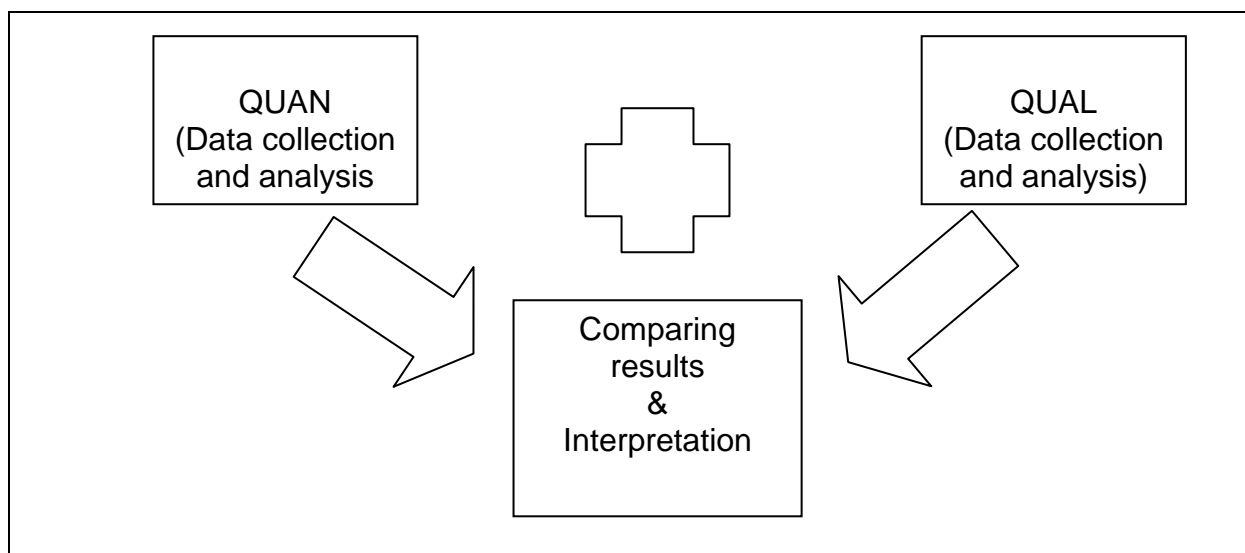


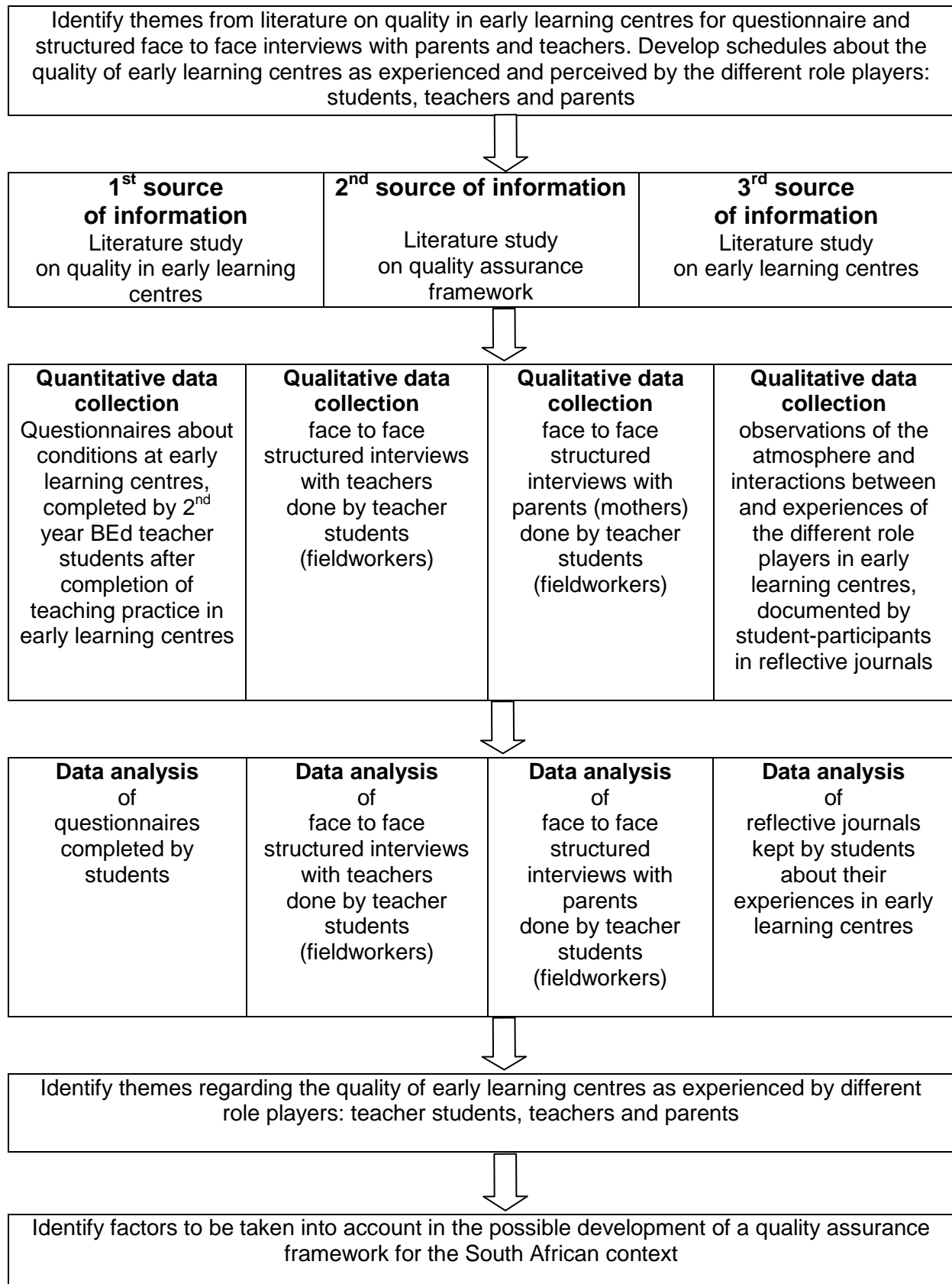
Figure 3.1: Concurrent triangular mixed method design (Creswell, 2008: 557)

3.3 RESEARCH PROCESS

Merriam (2009: 13) argues that qualitative researchers are particularly interested in understanding people's construction and sense-making of their world and experiences in the world. She recommends that researchers should start a research project by considering their own beliefs, views and principles in terms of the "nature of reality" and the research purpose to inform the most suitable way for answering the research question.

The research process is summarised in a visual form in Table 3.3. The table provides a layout of the identification of themes from the literature, indication of the different information sources, the methods that were used for data collection, the different types of data analysis and, lastly, the identification of themes and factors that emerged from the data analysis.

Table 3.3: The research process



As with most things in life, there are also advantages and disadvantages when mixed methods are being used to do research. According to Nieuwenhuis (2008), the strengths of mixed methods research is to provide a complete picture of a research problem and is a means to incorporate qualitative data into a quantitative study. A disadvantage that Tashakkori and Teddlie (2010: 818) point out is unrealistic expectations concerning an individual researcher's proficiency in both QUAN and QUAL methodology, therefore training in both quantitative and qualitative research methods is necessary (Nieuwenhuis, 2008). A weakness that Maree (ed.) (2007: 278) points out is the challenge to collect and analyse two complete but separate sets of data simultaneously. Many students might be challenged by these weaknesses. For me, the weaknesses mentioned above were also a reality, therefore I had to implement strategies to address these challenges. I attended research support sessions that the University of Pretoria offered to inform me in terms of the different quantitative and qualitative methods. I also read extensively to familiarise myself with the requirements of the different methods. To coordinate collection of the various sets of data and to analyse them simultaneously was a real challenge for me. I set up a proper filing system for data storage of hard copy materials, as well as another electronic filing system for information on the computer. This allowed me to keep the different kinds of data separate from each other and enabled me to organise and compare the analysed data (McMillan & Schumacher, 2006: 377).

Tashakkori and Teddlie (2010: 60) explain that in a convergent parallel design (their term for the concurrent triangular mixed method design) where the QUAN and QUAL data are both collected by the researcher, there might be validity threats in terms of the effectiveness and meaningfulness of the conclusions. One would also need to consider whether both forms of data assessed the same questions, "whether the unequal sample sizes pose threats to drawing conclusions", and "whether conclusions drawn from discrepancies in merging the results favour the QUAL or QUAN data results". In my study, both QUAN and QUAL methods are relevant for the study and are supportive of each other in terms of answering the same research question. Two of the three methods are qualitative (interviews and reflective journals), but the extent of the data gathered by means of the quantitative method

(questionnaires) has assured that a balance between quantitative and qualitative approaches was maintained.

Some of the most highly associated and commonly stated criticisms of mixed method research, as argued by Tashakkori and Teddlie (2010: 818) and Nieuwenhuis (2008), relate to the expenditure of performing mixed method research. They argue that the mixed methods approach is basically more expensive and probably more time-consuming than the QUAN- or QUAL-alone orientations. For doctoral students working under strict timelines, mixed studies can take longer to conduct. In terms of my study that was true, especially in terms of time constraints.

In spite of the disadvantages revealed by Tashakkori and Teddlie (2010: 818), they are of the opinion that mixed method research should be used to answer the research questions, “if the research questions clearly call for it” or if the researcher “anticipates that mixed methods might present better answers”. In my view the mixed method approach is useful because it creates an opportunity for a richer description of the multi-faceted phenomenon of quality. For example, reflective journals can accommodate unforeseen experiences that would not be captured in an already fixed questionnaire. Tashakkori and Teddlie (2010: 818) also point out that expenditure and time constrictions are then less important and “if there is a strong possibility that one might get incomplete and unsatisfactory answers, shorter, less expensive paths that provide such answers are not desirable”.

In my study, I gave preference to a mixed method approach especially because of factors related to the participants of this study. (i) Attempting to use a single method to generate data where participants include parents, teachers, students and preschool children would be impractical and not a rigorous portrayal of multiple perspectives. Formal questionnaires and interviews, for example, can be used in the case of adults, but not preschool children. (ii) The roles of the students and teachers/parents differed. Students were observer-participants, which explains why the use of reflective journals made sense in their case, but this method would be inappropriate in the case of parents and teachers who did not play an observer role at all. (iii) Using interviews in order to generate data from the inputs of students would be impractical because of the sample size, namely 235 individuals.

Another advantage that contributes to the attractiveness and appeal of mixed method research, is the flexibility aspect. By applying combined QUAL and QUAN techniques, numerous and various research questions are concurrently attended to. Tashakkori and Teddlie's (2010: 699) view is that potentially fresh insights and knowledge of educational effectiveness research topics can be gained and improved "through the combination of both general statistical findings and thick descriptions of specific cases illustrating those findings" which can not be accomplished by QUAN or QUAL methods alone. They proclaim that "knowledge generation that goes beyond the sum of the individual QUAL and QUAN components", permits "mixed method research to add extra value to research studies". In my study, the combination of QUAN and QUAL components contributed to improve explanations, predictions and recognition of the social phenomenon quality (Tashakkori & Teddlie, 2010: 699).

3.4 RESEARCH DESIGN AND METHODOLOGY

3.4.1 Instrumental case study

I share Merriam's opinion (1998: 41) that "because of its strengths, case study is a particularly appealing design for applied fields of study such as education". The choice for a case study as research design instead of other research designs, is determined by what I, as researcher, want to know. Yin (2008: 13) believes where "how" and "why" questions are answered, a case study has a distinct advantage. He also points out that the "less control an investigator has over a contemporary set of events, or if the variables are so embedded in the situation as to be impossible to identify ahead of time, case study is likely to be the best choice". In terms of answering the research question of my study, I decided on a case study as the most suitable choice because through case studies researchers "get as close to the subject of interest as they possibly can, partly by means of direct observation in natural settings, partly by their access to subjective factors (thoughts, feelings, and desires), whereas experiments and surveys often use convenient derivative data, e.g. test results, official records" (Bromley, 1986: 23 in Merriam, 2009: 46). He also states that case studies "tend to spread the net for evidence widely, whereas experiments and surveys usually have a narrow focus". In this study, my aim was to

get close to the subject of interest, but to spread the evidence widely by having a substantial number (213) of early learning centres represented.

Silverman (2010: 138) proclaims that “there are an endless variety of possible ‘cases’”. Although the term ‘case’, or ‘object of study’ (Merriam, 1998) has many definitions, in this study, ‘cases’ refer to beneficiaries’ experiences of quality in early learning centres.

In my study, early learning centres refer to the relevant locales studied. The setting was not only the physical environment of various early learning centres, but also those aspects that are not necessarily visible to the eye, like the atmosphere and the centres’ character (Charles & Mertler, 2002: 267). I selected 213 early learning centres through a non-probability, purposive method. Selection criteria included: (i) that the co-researchers / fieldworkers (students) selected early learning centres that are willing to accommodate students for teaching practice purposes; (ii) that the centres use a play-based curriculum; (iii) that at the early learning centres students be assigned to qualified teachers; and (iv) that the early learning centres are conveniently located in terms of distance, (since the students were responsible for their own transport to and from the early learning centres).

Henning, Van Rensburg and Smit, (2004: 41) say that a case study as design format is exemplified by the focus on a phenomenon with identifiable boundaries. A qualitative case study for Merriam (2009: 38) is “an in-depth analysis or description of a bounded system”, where *bounded* means “that the case is separated out for research in terms of time, place, or some physical boundaries” (Creswell, 2008: 476). Merriam (2009: 38) claims that part of the perplexity concerning case studies is that “the process of conducting a case study is conflated with both the unit of study (case) and the product of this type of investigation”. Yin (2008: 18), on the other hand, defines a case study in terms of the research process. For him “a case study is an empirical inquiry that investigates a contemporary phenomenon with real-life context, especially when the boundaries between phenomenon and context are not clearly evident”.

Edwards (2001: 126) explains that case studies can be longitudinal, but more frequently they offer a comprehensive picture of a system in action. The latter is a true description of my study. Edwards (2001: 126) also indicates that there are two broad purposes why case studies are used. He argues that cases can be “of intrinsic interest” as in a study of the introduction of a new way of working, for example implementing a quality assurance system in early learning centres; or they can assist our general understanding of phenomena, for example how beneficiaries experience quality. The second purpose applies, in particular, to my research since the purpose of my study is to conceptualise quality in early learning centres in order to inform the development of a South African early learning centre quality assurance system.

McMillan and Schumacher (2006: 470) indicate that the term ‘case study’ may refer to a number of different epistemological entities, for example fundamental descriptive material that the observer collected (the observer’s data) by whatever available means, about some particular phenomenon or set of events. The case material is then simply the content of the observer’s field notes with the explicit goal of drawing theoretical conclusions from it. In this study, the field notes that were done by means of reflective journals and interview schedules, form a part of the case material.

Gay *et al.* (2009: 434) recommend case study research as a suitable choice “when a researcher wants to answer a descriptive question (e.g. what happened) or an explanatory question (e.g. how or why did something happen?)” I chose an instrumental case study as research design, because I opted for a design featuring “an in-depth study of interactions of a single instance in an enclosed system” (Opie, 2004: 74). In my study, I focus on a real situation (people’s experiences of early learning centres quality), with real people (children, parents, teachers and students) in an environment familiar to myself (early learning centres). In order to answer my research question, I thus studied interactions of events, human relationships and other factors.

Very often in educational research where case study research is the choice, one phenomenon is investigated but at various sites. These studies are usually called collective case studies, multi-case or multi-site studies, or comparative case studies (Gay *et al.* 2009: 434). Because the students could select the early learning centres

for their teaching practice, there is a wide variety of early learning centres under study. Students participating as co-researchers (fieldworkers) live in different parts of the country and therefore 213 early learning centres were represented in nine provinces. As is apparent in Table 3.4, Gauteng province centres are significantly in the majority, with significantly fewer centres from Northern Cape, Eastern Cape, Free State, Western Cape and North West.

Table 3.4: The number of early learning centres in each province

Province	Number of early learning centres selected in a province
Gauteng	169
Mpumalanga	21
Limpopo	9
KwaZulu-Natal	8
North West	2
Western Cape	1
Free State	1
Eastern Cape	1
Northern Cape	1

3.4.1.1 Advantages and disadvantages of instrumental case studies

(a) Advantages of case studies

There are various possible advantages for using case studies, according to different scholars. In terms of the benefits of a case study it seems that the advantages are mostly related to methodology, interpretation of data, the particular population and the longitudinal effect.

Aubrey *et al.* (2000: 40) proclaim that a *variety of methods* can be applied in a case study, because a case study typically has a multi-method design. Another benefit is accentuated by Merriam (1998: 28). She argues that one of the advantages of an instrumental case study is that, unlike experimental, survey, or historical research, case studies do not require particular methods for collecting or analysing data. *Any*

and all methods, from testing to interviewing, can be used in a case study to gather data (Merriam, 1998: 28). For me, using an instrumental case study was beneficial because this method opened up the possibility for obtaining information from a variety of sources.

The second group of benefits concerns the interpretation of data. On the one hand, the kinds of information derived from a case study can cause the *familiar* to be seen afresh as a result of thorough examination (Edwards, 2001: 127). On the other hand, the *uniqueness* of the case study can be an asset. Merriam (1998: 33) notes that a case study may be selected “for its very uniqueness, for what it can reveal about a phenomenon, knowledge we would not otherwise have access to”. Terre Blanche and Durrheim (1999: 255) remind us about the benefit, that careful and detailed observation in case studies can initiate the possible appearance of new ideas. A case study can provide a *tremendous amount* of data (Merriam, 2009: 203) that can contribute towards *rich descriptions* (Edwards, 2001: 129). Case studies furthermore have the advantage of promoting *better understanding* of practical issues and facilitating *informed decision making* (McMillan & Schumacher, 2006: 333). In my study, making use of 235 cases, a tremendous amount of data was indeed generated and therefore the possibility of obtaining unique data was substantial.

The third group of advantages relates to a particular kind of population. Edwards (2001: 127) claims that cases selected as exemplary, potentially can be more informative about a *large population* than might have been when gathered from a survey. Such exemplary cases can be chosen to represent a particular category from a wider population (Edwards, 2001: 127). Merriam (1998: 41) acknowledges another strength, namely that a case study offers a way of “exploring *complex social units* with numerous variables of potential importance in understanding the phenomenon”. This strength is of value in my study where the complex nature of a phenomenon like quality is examined.

A last benefit of case studies is that they are generally “descriptive in nature and provide rich longitudinal information about individuals or particular situations” (Terre Blanche & Durrheim, 1999: 255).

Although there are numerous advantages when case studies are used, there are also a number of disadvantages to consider.

(b) Disadvantages of case studies

According to Rule and Vaughn (2011: 21), since a researcher cannot generalise the findings of a single-case research study to other cases, there is no comparative dimension within such a study. The two authors therefore suggest a strategy of using a range of cases to allow for comparison and can be chosen to represent the class of cases better.

In my study of different sources (for example, Edwards, 2001; McMillan & Schumacher, 2006; Merriam, 2009; Terre Blanche & Durrheim, 1999) discussing the disadvantages of case studies, it became evident that the disadvantages of case studies centre around three focal points, namely boundaries, data and balance.

With reference to case studies, Edwards (2001: 27) acknowledges the difficulty of identifying the boundaries of a case, because of the complexity and interconnectedness of systems, since a case as a system is necessarily also connected to other social systems. Edwards' (2001: 27) advice for dealing with this disadvantage of identifying boundaries is to decide on the foreground and background of the study. In Rule and Vaughn's view (2011: 21) "a multiple case study design allows for some breadth, as well as depth of focus". In my study I tried to be sensitive to boundaries. The number of interviews provided rich feedback amidst the boundaries. I also addressed this issue by using a variety of appropriate data collection methods.

Several of the disadvantages of case studies seem to relate to the nature and interpretation of research data. First, case studies are characterised by a *tremendous amount of* and *complex data*. Although that can be seen as a benefit, as I have explained when I discussed the advantages, the huge amount of data can simultaneously produce a big disadvantage. In this regard Merriam (2009: 203) warns researchers against the extreme challenge of trying to make sense of a lot of data.

In the process of trying to manage the large amount of data, I had to adjust my original plan in terms of the inclusion of all the different beneficiaries' data. My decision not to include the views of children as beneficiaries in my study, was based because I realised that the amount of data was already very much. I therefore had to make a deliberate decision in terms of the exclusions of the certain beneficiaries in order to be able to manage the big volume data. Although data from the children were already collected in the form of drawings, I decided in collaboration with my promoter, to omit the drawings from data analysis for this particular study and rather to use them in a follow-up study.

In my study, I also have a large amount of data and therefore I tried to apply her advice to deal with this challenge by giving attention to data management. The strategy that I applied was to distinguish between relevant and irrelevant data. I reduced the number of reflection journals of the teacher-students from 235 to 60, because I realised that a large number of journals were merely diary inscriptions and they did not provide useful, relevant information. During the process of data management I further established that not all of the 235 questionnaires were completed in full and sufficiently for the purpose of the study. I selected 213 questionnaires that were completed in full to use for the data analysis.

Furthermore, in many case studies the data is *disparate*, *incompatible* and *contradictory* (Merriam, 2009: 203). Terre Blanche and Durrheim (1999: 256) argue that the complexity of data can complicate the process of distinguishing between relevant and irrelevant data, and therefore could undermine the *validity* of the information.

Secondly, researchers making use of case studies are sometimes tempted to use specialised, contextualised data to make *broad generalisations*. Great care should be taken when generalisations are made from single case studies (Edwards, 2001: 127). Rule and Vaughn (2011: 21-22) warn that researchers might be enticed to find similarities and in the process disregard differences. They further point out that the specific context of each case might be skimmed over while searching for generalities. Edwards also cautions against generalisation because "the 'real' business of case study is particularisation". In this regard McMillan and Schumacher (2006: 18) remind

that “case study designs provide context-bound summaries for understanding education and for future research”.

The third group of disadvantages concerns balance. On the one hand the researcher needs to strive towards balance between rigour and flexibility. Disallowing any flexibility for the sake of rigour, can be restrictive, for example with regard to obtaining rich descriptions of experiences. On the other hand, failing to be rigorous for the sake of flexibility can result in confusion and a lack of order (Edwards, 2001: 128).

During the process of data analysis I initially ended up with a huge number of themes. I encountered a challenge to distinguish between possible and suitable themes for data interpretation. The process of data analysis provided a big challenge in terms of striking a balance between rigour and flexibility concerning the identification of suitable themes that emerged from the interviews. In order to interpret the analysed data and to establish themes that were not too generalised but which were also not too particular and specific, I had to repeat the analysis process a number of times in order to look out for regularities and patterns, and to create clarifications and options to enable me to answer the research questions (Siraj-Blatchford & Siraj-Blatchford, 2001: 158–159). In consultation with my promoter I identified themes and subthemes that were specific enough to capture the uniqueness of the data, but which simultaneously grouping categories together that were not just related, but which were also manageable in terms of their numbers. During this process the initial number of more than 200 categories was reduced to 60. Table 3.5 shows the different disadvantages of case studies and the possible solutions for addressing each of these disadvantages.

Table 3.5: Disadvantages and possible solutions

Disadvantages	Possible solutions
Difficulty of identifying the boundaries of the case because of the complexity and interconnectedness of systems.	Decide on the foreground and background of the study. Using a variety of appropriate data collection methods.
Tremendous amount of and complex data.	Giving attention to data management. Excluding children’s views (drawings) from the data analysis. Distinguishing between relevant and irrelevant data. I reduced the number of reflection journals from 235 to 60. I selected 213 from 235 questionnaires that were completed in full to use for the data analysis.
Achieving balance between rigour and flexibility	Striking a balance between rigour and flexibility. Distinguishing between possible and suitable themes for data. I repeated the analysis process to look out for regularities and patterns. The initial number of more than 200 categories was reduced to 60.

In dealing with the disadvantages of case studies I find the advice of Aubrey *et al.* (2000: 40) valuable. They note that “designing research involves selecting which weaknesses you are prepared to tolerate since weaknesses cannot be eliminated”. A potential weakness of case studies that I had to tolerate in my study, relates to the large amount of data collected.

3.5 PARTICIPANTS IN THE STUDY

Researchers, in Merriam's view (2009: 162), often use the term *participants* to portray the individuals that are being studied. This way of portraying the individuals is done with caution to assure that there is inclusion and that the individuals agree to cooperate. Merriam further declares that "this single word captures a number of attitudes about research from the qualitative paradigm. It also serves as a litmus test concerning ethics".

I used non-probability sampling to select all participants, namely parents, teachers and students. I targeted each particular group, with the knowledge that the group does not represent the wider population, but a particular group with the same interest (Cohen, Manion & Morrison, 2001: 103). I used purposive sampling to select students, based on their particular interest in early childhood education and their exposure to early learning centres. Students (fieldworkers) selected teachers and mothers through convenience sampling because they were connected to the early learning centres where the students conducted their teaching practice and were therefore conveniently accessible to obtain data (Maree & Pietersen, 2007: 176–177).

A disadvantage, explained by Gay *et al.* (2009: 136), is that convenience sampling, (also known as accidental sampling), can be complex when providing a description of the people used for the sample. On the other hand, an advantage that they highlight is the straightforwardness of the sample selection that is based on "whoever is available and volunteer participation". The case study I used, did not involve accidental sampling and describing the people used for the sample was quite straightforward. Participants were teachers, parents and students involved in particular early learning centres. Siraj-Blatchford and Siraj-Blatchford (2001: 156) contend that in an instance where groups with specific qualities need to be over-represented, a non-probability sample is a suitable choice. They declare that setting up a non-probability sample is simpler and less expensive, "but these advantages (are) gained at the expense of the representation". The same authors point out another disadvantage, namely that generalisation of findings of a non-probability sample cannot be done outside of the convenience sampling "where the respondents

are selected according to convenience of access” (Siraj-Blatchford & Siraj-Blatchford, 2001: 156). Since my study involved 235 parallel case studies, the issue of representation has been addressed.

Table 3.6 provides an outline of participant groups, the way in which they were selected as well as the selection criteria that were applied.

Table 3.6: Participant selection

Participants	n	How selected?	Selection criteria
Students, female	235	All 2007 and 2008 second year UP BEd Foundation Phase and Early Childhood Development Studies (FP & ECD) students were enrolled for the teaching practice module (JPO 280) ³ that is a compulsory module for their BEd (FP & ECD) degree at UP. A part of their mark in this module is obtained through a compulsory observation assignment (refer to Appendix D with an extract from the study guide/assignment). Some of the data for the study is derived from questions in the assignment and their reflective journals about their experiences of early learning centres during the teaching practice period (refer to point 3.6.2.1 in this Chapter and Appendices C, H & I).	Non-probability sampling method: purposive sampling
Teachers, female	235	Early learning centre principals placed the students in the classes of specific, qualified teachers who volunteered to mentor them and to answer specific questions (see Appendices E & J). Each student interviewed one teacher (the teacher with whom they were placed and with whom they built a relationship during the teaching practice period).	Non-probability sampling method: purposive sampling
Parents, female	235	Students conveniently selected mothers of children in the particular schools where the teaching practice took place to conduct interviews (refer to Appendices E & J). Each student interviewed one mother.	Non-probability sampling method: convenience sampling

³ JPO 280 is the code for the compulsory second year module, Teaching Practice, in the BEd (Foundation Phase and Early Childhood Studies) programme

3.5.1 Students as participants

In my study, 235 second year, early childhood education students, studying the BEd programme at the University of Pretoria played significant roles. The students were registered in the 2007 and 2008 year groups. All of them were female and between the ages of 19 and 23. The students fulfilled dual roles in my study, because they acted as the main participants, as well as fieldworkers. In order to distinguish between their different roles I refer to them as *students* in their participant roles and as *fieldworkers* in their co-researcher roles.

I selected the students by means of a non-probability purposive sampling (Cohen *et al.*, 2001: 103). As part of the curriculum-based three week teaching practice session for the module Teaching Practice (JPO 280), the students had to complete an observation assignment. After attending the three week teaching practice and on completion of the observation assignment, their observations of the early learning centres were captured through questionnaires with closed and open-ended questions. These questionnaires (see Appendix E) served as documented data of their observations of early learning centres during teaching practice. As stated earlier, the students conducted the teaching practice session at 213 different early learning centres.

3.5.2 Students as co-researchers (fieldworkers)

Other than being participants who completed questionnaires after their exposure to and observations of the early learning centres, students also functioned as fieldworkers in the role of co-researchers. I required them to collect data (by means of interviews) with parents and teachers and to make field notes by means of reflective journals (see Appendix D with assignment). The fieldworkers selected the other participants (teachers and parents) and generated data through interview schedules (see Appendix I) and writing of observations by means of reflective journals (see Appendix O), accumulated throughout the normal course of their teaching and learning during their teaching practice period (Zeni, 2001: 9).

Although the students were expected to complete the observation assignments as a compulsory requirement for passing the teaching practice module as part of their BEd degree, they could choose whether or not voluntarily to submit the reflective journals and interview schedules for my research use. I discuss ethical considerations fully in this regard under a later heading (3.8) in a following section.

The stance that describes the role of the students the best is that of observer as participant (Creswell, 2005: 212; Merriam, 2009). The students carried out some of the everyday activities on location, while observing what the teachers and children did and said as well (Henning *et al.*, 2004: 5). Their observer activities were known to the teachers and parents and their primary role was to gather information. As fieldworkers, the students informed the participants (the teachers and parents) of the purpose of the data collection and obtained their consent that the information could be used (refer to Appendix B). Therefore the participants (teachers and parents) were aware of the students' role as fieldworkers collecting data. The fieldworkers could observe and connect closely enough with the teachers and parents to establish an insider's identity without becoming part of the group membership (Merriam, 2009).

As doctoral student, apart from the questionnaires, I did not personally gather data through interviews. This is a potential disadvantage because I had to rely on fieldworkers for the data collection process. Another disadvantage was that I was not involved firsthand and could not do interpretations personally. For me the advantage of partnering with fieldworkers is that many more informants and more early learning centres could be reached and voiced in my study than ever would have been possible to do by myself had I personally tried to collect all the data. According to Bogdan and Knopp Biklen (2003: 89), outsiders like University lecturers (as researchers) are not always the best choice for obtaining 'honest information' from teachers. Teachers "may feel uncomfortable being in the presence of a 'know-it-all', and they might even consider the researcher as a threat who can judge or criticise them". Teachers, therefore, might sometimes withhold information or act in unnatural ways. Students are less threatening to teachers. Since they are usually working side by side with teachers for an extended time, rapport is established and the fieldworker may get many opportunities to observe in a much more natural way (Bogdan & Knopp Biklen 2003: 89). I believe the amount of data collected by the fieldworkers

compensates for the disadvantage that I was not personally involved and that I had to rely on the fieldworkers' interpretations of what they observed and experienced. Furthermore, as a doctoral student, I gained experience in the project management aspect of research.

3.5.3 Teachers as participants

Students purposively selected (Cohen *et al.*, 2001: 103; Creswell, 2008: 214) 235 female teachers at early learning centres. The teachers, all female, were selected by students through a non-probability, purposive sampling method. Principals placed students, upon their arrival at the schools for teaching practice, with qualified and experienced teachers. During the course of their three week teaching practice session at the centres, the students and teachers established relationships as, and because, they worked closely together. The students (fieldworkers) interviewed teachers towards the end of their teaching practice time. (Refer to Appendix J with examples of the interview schedules).

3.5.4 Mothers as participants

In addition to the 235 teachers, 235 mothers (whose children were attending the early learning centres) also participated in the data collection. The fieldworkers could select mothers or fathers of any of the children in the early learning centre classes where they, (the students) were placed (Cannold, 2001: 179). The parents were thus selected through a non-probability, convenience sampling method (Cohen *et al.*, 2001: 102 and McMillan & Schumacher, 2006: 125–127). When I started to analyse the interviews conducted by the fieldworkers, I discovered that they had only selected mothers. Their formal instructions did not specify that they should interview both fathers and mothers, only that they had to interview parents. The fact that only mothers were interviewed could perhaps be ascribed to two factors: (i) more mothers than fathers brought their children to the early learning centres, and (ii) all the fieldworkers were young female adults themselves and they possibly felt more at ease in the presence of women. A possible implication of this situation is that I was

not able to distinguish between possible different understandings or experiences of quality by mothers and fathers respectively.

3.5.5 Advantages and disadvantages of involving all the different participants

Dealing with different kinds of participants poses challenges, but is also beneficial to a research study. All the contributions made by the students, teachers and mothers that acted as participants in my study add rigour to my study, because they provided valuable input and fulfilled different roles. The teachers and mothers fulfilled the roles of participants, whereas the students had dual roles as I have explained in 3.5.1 and 3.5.2. On the one end of the spectrum the students were complete observers (which guided them when they completed the questionnaires and also when they wrote their reflective journals). On the other hand they were also observers-as-participants when they interviewed the teachers and mothers (Cohen *et al.*, 2001: 305).

The judgement of the individual researcher is a prominent factor in the case of a non-probability sample (Strydom, 2005: 202). This statement implies that it can be seen as a disadvantage that I had to rely entirely on the choices that the student researchers made in terms of approaching mothers and teachers who could appropriately contribute in data collection. One of the realities experienced by any researcher who depends on fieldworkers, is the necessity for a relationship of trust between the main researcher and the fieldworkers. In my study, I was fortunate to be able to build a relationship of trust with the students even before the research started when I was their lecturer. It was important that the students experienced that I trusted them and that I could rely on their sensitivity and integrity in the research situation, since a lack of sensitivity and integrity can limit the value of qualitative research (Merriam, 2009: 52). For this reason I opted for a mixed methods research approach. Furthermore, by using 235 students, the potential impact of insensitivity and lack of integrity has been softened.

3.6 DATA COLLECTION

In terms of data collection, Silverman (2010: 65) gives the following advice:

“Make data collection as easy as possible. There are no ‘brownie points’ given by most disciplines for having gathered your own data. Indeed, by choosing ‘difficult’ situations to gather data (because nothing ‘relevant’ may happen), ... you may condemn yourself to have less time to engage in the much more important activity of data analysis. Beware of complexity. ... keep data gathering simple. Go for material that is easy to collect. Do not worry if it only gives you one ‘angle’ on your problem. That is a gain as well as a loss!”

Following a concurrent mixed method design, I used different quantitative and qualitative strategies to generate data. Quantitative data was generated by students as participants completing a questionnaire. Qualitative data was generated by students as fieldworkers conducting face to face interviews with teachers and mothers, and capturing observations in reflective journals. Table 3.7 summarises the method, format, description, participants, way of documenting and type of analysis to provide a global overview of the data collection techniques used in this study.

Table 3.7: Data collection techniques

Method	Format	Description	Participants	Documenting	Analysis
Questionnaire (QUAN & QUAL) By means of closed and open-ended questions regarding aspects in early learning centres (Appendix E)	Paper-based	Convergent and divergent questions regarding early learning centre aspects	Questionnaires completed by 213 BEd Early Childhood Education II students from the University of Pretoria	Manually completed. Quantitative (check lists): Explanations and commentary of students’ own experiences regarding specific observed early learning centre aspects	Descriptive statistics portrayed in graphs. Qualitative: a thematic analysis of open ended questions.

Method	Format	Description	Participants	Documenting	Analysis
<i>Observation (QUAL)</i> by means of reflective journals with field notes	Paper-based reflective journals	Students were assigned to reflect on quality aspects of early learning centres according to specific guidelines (Appendix O present these guidelines)	60 B Ed Early Childhood Education II <i>students</i> from the University of Pretoria generated data (Criteria for selection are discussed in 3.6.2.1)	Reflective journals Field notes Photographs	Field notes: 60 journals were thematically analysed. Photographs were used to verify and extend the written reports
Face to face structured <i>interviews</i> with teachers (Appendix I)	Interview schedule and field notes (the same as for the parents)	Students each conveniently selected one teacher from the early learning centre class where they did their teaching practice for one face to face interview	235 B Ed Early Childhood Education II students from the University of Pretoria generated data. 235 <i>teachers</i> participated.	Answers documented on interview schedule and field notes	Qualitative: thematic analysis of answered interview schedule
Face to face structured <i>interviews</i> with parents (mothers) (Appendix I)	Interview schedule and field notes (the same questions as for the teachers)	Students each conveniently selected one parent (mother) who each had a child(ren) in the early learning centre class where they did their teaching practice for a structured face to face interview	235 B Ed Early Childhood Education II students from the University of Pretoria generated data. 235 <i>mothers</i> participated.	Answers documented on interview schedule and field notes	Qualitative: thematic analysis of answered interview schedule

3.6.1. Quantitative data collection by means of a questionnaire

Quantitative data were generated based on students' observations by means of a paper-based questionnaire (Appendix E) that contained convergent and divergent questions. A total of 235 B Ed Early Childhood Education II students from the University of Pretoria completed the questionnaire. After closer scrutiny, it was established that only 213 of the 235 questionnaires were completed in full and suitable for data analysis.

3.6.1.1 Questionnaires of student observations

According to Merriam and Associates (2002: 13), "observational data represents a firsthand encounter with the phenomenon of interest, and is the best technique when a situation can be observed firsthand". In my study, the questionnaires (see Appendix E) are a suitable choice to obtain information of students' firsthand observations of various aspects related to quality in early learning centres. In Edwards' (2001: 129) opinion, collecting data by means of observation is the least interfering mode which permits researchers to gather evidence from the field and to inductively do the analysis as soon as all data have been accumulated. Another reason why I opted for a questionnaire is explained by Thomas (1998: 133). He points out that questionnaires that are distributed to a big group of participants enable a researcher to save time in comparison with individual interviews and, in addition, a large number of people can participate. Hofstee (2006: 133) points out that "questionnaires offer confidentiality to respondents and are easier to analyse and turn into quantitative results". The questionnaires enabled me to obtain as much information about the indoor and outdoor facilities, as well as structured learning activities and free play activities in as many early learning centres as possible in a variety of locations. The questionnaire was a useful way to capture students' observations of the quality of the facilities and activities at early learning centres, because the questions made provision for quantitative as well as qualitative information.

A drawback that Hofstee (2006: 133) points out is that questionnaires do not allow the researcher to interact with the respondents. He further points out that "they are also limited in the depth to which the researcher is able to probe any particular

respondent and do not allow for digression from the set format”. Another limitation of questionnaires, according to Siraj-Blatchford and Siraj-Blatchford (2001: 158), is that a huge number of questions of open-ended nature inevitably imply a big volume of data. The researcher is then required to select from amongst the questions in order to be able to manage the data. In my study, I ran the risk of generating a big volume of data since each question was structured in such a way that participants could comment or elaborate on their responses in an open-ended way.

The questionnaire that I designed (Appendix E) contains both convergent and divergent questions. After investigating literature on quality in early learning centres and quality assurance frameworks, I decided on the questions for the questionnaire (Douglas, 2004; Golberg, 1999; Ogston, 2003; Perlman, Zellman & Le 2004; Podmore & Meade, 2000; Sheridan & Pramling-Samuelsson, 2001). Woodhead’s model (1996) for conceptualising quality in early learning centres, on which my theoretical framework is based, also contributed a great deal in informing questions for the questionnaire. I used the advice from Hittleman and Simon (2002: 27) who recommend that questionnaires require the respondent to write answers to questions about a topic in a structured form with fixed choices, or the form may be open, in that the respondent can use his or her own words. For Charles and Mertler (2002: 148) descriptions are verbal representations of participants, objects, procedures and settings which may be given in summary form or in great detail. The questionnaire consists of 35 closed and 38 open-ended questions.

When I developed the questionnaire, I applied the advice of Creswell (2008: 401–402) to assure that the questions were not unclear, not too wordy, did not include unnecessary words and jargon, that there were not overlapping responses that could lead to confusion and that the questions did not include overly technical language, but were simplified to ensure that all participants could easily understand the questions. After completion I gave the pilot questionnaire to a few of my final year mentor students⁴ to complete and to comment on. I then made adaptations by eliminating or changing some of the questions. Most of the changes involved the

⁴ Most of the lecturers have a number of final year students assigned to them for whom they act as mentors during their final internship period. These students are regularly visited at the schools and mentored by their mentor lecturer.

logical grouping of questions or the changing of terminology into familiar and uniform terminology to eliminate any uncertainties by the respondents. After discussions with colleagues about the changes, I finalised the questionnaire and submitted the questionnaire to the University of Pretoria's Faculty of Education Research Ethics Committee for approval. After completion of their compulsory teaching practice module (JPO 280) the questionnaires were voluntarily completed by 235 students in a University of Pretoria lecture hall under supervision. As mentioned in 3.6.1 only 213 of the 235 questionnaires were completed in full and suitable for data analysis.

3.6.2 Qualitative data collection

In this study, the qualitative data of interest was recorded by the research participants (the students) through their own direct observations by means of open ended-responses in the questionnaire (Appendix E) and with reflective journals (Appendix O) that the student-participants completed to capture the behaviour and interaction of the children and the staff members in the early learning centres. The same 235 B Ed Early Childhood Education II students who completed the questionnaires, were involved in the qualitative data collection methods, namely observation by means of 235 reflective journals with field notes, of which I selected 60 (criteria for selection are discussed in 3.6.2.1) for qualitative thematic analysis. Another qualitative data collection method was face to face structured interviews with 235 teachers, conducted by the 235 fieldworkers. There were also face to face structured interviews with parents (mothers). All of the answered interview schedules of both types of interviews were used in a thematic analysis.

Ary *et al.* (2002: 430–431) state that observation is the most basic method for obtaining data in qualitative research. They argue that the qualitative researcher may be a participant or a non-participant in the situation being observed. Participatory observation is performed when the researcher, an unknown person to the location, joins the scene and to a lesser extent takes part in the activities. He or she stays an outsider and uses field notes to document observations as a method to capture data (Henning *et al.*, 2004: 42).

The role of the students as fieldworkers can be classified as that of participant observers. Merriam (2009: 136) explains that fieldwork (as participant observation is often labelled) entails, going to the field meaning “the site, program or institution, to observe the phenomenon under study”. An investigator can carry out observations from various standpoints, namely, from being a complete participant and insider as a group member to being an observer as total outsider who is unfamiliar to the subjects that are being observed. Merriam points out that in both stances of being an outsider or insider, there are benefits as well as shortcomings. In this study, the participants are neither complete outsiders nor outsiders, but outsiders who have become insiders in a part-time capacity.

To compensate substantially for the disadvantage of being time-consuming, the richness of the data attained from direct observation offers meaningful insights. Spending prolonged periods of time and paying continual interest to the significant behaviours taking place “in the ongoing behavioural stream” are both informative and beneficial for the data collection process (Rolfe, 2001: 230). One would assume that the presence of the fieldworkers could be unnatural or a hindrance to the children, however in his research, Rolfe (2001: 238) found that preschool children hardly notice the observers after the observers have been in an early learning centre for an extended time.

Thomas (1998: 12) points out that gathering research data by means of observation involves watching and/or listening to educational events. Rolfe (2001: 224) acknowledges that most students in early childhood education become skilled at proficient observation techniques, because reliable and cautious observation is an essential part of high-quality teaching. He emphasises that classroom practice techniques, consisting of “anecdotal records, checklists, rating scales and time and event sampling”, are precisely those used in observational research (Rolfe, 2001: 224). In order to prepare the students (fieldworkers) to be informed in terms of observation, I trained them during a two hour long practical instruction session and provided instructions in their hand-outs. I trained them through a lecture with a PowerPoint presentation that included all the instructions and that was illustrated with numerous photographs. There was also a discussion session that allowed for questions, answers and explanations to clarify any uncertainties. The instructions

regarding the observations that were included in the students' study guides are provided in Appendix O.

3.6.2.1 Document selection of students' observations: reflective journals

As I have stated earlier, in response to my request, many students volunteered to submit their reflective journals for research purposes. However, I did not use all the reflective journals submitted by the students. Terre Blanche and Durrheim (1999: 154) remind us that documents like reflective journals are quite extensive and necessitate careful management "if you are not to become swamped by the sheer volume of the material". Ary *et al.*, (2002: 27) point out that in the process of document selection, authenticity and validity of the documents should be determined. When I started to analyse the documents it was clear that some of the journals were actually just diary inscriptions without reflections of the prescribed aspects (as explained in the assignment Appendix D). I purposively selected 60 journals that adhered to the following criteria: (a) The journals had to have detailed descriptions of the student-participants' experiences and not be mere diary inscriptions of events and activities. (b) The inscriptions had to capture the beneficiaries' experiences in terms of the *atmosphere* in the early learning centres. (c) The student-participants had to capture anything that they noticed (behaviour, emotions or body language) that indicated the children's experiences of being at the early learning centres. (d) The student-participants had to reflect on the relationships between the teachers and children and amongst the teachers themselves. (e) The student-participants had to reflect on what they as students had learned in terms of teaching/themselves/the children/the teachers etc.) (f) They had possibly indicated whether there were things that they would have done differently and had explained why they said so.

For this study, the student-participants observed children and teachers in early learning centres (their normal, everyday environments), since it does not make sense, as Rolfe (2001: 229) remarks, "to bring them into a structured setting like a university laboratory". In my study, I wished for the children to be observed doing their normal daily activities in the manner that they usually do every day of the week in their early learning centres. Rolfe (2001: 236) points out "these settings are

'naturalistic' in the sense of business-as-usual, everyday environments over which the observer exercises no control".

Reflexivity is a familiar feature in most qualitative studies. Most of the meanings for the term reflexivity refer to the design of a study. Reflexivity can be introduced from the beginning of the study to increase researchers' understanding of the interest area (Edwards, 2001: 122–123). Case study designs often have the specific aim that the analysed data from one source can inform the way data from a different source is gathered. In Edwards' (2001: 123) opinion, "reflexivity is clearly one of the major advantages of qualitative designs for examining the messy and constantly changing context of early childhood". She furthermore alerts researchers to be mindful of reaching stability between "engaged commitment to the field and the capacity to offer an informed and research-based interpretation".

In Rolfe's (2001: 226) view, depending on the topic area, the object of direct observation is mostly the behaviour of children, parents or early childhood staff. He explains that the purpose of behavioural observations are not at all times aimed at understanding the subjects being observed, but may rather be used in research for instance, to assess curriculum delivery, intervention effectiveness, or as is the case in my study, the quality of early learning centres (Rolfe, 2001: 224).

Merriam (2009: 149) explains that researcher-generated documents, like reflective journals, can either be prepared by the researcher or by the participants with the particular aim to have a better comprehension of the investigated state of affairs, people or experience. In my study, I followed her advice to researchers, to specifically ask participants (students) to capture evidence in a journal about their observations of activities throughout the inquiry period. Machado and Meyer Botnarescue (2001: 19–20) note that many training programmes require student teachers to keep a journal of their experiences and feelings during their teaching practice. In these journals, student-participants get the opportunity to view their personal opinions, insights and expressions regarding a wide range of aspects. The same authors suggest that student-participants can use the journals to reflect on topics like classroom dilemmas, feelings about all aspects of the classroom,

relationships with children and staff, new ideas to improve instruction and how they worked, perceptions on what is going well and what not, why it would be great (or not) to be a child in the centre, special children's needs, children's interests and favourite spots in the centre, planned and unscheduled activities.

There are some aspects that are easy and straightforward to capture through the indication of their presence or absence, for example phenomena like physical structures or types of activities. Early learning centres however are comprised of much more than meet the eye. There is, for example, an ambience or atmosphere in an early learning centre that cannot be determined by, or is not necessarily related to, qualifications, physical space, concrete materials or apparatus. Abstract concepts like atmosphere are often portrayed through feelings, tone of voice, gestures, body language and the expression of various emotions. How does one indicate whether an early learning centre is a welcoming, inviting place with a friendly atmosphere or a centre where there is tension and lack of hospitality? The warmth and caring nature of a teacher can not be measured or captured, but can be noticed and experienced by those that are in her presence. Atmosphere is characterised by warm or tense relationships amongst staff members, or between caregivers and children. Whether children are feeling welcomed and content at the centre and in their classes are also part of the atmosphere of a centre. (Bullard, 2010: 45–46; Krogh & Morehouse, 2008: 45–46, Morrison, 2006: 129; Mayesky, 2009: 93–96; Schirmacher, 2006: 326–327; Trister-Dodge, Colker & Heroman, 2003: 76–78)

Aspects similar to those explained in the previous paragraph are amongst those that the student-participants were requested to be on the look-out for and to reflect-on every second day in more or less ten sentences in their reflective journals (Appendix O). For the purpose of this study, the student-participants were specifically requested to observe those aspects that are not directly visible to an outsider: aspects like the atmosphere in the centres and relationships between the teachers and children were captured by means of their reflective journals. They were in an ideal situation to be part of the early learning centres for a while, but they were not directly responsible for the above-mentioned aspects. The student-participants were asked to identify what was determining the atmosphere in the early learning centres and to indicate how

they as students, as well as the children, experienced the atmosphere at the early childhood centres.

There are benefits and shortcomings when a researcher chooses to implement reflective journals. A limitation that Merriam (2009: 137) warns about is that regardless of the observers' positions, they cannot prevent affecting and also being influenced by the settings and, therefore, some deformation of the situation as it exists under non-research circumstances might occur. Finally, she alerts observers to make very detailed documentations of the observations as they form the database for analysis. It is apparent that there is a variety of types for field notes, but that they must certainly include "descriptions, direct quotations and observer comments".

Regardless of the disadvantages, documents are valuable for obtaining data for various reasons. As Merriam concurs:

... they may be the best source of data on a particular subject, better than observations or interviews. Many documents contain information that would take an investigator enormous time and effort to gather otherwise. Situations where documents are likely to be the best source of data would be studies of intimate personal relationships that cannot be observed or that people would be reluctant to discuss. The data can furnish descriptive information, verifying emerging hypotheses, advance new categories and hypotheses, offer historical understanding, track change and development, and so on (Merriam, 2009:155).

Rolfe (2001: 226) remarks that observation is the base of all research data. His comment refers to the classification of observation as "one person's perception or measurement of something about someone else". The data obtained from the questionnaires, reflective journals and interviews in my study are then, according to his description, all by some means based on observation (Rolfe, 2001: 226). In this study, the observations made by the students were documented in the questionnaires (explained in 3.6.1.1 a) as well as in their reflective journals.

Merriam (2009: 136) emphasises that when observation is used in combination with interviewing to gather data, a holistic explanation can be made of the investigated phenomenon. She prefers to apply observation as a data generating technique in instances “when behaviour can be observed firsthand or when people cannot or will not discuss the research topic”. In my study, I therefore chose reflective journals as a quantitative data generating technique together with interview schedules.

3.6.2.2 Interviews with parents (mothers): interview schedule

The purpose of the fieldworkers’ interviews with parents (mothers) was to obtain comprehensive and comparable data about parents’ experiences of quality in early learning centres (Greeff, 2005: 292). The face to face structured interviews (Appendix I) were organised around areas of particular interest (quality in early learning centres), while still allowing considerable flexibility in scope and depth. After investigating literature on quality in early learning centres (Douglas, 2004: 9; Ebbeck & Waniganayake; 2003: 109; Kostelnik *et al.*, 2004: 8) and on interviewing adults (Cannold, 2001: 178–192; Hoffstee, 2006: 135–136), I formulated the questions for the interview schedule (see Appendix I). I discussed the options of the different questions in my draft interview schedule with colleagues in the Department of Early Childhood Education of the University of Pretoria, for their input and advice before I finalised the interview schedule. These experienced colleagues have been involved in similar research projects and are experts in the field of early childhood education. I included open-ended questions and avoided questions that were judgemental or too personal. I wrote the questions in several different drafts to ensure that I used neutral phrases that would not be intimidating or offensive, because I did not want to harm the interview process by causing the interviewees to get defensive or to shut down (Hofstee, 2006: 135). I piloted the interview schedule (see Appendix I) when I included the questions in an observation assignment for a student group to complete.

Dexter (in Merriam, 2009: 88) states that “interviewing is the preferred tactic of data collection when ... it will get better data or more data or less cost than other tactics!” In Merriam’s opinion “interviewing is sometimes the only way to get data”, for example in certain instances where it is not possible to observe behaviour, or to

determine how people feel and make sense of the world around them. I chose the method of interviewing for data collection, because interviewing is particularly useful when collecting data from a large number of people representing a broad range of ideas (Merriam, 2009: 88).

Research interviews are frequently structured face to face interviews between the researcher and participant(s) wherein the researcher aims to obtain the participant's personal, subjective opinion on a topic which concerns the researcher. Researchers often use an interview guide to supply the required structure to guarantee that conversational interviews are to the point and useful (Cannold, 2001: 179). Edwards (2001: 131) claims that when case study researchers want to discover how people, for example parents of young children, feel and to try to understand the way that they behave, face to face interviews can provide valuable insight. She argues that "case study researchers often use interviews to explore their interpretations of the data and the tentative links they have been making between elements of the case as part of a process of progressively increasing an understanding of the case".

In my study, the structured interviews were conducted face to face. Seidman (1991: 77) remarks that "interviewing requires interviewers to have enough *distance* to enable them to ask real questions and to explore, not to share assumptions". Then again, according to Thomas (1998: 12), because of the nature of interviews they have the benefit that they permit the researcher to rephrase questions that respondents do not understand, and also allow respondents to elaborate on their ideas. The students visited the early learning centres as outsiders, however due to their participation in the centres' programme during the three weeks, they gained enough understanding and experience of the situation to know when to clarify and explore certain responses of the participants more fully.

(a) Advantages of structured face to face interviews

Face to face interviews have the advantage that the response rates are usually higher than for telephone interviews (Gray, 2009: 233; McMillan & Schumacher,

2006: 211) and response bias is fairly low “because refusals are usually equally spread across all types of respondents” (Gray, 2009: 233). Non-judgemental questions and responses are a way for the interviewer to establish rapport with participants, and to encourage trust during face to face interviews. When participants, like parents, feel their experiences and views are being heard, understood and responded to non-judgementally, they often feel validated. Usually participants become more forthcoming and honest in their response to questions (Cannold, 2001: 187).

One of the benefits of including face to face interviews as a data collection source, is that interviews can be utilised to compensate for some of the limitations of questionnaires that I discussed in 3.6.1. As Thomas (1998: 12) explains, talking with informants enables researchers to gather diverse types of information, for example the informants’ patterns of thought, abilities, moral values, interests, ambitions, plans, judgements of other people, and recall of events. Face to face interviews are further beneficial in that some rapport can be established with the interviewee at the start of the interview that is helpful in discovering a respondent’s reasons “for doing something or holding a personal belief” (Gray 2009: 233). Structured face to face interviews are an effective method for asking open questions, to elicit detailed responses and for asking probing questions to clarify answers that are not clear or incomplete (Creswell, 2008: 396; Gray, 2009: 233; Hittleman & Simon, 2002: 27).

Additional strengths that various authors emphasise are the usefulness of face to face interviews to provide in-depth information, to ask sensitive questions and to determine attitudes (McMillan & Schumacher 2006: 211; Teddlie & Tashakkori, 2009: 239). The advantages that interviews offer that also apply to my study can be summarised as being flexible, adaptable, having the ability to probe and clarify unclear answers, and having a high response rate (Creswell, 2008: 396; McMillan & Schumacher, 2006: 211).

(b) Disadvantages of structured face to face interviews

Face to face interviews are non-anonymous (McMillan & Schumacher, 2006: 211) and not all interviewees feel at ease or are willing to reveal information about

themselves during an interview (Creswell, 2008: 396). A limitation that Greeff (2005: 299) warns about, is that the participant may find in-depth interviewing emotionally troubling. The researcher may ask questions that suggest the desired responses from the participants and responses could be misinterpreted or even be untruthful at times (Greeff, 2005: 299).

Hittleman and Simon (2002: 27) explain that interviews differ from questionnaires in the sense that the researcher can modify the data collection situation to fit the respondent's replies. For example, additional information can be solicited or a question can be rephrased. I feel the option of rephrasing or adding information was also beneficial in the collection of data in my study. It was visible in a few instances that certain fieldworkers added some of their own additional questions, however, the majority of the fieldworkers only asked the prescribed questions.

Structured face to face interviews are furthermore expensive and time-consuming (McMillan & Schumacher, 2006: 211; Teddlie & Tashakkori, 2009: 239), since they require large amounts of interviewer time, a considerable percentage of which is often spent travelling to and from interviews (Gray, 2009: 233). With regard to my study, the cost factor and time restriction were eliminated, because I used multiple investigators (students) who were based at the sites for teaching practice purposes and who did not have to travel for the interviews specifically. The data analysis process, however, was very time-consuming for the open-ended items (Teddlie & Tashakkori, 2009: 239) and I had to deal with this limitation in terms of my time management.

The criticism about interviews, namely that they provide the researcher with the "official account" are in Greeff's opinion (2005: 299) not valid. She asks, what better way is there to inquire about individuals lives, than asking themselves. For her, interviews have particular strengths in terms of obtaining a lot of data quickly and especially obtaining the data in depth.

Each student could approach any parent who had children in the early learning centre where the student was doing her teaching practice session, with a request for an interview. There was no restriction in terms of gender, but all the female students (fieldworkers), approached mothers. The fieldworkers asked the parents the prescribed questions and then wrote the mothers' responses in their field notes. During the information session prior to their teaching practice sessions, I informed the fieldworkers about the methods and procedures of interviewing, for example good communication techniques and listening skills (Greeff, 2005: 288–290). The fieldworkers were encouraged to apply the above-mentioned techniques and to remember that the purpose of interviewing is “to allow us to enter into the other person’s perspective” (Patton, 2005: 341). Patton also reminds us that the qualitative interviewing begins with the assumption “that the perspective of others is meaningful, knowable, and able to be made explicit” and that we interview to “find out what is in someone else’s mind, to gather their stories”.

The fieldworkers had to organise interview sessions to conduct the prescribed interview schedules. These interviews occurred during the last part of their teaching practice session when they had more knowledge about the specific early learning centres and its people. The fieldworkers were requested to write down the responses and to make field notes (examples in Appendix J) about their insights, ideas, inspirations and judgements (Patton, 2005: 305; Gay *et al.*, 2009: 410).

3.6.2.3 Interviews with teachers: interview schedule

Cubey and Dalli (cited in Podmore & Meade, 2000: 11) stress the importance of early childhood staff being involved in the evaluation of their own programmes to ensure that inappropriate evaluation methods are not externally imposed. In a literature review relating to quality evaluation of early childhood programmes, they note that evaluation is closely connected to providing a high quality childhood service. I share the same opinion and therefore included interviews with teachers as an important part of my data collection. The purpose of the interviews with the teachers was aimed at creating a platform and giving the teachers opportunities to voice their opinions

and to share their experiences as insiders on the important aspect of quality in the early learning centre work environment.

Interviews are one of various instruments that can be used for collecting data. Interviews are useful for becoming aware of the way that participants give meaning to their lives. Some early childhood researchers explicitly favour the use of interview methodologies to acknowledge teachers' right to be heard, to hear the voices of those that are "habitually marginalised" (Hauser in Cannold, 2001: 179). Towards the end of the teaching practice session each student had to interview the teacher (Appendix I) where she was placed, spent the most time with and with whom she established a close relationship during the three weeks of teaching practice.

Greeff (2005: 298–299) states that both empirical observation as well as interpretations ought to be included in the field notes. Emotions, hunches, questions, expectations, insights, presumptions, and prejudices are captured in the final field note product (Gay *et al.*, 2001: 370; Greeff, 2005: 298–299). According to Patton (2005: 301), field notes contain the description of what was seen and heard and everything that the observer believes to be significant, should be included. The lack of accuracy of field notes can be a big disadvantage, therefore the field notes must be written as soon as possible after observation because "as the interval between observing and writing becomes longer, the likelihood of distortion from the original observation also increases" (Gay *et al.*, 2009: 367).

Field notes should be written by people with no preconceptions, who recognise and dismiss their own assumptions and biases and who are open to what they see. They must try to see things through the participants' perspectives otherwise the value of the field notes will be seriously limited (Gay *et al.*, 2009: 367). Examples of the field notes that some of the students as fieldworkers wrote, are available in Appendix J.

3.7 DATA ANALYSIS AND INTERPRETATION

As Creswell (2008: 558) explains, "the mixed method researcher compares the results from quantitative and qualitative analyses to determine if the two databases

yield similar or dissimilar results”. According to Creswell, triangulated data can illustrate convergence, inconsistency, and complementary results. McMillan and Schumacher (2006) confirm that “the interpretation of results is the key to this method, as it provides a convergence of evidence in which the results of different methods converge and support one another, researchers have triangulated the findings. The use of different methods results in very strong results. Often the strengths of one method offset the weaknesses of the other, which allows for a much stronger overall design and thus more credible conclusions”.

Siraj-Blatchford and Siraj-Blatchford (2001: 158–159) suggest that the researcher should start right from the initial phases to make a distinction between data which is noteworthy or not in terms of the research question, to look out for regularities and patterns, and to create clarifications and options. They emphasise “these formulations need to be very lightly held to begin with – it is important to be sceptical”. The same authors recommend referral to earlier notes and support from documents and to confirmation seeking from other sources as the study progresses. These approaches are utilised “to test the findings for plausibility, to confirm your assumptions and to demonstrate validity”. This procedure is known as ‘saturation’ where fragmentary explanations of events are continually checked against the data “in an attempt to falsify it”. Through the continuous testing they may be discarded, adapted or elaborated (Siraj-Blatchford & Siraj-Blatchford, 2001: 158–159)

In my study, data analysis was done in the concurrent triangular mixed method where I merged the data by implementing quantitative as well as qualitative analysis methods. The results were then interpreted collectively to offer a better understanding of the phenomenon of interest. Because of the triangular design, the quantitative and qualitative data were analysed concurrently and in an integrated fashion (McMillan & Schumacher, 2006: 404–405)

3.7.1. Quantitative data analysis

In my study, the only quantitative data that needed to be analysed, were the questionnaires. Terre Blanche and Durrheim (1999: 98) state that quantitative data

analysis takes place in different stages. The raw data are transformed into computer readable format in the first, preparatory stage. Because this raw data can be unordered, and contain errors and missing values, they must be transformed into an ordered, error-free data set before they can be analysed. The first phase requires coding, entering and cleaning of data (Terre Blanche & Durrheim, 1999: 98). I used statistical procedures to analyse the closed-end questions in the questionnaires (Durrheim, 1999: 96). I first coded the closed-end questions manually by physically calculating the responses (see Appendix F for examples of this phase), and then I grouped the responses in columns (see Appendix G for examples of this phase). In quantitative designs, the aim is to indicate the frequency of the data in terms of how much or how many and the outcomes are typically presented in numerical form (Merriam, 2009: 5). The results in the handwritten columns were then captured electronically in spreadsheets (see Appendix G for examples of this phase) in order to be depicted in graphs and figures. To ensure reliability an information specialist⁵ assisted me in capturing the relevant data in pie charts. This visual presentation facilitated the analysis and interpretation process.

According to Burton, Brundett and Jones (2008: 162), it is a weakness that many researchers feel overwhelmed “by a deluge of data”. They suggest the drawing of diagrams to help with this dilemma. Depending on the type and quantity of data, the advantages of quantitative data analysis according to Opie, (2004: 151) are that the analysis can be relatively straightforward and quick. Statistics are often used to describe some characteristics of a sample group, and also to test for similarities as well as differences between groups. The results of the analysis are then interpreted and reliable conclusions made. The next step after the analysis process, was to interpret the research results and to look for their significance and implications (Aubrey *et al.*, 2000: 50; Kruger, De Vos, Fouché & Venter, 2005: 218).

3.7.2 Qualitative data analysis

The qualitative data in my study that needed to be analysed, were the written responses on the interview schedules with the parents and teachers, the open-ended

⁵ Marietjie Schutte, Information Science, University of Pretoria

questions of the questionnaires, as well as the reflective journals with field notes and photographs that were captured by the fieldworkers. Creswell (2005: 230) states that for qualitative data to be analysed, one needs to understand how to make sense of text and images so that you can inform answers to your research questions. The words of Ary *et al.*, (2002: 425) describe what I attempted to achieve in my study, specifically through the data analysis:

The collected data are in the subjects' experiences and perspectives; the qualitative researcher attempts to arrive at a rich description of the people, objects, events, places, conversations, and so on.

For Henning *et al.* (2004: 6), data analysis in qualitative research is an “ongoing, emerging and iterative or non-linear process”. Analysing qualitative data, according to Seidel (1998: 1), is a process consisting of three parts: noticing, collecting and thinking about interesting things. He says finding the relationships between the parts is a process, not linear and has an iterative and progressive cycle that keeps repeating. The cycle is recursive, meaning that you may start noticing new things during the second step of collecting. Lastly, the cycle is holographic in that each step in the process contains the entire process. Seidel admits that although this is a simple foundation, the process of doing qualitative data analysis, is complex. Patton (2005: 452) is in agreement about the complexity and argues that one requires many underlying abilities, or competencies to do thematic analysis. Boyatzis (1998: 7) refers to *pattern recognition* or the ability to see patterns in seemingly random information. The term *pattern* usually refers to a descriptive finding.

Developing some manageable classification or coding scheme is the first step of analysis (Patton, 2005: 463). Although there are computer programs available which can support qualitative analysis, Edwards (2001: 132) advises that these programs should be chosen carefully and utilised only if they offer the required support. He warns that “analysis should not be led by what the analysis program can do” (Edwards, 2001: 132). After data collection, I started the analysis process by organising the data. I used inductive analysis where categories and patterns started to appear from the data during analysis, rather than being decided on before the data collection process (McMillan & Schumacher, 2006: 364, 374, 375). Instead of a computer software package, I implemented a common manual data analysis strategy suggested by Siraj-Blatchford and Siraj-Blatchford (2001: 159). I photocopied the

data set (field notes of interview schedules and reflective journal inscriptions and questionnaires), coded each response to differentiate between the sources (see Appendix K, M, P examples), classified the responses into types and sorted all of the responses into categories (see Appendix H for examples).

Patton (2005: 453) notes that no clear-cut or agreed-on terms describe varieties and processes of qualitative analysis. In my study, I used thematic analysis that refers to the “analysis of narrative data using a variety of inductive and iterative techniques, including categorical and contextualising strategies” (Teddlie & Tashakkori, 2009: 343). Patton refers to thematic analysis as “any qualitative data reduction and sense-making effort that takes a volume qualitative material and attempts to try to identify core consistencies and meanings” (Patton, 2005: 453). The process that I followed was to search the texts in the interview transcripts, reflective journals and questionnaires for recurring words or themes. The structured interview responses of teachers and parents were already documented in hard copy format by the fieldworkers when I received them. I analysed these responses electronically and identified themes (Appendices K & M) and topics (Appendices L & N). I grouped themes that emerged from the interviews under broad categories based on my theoretical framework, specifically the quality indicators, namely the input, process and outcome indicators. I organised and coded the inscriptions in broad categories (refer to Appendices L & N for examples) to produce a record of the things that I have noticed (Bogdan & Knopp Biklen, 2003: 258).

I analysed the content of the purposively selected reflective journals by means of thematic analysis in order to identify significant themes as explained in 3.5.1.2a (Patton, 2005: 463). The last qualitative data source was the qualitative open-ended responses of students in terms of a questionnaire. I analysed the written responses from the students according to themes that emerged (Henning *et al.*, 2004: 6; McMillan & Schumacher, 2006: 374). I used photographs to verify and extend the written reports.

To analyse observational data (as documented in reflective journals) in particular the qualitative variety, can be time-consuming, especially when the analysis involves the transcription of qualitative data into a quantitative structure as was the case in my

study (Rolfe, 2001: 238). I am in agreement with Edwards (2001: 132) who says “to be drowning in data is not a pleasant experience”. He states that working in a structured manner is therefore a vital characteristic for the researcher and the “physical sorting of data needs to start as soon as evidence starts to accumulate”. For Terre Blanche and Durrheim (1999: 101) the disadvantage of this phase of qualitative analysis is that coding and entering data are labour-intensive and boring tasks, and that errors can easily arise. The human factor should not be overlooked. To address the aspect of possible errors, I repeated the process and compared the responses in my coding system to the original data sources to double check for accuracy. McMillan & Schumacher (2006: 364) alert researchers by saying “making sense of the data depends largely on the researcher’s intellectual rigor and tolerance for tentativeness of interpretation, until the entire analysis is completed”. There is always the possibility that some of the embedded information could be missed or not correctly understood as it was meant by participants (Patton, 2005). Although I am the primary researcher, I am the third party and therefore the students’ meaning is also embedded in the transcriptions of the responses.

The main strength of qualitative data analysis is that it is possible to obtain rich data from different sources that can contribute to valuable findings. Merriam (2009: 16) believes:

The product of a qualitative inquiry is richly descriptive. Words and pictures rather than numbers are used to convey what the researcher has learned about the phenomenon. There are likely to be descriptions of the context, the participants involved, and the activities of interest. In addition, data in the form of quotes from documents, field notes, and participant interviews or a combination of these are always included in support of the findings of the study. These quotes and excerpts contribute to the descriptive nature of qualitative research.

Analysis is more than coding, sorting and sifting (Seidel, 1998: 4). Analysing implies taking apart words, sentences and paragraphs through organising, reducing and describing the data, with the purpose to make sense of and interpret that data (Henning *et al.*, 2004: 6).

Following the coding of separate data sources, I compared all the responses of the different data sources in terms of the interrelated themes (refer to Appendix L for examples) and investigated specific patterns and categories that arose from the data. These patterns and categories were reflected in the interpretation of findings where I looked out for comparisons, causes, consequences and relationships to make sense of the data (Bogdan & Knopp Biklen, 2003: 258; McMillan & Schumacher, 2006: 374–375; Nieuwenhuis, 2007: 111; Patton, 2005: 465, 478). The results will be discussed in Chapters 4 and 5.

3.8 ETHICAL CONSIDERATIONS

3.8.1 Introduction: what ethics?

In their book *Ethics and politics in early childhood education*, Dahlberg and Moss (2007: 64–85) ask *what ethics* underlie the work of researchers in the field of early childhood education. They distinguish between universal(istic) ethics which is “an expression of the Enlightenment project of refounding morality and social life on universal and rationally compelling principles” (Dahlberg & Moss, 2007: 65) and postmodern ethics which is characterised by a turn away from the universalistic approach. They describe postmodern ethics as follows:

This new direction has led to the exploration of a number of connected themes: responsibility, relationships, situatedness, and otherness are particularly important.

Rather than seeking universal truths or following universal prescriptions, postmodern approaches to ethics foreground wisdom, which involves an active practice to decide what is best in a concrete situation. They are interested in particularities and the emotions associated with particular experiences rather than seeking the dispassionate application of general and abstract principles. Postmodern approaches to ethics also recognise and acknowledge the uncertainty, messiness and provisionality of decision making (Dahlberg & Moss, 2007: 69). The constructivist (in particular social constructionist) theoretical paradigm that informs my study is aligned with such postmodern thinking.

Dahlberg and Moss (2007: 65) argue that “though discussions of ethics do involve theory, they are not just theoretical, but a very practical matter that is the systematic and critical reflection on human action”. For this reason my discussion of ethical considerations relevant to my study includes both a brief reflection on the implications of a constructivist (more specifically a social constructionist) theoretical paradigm for the research endeavour in general and how this theoretical paradigm has informed my research practice.

3.8.2 Ethics informed by a social constructionist metatheoretical paradigm

My constructivist (social constructionist) metatheoretical paradigm (explained in 3.2.1) implies a particular ethical focus and stance. For this reason I lean towards the kind of ethical guidelines proposed by researchers that share this paradigm.

Freedman and Combs (1996: 269-272) refer to a number of *ethical postures* described by Karl Tomm. He developed a model that is primarily aimed at understanding ethical postures in therapeutic research and practice, but Tomm’s model is also relevant to ethical issues in the field of education. His model offers a thoughtful description of possible ethical stances. He argues that his model describes certain postures through which he wants to constitute himself in relation to others. It also assists him in using and inventing language that will support and remind him to make ethical choices he wants to make in an ongoing way.

The following diagram (Figure 3.2) represents Tomm’s model with regard to possible ethical postures.

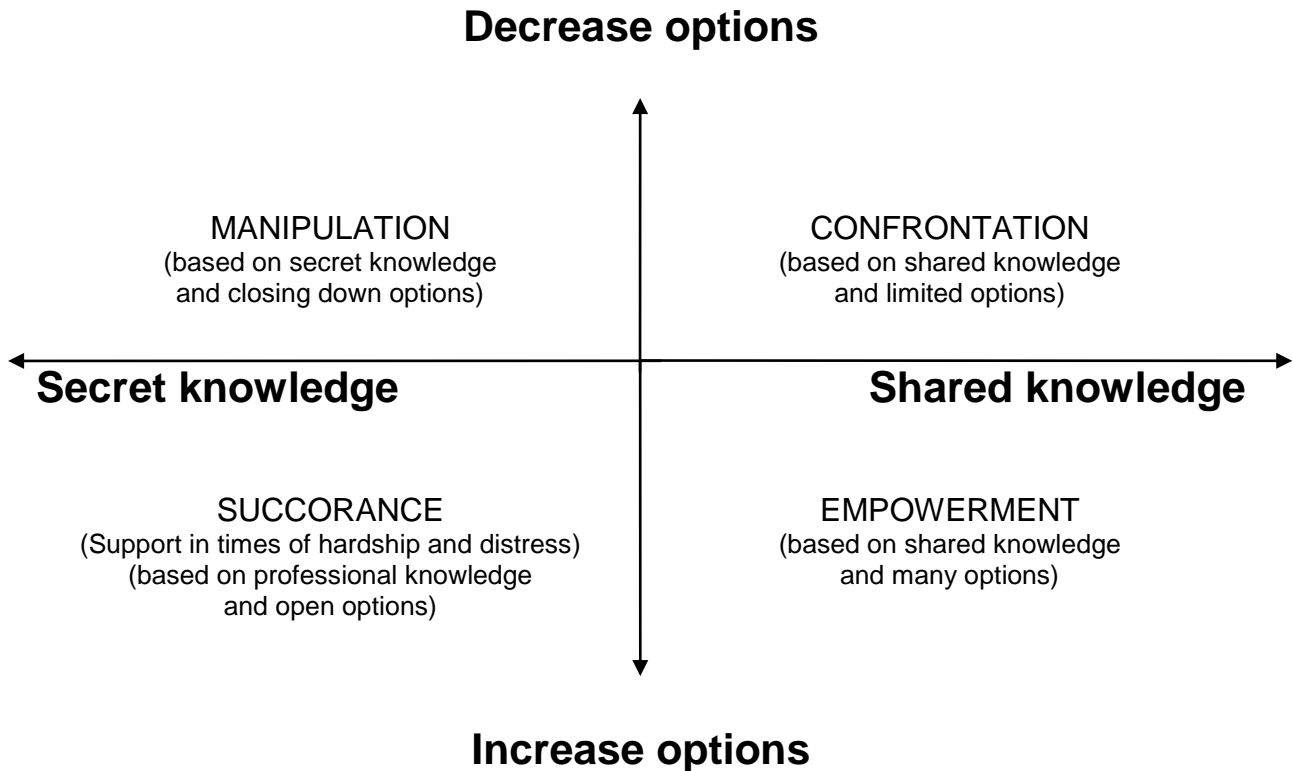


Figure 3.2: Diagram of Karl Tomm's model for ethical postures (Freedman & Combs, 1996)

The diagram above suggests that there are four basic ethical postures. The horizontal axis plots the way knowledge is shared in communication between people. The extreme left end of the axis represents communication that is based in "secret" knowledge, such as professional knowledge or knowledge that is accessible to only certain beneficiaries but not others. The extreme right end represents actions that are based in shared knowledge, so that all parties are informed and collaborating in the process. The vertical axis represents the intended means through which actions are performed. This axis consists of a continuum that goes from reducing options or closing space at the top to increasing options or opening space at the bottom. With these two dimensions in mind, Tomm labels the four quadrants *manipulation* (based on secret knowledge and closing down options), *confrontation* (based on shared knowledge and limited options), *succorance* (based on professional knowledge and open options) and *empowerment* (based on shared knowledge and many options).

Tomm's preferred ethical stance involves engaging primarily in *empowering* relationships and also in *succorant* ones (Freedman & Combs 1996: 271). Both the

empowering and succorant stances involve increasing options or opening space. The purpose of my study is aligned with these two ethical stances, first by giving a voice to various beneficiaries, and secondly by making knowledge and insights available that could increase options with regard to quality education.

3.8.3 Ethical guidelines

Freedman and Combs (1996: 271) suggest that, given their postmodern, social constructionist stance, a number of specific guidelines inform their research and actions. While reminding us that ethics is about people and relationships, they offer several guidelines that — in terms of Tomm’s model — serve the empowerment of themselves and others: grounding (being sensitive), recursioning (being mindful), coherencing (being congruent), and authenticating (being honest).

With regard to the emphasis on people and relationships, Freedman and Combs (1996: 269–271) argue that Tomm’s model particularly questions whose voices are dominant in discourses under investigation (see the discussion on recursioning below). Building relationships of trust are also of paramount importance. My study created space for establishing and nurturing relationships of trust, especially between the student teachers and the children attending early learning centres, between the student teachers and teachers at the early learning centres, and to a lesser extent between the student teachers and the parents — all due to three weeks of exposure to each other at the early learning centres. Space was also created for establishing a relationship of trust between the main researcher and the fieldworkers due to six months of exposure to each other in a lecturer-student relationship.

The first guideline articulated by Freedman and Combs (1996: 271) that they follow in empowering themselves and others, is *grounding*, which includes “attending to the contexts and conditions of others, listening carefully, and sharing descriptions rather than keeping them private” (Freedman & Combs 1996: 271). A number of elements of my research made the above possible. (a) The students as fieldworkers were exposed to the circumstances, programmes and stories of research participants for a period of three weeks, which offered them an opportunity to explore and even

experience the contexts of research participants. (b) During the three week period the teacher students wrote reflective journals that contained information on the contexts of research participants. Reflective journals also contained valuable information on shared descriptions of research participants. (c) Furthermore, the design of my study gives a voice in different ways to various stakeholders in the field of early childhood education, including parents, teachers, student teachers and policy makers.

The second guideline, *recursioning* (being mindful) includes “assuming that one is assuming” (Freedman & Combs 1996: 271). This applies to everybody involved in the research project. In the case of my study, this includes fieldworkers and other participants such as all the beneficiaries of early childhood education who have been interviewed, observed, etc. Student teachers were trained to be mindful of the experiences and opinions of others, not only their own. The voices of children in particular were foregrounded in the reflective journals. The open ended questions included in the questionnaires also created space for sharing such reflective experiences.

The third ethical guideline, *coherencing* (being congruent) involves avoiding inconsistencies between intent and effect and being attuned to emotional dynamics in order to seek intuitive consistency (Freedman & Combs 1996: 271). Thus, what researchers do is not evaluated by how well their actions follow rules, but by the actual effects on people’s lives. MacNaughton, Rolfe and Siraj-Blatchford (2001: 270) also state that ethics in research refers to a consideration of the effects of the research on the rights and well-being of all those who may be affected by the research. With regard to coherencing, I was struck by how prominently the *emotional element* of experiences featured in the reflective journals of student teachers. In order to prevent unrealistic expectations, but also unintended effects of my study on the lives of persons and institutions, I obtained the *informed consent* of participants. All participants were informed about the purpose and methods of my research, and that their inputs would be treated anonymously. Informed consent is a prerequisite within an ethical framework where a focus on people and relationships and sensitivity to the effects of practices serve as overarching guidelines (Freedman & Combs, 1996: 269).

One of the first steps of the journey of my study was to adhere to the ethical criteria of the University of Pretoria and to obtain the necessary permission to conduct research with the participants. Since the early learning centres are not attached to the Department of Education, I did not require consent from the Department. However, I obtained the free consent of the principals of the early learning centres, the teachers and parents and students, which means that they decided to engage in the activities without coercion or pressure (Goldenberg & Goldenberg, 2008: 142). All the participants were informed that their participation in the research project was voluntary and confidential. They were also notified that they would not be requested to provide any information that reveals their identity and that no information would be connected to a specific person or institution and that all information would therefore be handled anonymously. Participants were assured that their trust was appreciated and their privacy respected, and that all individuals and the early learning centres would remain anonymous and none would be identifiable through the study. From the principals, teachers and parents I obtained consent to use the interviews. The students gave consent that I could also use their reflective journals and the questionnaires. I applied for, and was granted, ethical clearance for this project. The relevant letters of consent (Appendix B) and the ethical certificate of proof (Appendix C) are available.

A fiduciary relationship exists between student and lecturer, which means trust and confidence is placed in the institution (in exchange for tertiary education). The institution accepts responsibility to act only in the best interest of the student. A fiduciary relationship also requires knowledge of the requirements necessary for fulfilling the trust and must be understood by both the student and the lecturer (McCleve, 1991: 35). There was a clear understanding between the students and myself as their lecturer that their responsibilities with regard to this research project (questionnaires, interview schedules and reflective journals) would not be confused with their teaching practice assignments; that only the latter would be assessed for the purposes of their academic career; and that their academic standing would in no way be affected by their participation in this project.

The students collaborating as fieldworkers were also doing their teaching practice (as part of their formal academic formation) at the early learning centres on which they reported for the purpose of this study. I had to make sure whether and how my research project would impact on the academic side of their involvement at those early learning centres. Would they be able to distinguish between the two roles they had to assume? Would I be able to handle their involvement in my research project in such a way that it would not impact on the students' academic standing? Before my study commenced, I assured the students that their involvement in my research project as observer participants/fieldworkers would not impact on either our student-lecturer relationship, or their academic standing. However, their involvement might be an opportunity for gaining research experience. In my ethical declaration I clearly stated that I would not abuse or manipulate the students or their information in any manner. Such manipulation would be counter-productive with regard to my study.

Gay, Mills and Airasian (2009: 19) emphasise the two overriding rules of ethics, namely that the participants' consent should be obtained (as explained above) and that participants should in no way be harmed. Gay *et al.* (2009: 19) and Dahlberg and Moss (2007: 73) emphasise that research studies are built on trust between the researcher and the participants and that both parties expect from the other care and responsibility and to behave in a trustworthy manner. In my study, trust played an important part in the relationship between the students and me. A focus on coherencing therefore addresses the issue of whether one's research results in beneficence (doing good and resulting in good) or in maleficence (causing harm, having an unfavourable influence). The overall purpose of my study is to conceptualise quality in an attempt to benefit the development of a quality assurance system for early learning centres which in itself is a way of doing good towards the students and all the other participants in my study.

The fourth ethical guideline, namely *authenticating*, includes "privileging direct experiences over explanations, performing one's own explanations, and being open to seeing oneself through others' eyes" (Freedman & Combs, 2006: 271).

The mixed method approach I followed allows for, *inter alia*, case study research. According to Gomm, Hammersley and Foster (2000: 6), case study research is advocated on the basis that it can capture the unique character of a person, situation

or group. They argue that here there may be no concern with typicality in relation to a category or generalisability to a population. The aim is to represent the case authentically or as they put it “in its own terms”. One aim with my study was to amplify the unique voices of the role-players in terms of their experiences of quality in early learning centres. By selecting a variety of role players, and by using interviews, I therefore enabled previously hidden or silenced voices, or as in my study’s case, previously unheard authentic voices, to be heard (Seale, Gobo, Gubrium and Silverman, 2004: 25).

3.9 ENSURING THE QUALITY AND RIGOUR OF THE STUDY

According to Ary, *et al.*, (2002: 457) the main issues related to rigour in research are truth value, generalisability, consistency and neutrality. In Table 3.8 below, they show how qualitative and quantitative research respectively address these issues.

Since my study involves a concurrent mixed method approach that makes use of both qualitative and quantitative methods, all these concepts are relevant to my study.

Table 3.8: Standards of rigour for research (Ary, Jacobs & Razavieh, 2002: 457)

QUALITATIVE	QUANTITATIVE	ISSUE
Credibility	Internal validity	Truth value
Transferability	External validity	Generalisability
Dependability	Reliability	Consistency
Confirmability	Objectivity	Neutrality

Two assumptions about social constructionism have created the impression that rigour is not considered an important requirement in this framework. The first assumption is that social constructionism, which is associated with postmodernism, is characterised by an “anything goes” mentality. The second assumption maintains that social constructionism implies opposition to quantitative research and therefore the standards of rigour relevant to quantitative research do not apply within this paradigm. With regard to the latter assumption, in 3.2.1 I referred to Gergen’s view that a social constructionist paradigm can accommodate both quantitative and

qualitative research (Gergen, 2001a: 423–424). Hence, the standards of rigour for both approaches should be considered when using a concurrent mixed method approach within a social constructionist paradigm. With regard to the former, Gergen (2001a: 423) convincingly demonstrated that social constructionism does not imply a specifically relativist position and that it is never a matter of “anything goes” in practice, because little goes except within a tradition of social collaboration. In this sense, social constructionism invites a reflexive posture toward the sometimes blinding force of tradition.

3.9.1 Trustworthiness of research

MacNaughton, Rolfe and Siraj-Blatchford, (2001: 274) explain that *trustworthiness* refers to the “judgements about the quality and credibility of the research design, enactment, analysis, findings and conclusions”. The trustworthiness of a project has been described as “the extent to which an inquirer can persuade audiences that his or her findings are worth paying attention to” (Lincoln & Guba, in Teddlie & Tashakkori, 2009: 296). *Authenticity* as part of trustworthiness considers whether the study provides a reliable reconstruction of the participants’ perceptions, perspectives, views, beliefs and values. In other words, “readers can relate to or connect with informants and situations” (McMillan & Schumacher, 2006: 330).

In the literature on rigour and quality in research (e.g. Ferreira, 2006: 153), the concept of trustworthiness is often used as an overarching term that contains elements such as credibility, transferability, dependability, and confirmability. However, these criteria sometimes require different actions, depending on whether one is doing qualitative or quantitative research. Since I make use of a mixed approach (both quantitative and qualitative research) I need to consider the different emphases of these criteria for each of these types of research.

My social constructionist paradigm requires that the trustworthiness of my study should also include a self-reflexive stance.

Researchers are ultimately responsible for the knowledge they produce, and how they produce it, therefore reflexivity contributes to making better knowledge and better research practice (Thomson & Walker, 2010: 144).

Self-reflexivity enables researchers to become aware of their own positions and interests which impact on all phases of the research process. The contextual grounds for reasoning are very important (McMillan & Schumacher, 2006: 328). McMillan and Schumacher (2006: 327) argue that “reflexivity is rigorous self-scrutiny by the researcher throughout the entire process”. In their opinion the complex questions that researchers ask themselves imply that they cannot be ‘neutral, objective, or detached’. Self-reflection by means of self-reflective questions implies discomfort, but is used to recognise and minimise one’s own biases and is imperative to ascertain credibility (Ary, Jacobs & Razavieh, 2002: 454; McMillan & Schumacher, 2006: 327)

Patton (2005: 66) suggests the following self-reflective questions: “What do I know? How do I know what I know? What shapes and has shaped my perspective? With what voice do I share my perspective? What do I do with what I have found?” The questions that Bassey (2003: 111–112) proposes are: “Does this mean what it appears to mean? Am I observing what I think I’m looking at? Does my question have the same meaning to the person that I’m interviewing as it has to me, and if so am I getting his or her version of the truth?” Human subjectivity is therefore not denied by researchers, but taken into consideration by way of different strategies (Ary *et al.*, 2002: 454; McMillan & Schumacher, 2006: 327).

Several possible strategies for enhancing reflexivity can be used to monitor and evaluate the impact of a researcher’s subjectivity. One strategy suggested by McMillan and Schumacher (2006: 328) that I utilised, was to discuss preliminary analysis and strategies with peer debriefers. Those discussions provided some clarity in terms of implicit knowledge that I as the researcher have acquired. Probing questions posed by the peer debriefers also assisted me in understanding my own stance and role in the inquiry. I also applied another strategy described by Ary *et al.*, (2002: 456); McMillan and Schumacher (2006: 329), namely to adhere to audibility criteria which entails “the practice of maintaining a record of data management techniques and decision rules that document the chain of evidence or decision trail”. I kept a chain of evidence which consists of the themes, codes and categories that I applied to describe and interpret the data in addition to the drafts and preliminary

diagrams. Lastly, as I have explained in 3.6.2.1, all the student-participants kept reflective journals to capture their observations and considerations.

In my study, I applied various strategies to ensure rigour and quality in order to convince research audiences that the findings of this study are worthy of their attention. I addressed the aspects related to credibility, transferability, dependability and confirmability and their quantitative analogues, internal and external validity, reliability and objectivity.

3.9.1.1 Credibility and internal validity

Credibility, with the quantitative analogue, internal validity (and another word for truth according to Silverman, 2010: 275), asks whether or not the reconstructions of the inquirer are “credible to the constructors of the original multiple realities” (Lincoln & Guba in Teddlie & Tashakkori, 2009: 296). McMillan and Schumacher (2006: 471) define credibility as “the extent to which the results of a study approximate reality and are thus judged to be trustworthy and reasonable”. *Internal validity* “seeks to demonstrate that the explanation of a particular event, issue or set of data which a piece of research provides can actually be sustained by the data. The findings must accurately describe the phenomena being researched” (Cohen *et al.*, 2001: 107).

Terre Blanche and Durrheim (1999: 63) advocate that credibility can be achieved by means of employing many different research methodologies (e.g. quantitative and qualitative) to find out whether there are discrepant findings. I applied different research methodologies (quantitative and qualitative) to check for discrepant findings. The application of a mixed method approach with both quantitative and qualitative sources therefore contributed towards the credibility of my study. In order to further test my study’s credibility, I also applied the guidelines suggested by Sturman (1999) by thoroughly explaining the data-gathering procedures, presenting the data transparently and explaining exactly how the analyses obtained from all the different sources, were done.

In my study, I aimed to structure credible tools (questionnaires, interview schedules and reflective journals) that represent the phenomenon of interest (MacNaughton,

Rolfe & Siraj-Blatchford, 2001: 271). Teddlie and Tashakkori (2009: 296) also suggest techniques for enhancement of the credibility of a study. Regarding the first technique of *prolonged engagement*, I regard the three weeks of interaction that the participant observers spent with the participants, as credibility strength. There was, secondly, also *persistent observation* during the three weeks in order to establish the relevance of the characteristics for the focus and I, thirdly, implemented the *use of reflective journals* and extensive field notes. Lastly, I applied *triangulation* techniques (of methods, sources, investigators) to strengthen the credibility of my study. As suggested by McMillan and Schumacher (2006: 374), as well as by Siraj-Blatchford and Siraj-Blatchford, (2001: 160), I utilised triangulation as a validation process where I compared and contrasted the responses of the parents and the teachers with each other and with documentary and observational information. The fieldworkers, who I trained during a training session, carried out the interviews with the parents and the teachers. It was my task as the researcher to do the analysis and to accumulate the manifold sources of data. Another way in which I applied validation through triangulation, was to use more than one data collection technique. I could do valuation of observational data of the interviews that the students had with the parents and the teachers (Bogdan & Knopp Biklen, 2003: 262; Henning *et al.*, 2004: 53).

3.9.1.2 Transferability and external validity

Inference *transferability* refers to “the degree to which conclusions may be applied to other similar settings, people, time periods, contexts and theoretical representations of the constructs”. Transferability in qualitative research matches *generalisability* and *external validity* in quantitative research (Teddlie & Tashakkori, 2009: 287). Cohen *et al.* (2001: 137) say “that it is possible to assess the typicality of a situation – the participants and settings, to identify possible comparison groups, and to indicate how data might translate into different settings and cultures”. Bogdan and Knopp Biklen, (2003: 259) and MacNaughton, Rolfe and Siraj-Blatchford, (2001: 270) see generalisability as the extent to which results from a research study can be applied to and/or can explain the phenomenon in general, for the population as a whole, and under real world conditions. Teddlie and Tashakkori (2009: 286), state that inference

transferability is relative, but that “every inference has a degree of transferability to a context, to a group of people or entities, or to the alternative ways of conceptualizing the behaviours and phenomena under investigation”. I believe that all of my data collection instruments can be used, or at least be adapted, to do a similar study in other settings like early learning centres. Such a study would however require “attention to sample representativeness, replication of test conditions, replication of results, sample sensitisation to the research procedures, and bias in the sample of the research process” (MacNaughton, Rolfe & Siraj-Blatchford, 2001: 270).

Teddlie and Tashakkori (2009: 286) recommend the use of *thick descriptions* to enhance transferability. A thick description involves making detailed descriptions of everything needed for the reader to understand what is happening and of the context and other aspects of the research setting to allow comparisons with other contexts (MacNaughton, Rolfe & Siraj-Blatchford, 2001: 274, Cohen, 2001: 109) I believe the thick descriptions in my study make the option of transferability possible.

3.9.1.3 Dependability and reliability

The terms *dependability* and *reliability* are sometimes used interchangeably. However, preference is often given to the term reliability by those who work within a positivistic paradigm. In this paradigm reliability usually refers to the consistency, accuracy and stability of the measurements used or observations collected in the study. The more reliable the measurement or observation the more ‘error-free’ it is considered to be. Reliability can be assessed by calculation of so-called ‘reliable coefficients’ (MacNaughton, Rolfe & Siraj-Blatchford, 2001: 273).

One is tempted to use the terms dependability and reliability as criteria for the qualitative and quantitative dimensions of research respectively. Reliability in quantitative research would then be regarded as a synonym for consistency and replicability over time, over instruments and over groups of respondents. It is concerned with precision and accuracy. For research to be reliable it must demonstrate that if it were to be carried out by a similar group of respondents in a similar context, then similar results would be found (Cohen *et al.*, 2001: 129).

However, in particular research projects, such as mine, the qualitative and quantitative dimensions of research are too intertwined to justify such a use of the terms dependability and reliability.

The term *dependability* fits a social constructionist paradigm better. Dependability could serve as an alternative to reliability, especially in cases when the researcher attempts to account for changing conditions (De Vos, 2005: 346). Terre Blanche and Durrheim (1999: 64) refer to dependability in terms of “the degree to which the reader can be convinced that the findings did indeed occur as the researcher says they did”.

Terre Blanche and Durrheim (1999: 64) argue that dependability is achieved through rich and detailed descriptions. These descriptions must show how certain actions and opinions are derived from and developed out of interaction that is contextual. According to Morgan (2000: 15), rich and thick descriptions are achieved when they are generated by the persons whose lives are being talked about. Rich description involves the articulation in fine detail of the story-lines of a person’s experiences. Morgan explains:

If you imagine reading a novel, sometimes a story is richly described — the motives of the characters, their histories, and own understandings are finely articulated. The stories of the characters’ lives are interwoven with the stories of other people and events (Morgan, 2000: 15)

Similarly, the criterion of dependability requires that researchers be interested in finding ways for accounts of people’s experiences to be richly described and interwoven with the accounts of others.

Thin descriptions, on the other hand, allow little space for the complexities and contradictions of life. It allows little space for people to articulate their own particular meanings of their actions and the context within which they occurred. Often, thin descriptions of people’s actions or experiences are created by others — those with the power of definition in particular circumstances (Morgan, 2000: 13).

My study allows beneficiaries of early childhood education to tell their own stories, which is particularly important in the case of the children themselves. Students were

encouraged to elicit and capture such stories in their reflective journals. Furthermore, students observed and interacted with the children and teachers in the context of early learning centres. These descriptions must show how certain actions and opinions are derived from and developed out of interaction that is contextual. The questionnaire that I used, allowed to some extent for rich descriptions in the form of the open ended questions. Participants were free to share information and experiences in the way they saw fit.

In addition, in my study, a sizeable body of data was generated and interpreted through the careful application of a mixed method approach that involved comprehensive field notes, especially in the form of reflective journals written by student-participants, transcripts of interviews, and questionnaires. In terms of the research design, all research partners (beneficiaries of early childhood education) were involved.

3.9.1.4 Confirmability and objectivity

The qualitative criterion of *confirmability* (or neutrality) that is related to the quantitative criterion of *objectivity*, addresses whether the findings of a study could be confirmed by another and whether researcher bias can be ruled out with regard to the findings of the study (Ferreira 2006: 159). Ary *et al.*, (2002: 456) explain that “neutrality is the extent to which the research is free of bias in the procedures and the interpretations of results”. They point out that the “focus shifts from the neutrality of the researcher to the confirmability of the data and interpretations”. In quantitative research objectivity refers to the extent to which researcher bias has been ruled out or at least minimised (MacNaughton *et al.*, 2001: 272).

Social-constructionist qualitative researchers ask whether, with regard to research findings, the researcher context and its potential impact on the findings have been reflected upon. For this purpose they employ strategies such as *self-reflexivity* (Bleakley 2004: 2-6). Self-reflexivity is not primarily about overcoming or minimising bias, but rather about juxtaposing one’s findings with those of others in order to become aware of the impact of the researcher’s contextuality, values, and so forth.

Jankowski *et al.* (2001: 246) suggest that social constructionist researchers take a conscious “*not-knowing*” stance with regard to both data collection and data analysis. They explain:

The influence of a researcher’s prior knowledge on the coding process is conceptually similar to its influence within the interview process. The primary difference is that in data analysis the researcher is not constructing new understanding from his or her interaction with the participants, but rather from his or her interaction with a text... We contend that the adoption of a “not-knowing” stance may mediate the likelihood that a researcher may unintentionally force the text into pre-existing constructions (Jankowski et al., 2001: 246).

Researcher bias is a given in any qualitative study, as our values inevitable influence the way in which we interpret data during data analysis (Ferreira 2006: 159). In an attempt to meet the requirement of the confirmability of my findings, I involved others during the stages of data collection and data analysis. During the data collection phase I made use of students as co-researchers (fieldworkers). I also consulted experienced researchers during the data analysis phase. I made a conscious effort to adopt a “not-knowing” stance with regard to both data collection and data analysis. In the questionnaire I used, as well as interviews conducted by the students, open questions were used, which was a way of minimising the impact of preset ideas of the researcher. Such questions resonate well with a “not-knowing” stance. Furthermore, by researching others’ texts and using them for “reflexive deliberation” within my own research, I developed an awareness of potential critiques of my findings.

3.10 CONCLUSION

In this chapter, I discussed the paradigmatic approach, research design and methodology, instruments and data capturing. I also explained my ethical strategies with the practical guidelines that informed my decisions. Lastly, I discussed how I ensured quality and rigour in my study. In Chapter 4, I will discuss the quantitative data analysis and the results of the study.