

## **Chapter 2**

### **Research design**

#### **2.1 INTRODUCTION**

The purpose of the research is to explore and describe the experiences of student nurses during their placement in the clinical learning environment. In order to achieve this, an appropriate research design needs to be chosen. In this chapter, the research process and design which include the data collection method and instrument, data analysis, target population and sample, pilot interview and methods to ensure trustworthiness, are discussed. According to Botes (1995:17), these are collectively referred to as research design. Justification is also given for the particular methods or strategies employed in this study.

#### **2.2 RESEARCH METHODOLOGY**

Research methodology is defined as the total strategy, from the identification of the problem, to the final plans for data gathering and analysis (Burns & Grove 2001:223).

##### **2.2.1 Research design**

Research design is defined as the clearly defined structures within which the study is implemented (Burns & Grove 2001:223). A qualitative, exploratory, descriptive and contextual design was followed using the phenomenological method to explore the lived experiences of student nurses during clinical practice (Streubert & Carpenter 1999:18). The richness and depth of the description gained from a qualitative approach, provides a unique appreciation of the reality of the experience (Munhall 2001:106).

Qualitative research emphasises the dynamic, holistic and individual aspects of the human experience, and attempts to capture those experiences in their entirety, within the context of those experiencing them (Polit & Beck 2004:16; Streubert & Carpenter 1999:15). The researcher chose to follow a qualitative research process to explore the experiences of student nurses during their placement in a clinical learning environment.

Through this approach, it was possible for the researcher to deeply engage and interact with student nurses through phenomenological interviews, and rich data was generated on the experiences of the student nurses during their placement in clinical learning facilities.

During the interviews the interviewer used bracketing (which refers to putting preconceived ideas aside) and intuiting (focusing on the lived experiences of respondents during their clinical placement). Field notes were taken by the interviewer based on the observations made during the interviews. Interviews were conducted until the data saturated as revealed by repeating themes and not by the amount of interviews conducted. A colleague (who is a registered nurse) assisted the interviewer by operating the audio tape recorder through out the interviewing process. Coding was done by the researcher with the assistance of the researcher's promoter and co-promoter who both also controlled the coding.

Exploratory research is defined by Burns and Groove (2001:374) as research conducted to gain new insights, discover new ideas, and for increasing knowledge of the phenomenon. The study attempts to explore the experiences of student nurses during their placement in clinical facilities in one of the districts of the Limpopo Province in South Africa.

Descriptive research involves direct exploration, analysis and description of the particular phenomena, as free as possible from unexplained presuppositions, aiming at maximum intuitive presentation (Streubert & Carpenter 1999:49). Descriptive studies are used to document the phenomenon of interest in the real situation (Marshall & Rossman 1995:41). The experiences of student nurses during their placement in clinical practice are described and recommendations for the improvement of the clinical learning environment are proposed.

Botes (1995:16) describe contextual research as findings valid within the time space and value context in which the study is being done. This study therefore focused on the clinical practica experiences of student nurses on one of the nursing campuses of the Limpopo College of Nursing and its clinical facilities. Thus, the study is restricted to one nursing campus and its clinical facilities in one district of the Limpopo Province. The researcher also attempted to capture the context in which clinical learning took place, in

order to obtain a holistic picture of student nurses experiences. The approach allowed the researcher to explore the insider's view, with utmost respect for the individual student nurse's perspective and his or her space (Streubert & Carpenter 1999:17).

The phenomenological method was chosen in order to describe the lived clinical learning experiences of student nurses during clinical practice. Phenomenology emphasises the individual's constitution of his or her life world, in other words, how the person experiences his or her world. The phenomenological research method was used to conduct this study, as it provides the opportunity for the student nurses to share their lived experiences with the researcher, without imposing views of the researcher. Phenomenology emphasises descriptions of the phenomena as consciously experienced, without theories about their causal explanation and as free as possible from unexplained preconceptions and presuppositions (Streubert & Carpenter 1999:44). The researcher approached the investigation with the intention of discovering the *emic* view or the insider's perspective.

### **2.2.2 Research population**

Population is defined by Polit and Beck (2004:50) as the aggregate or totality of those conforming to a set of specifications. Student nurses, who were in their fourth-year of study on one of the three nursing campuses of the Limpopo College of Nursing, were targeted for participation as they had already been exposed to different clinical settings, i.e. both in hospitals, the community, and clinics. At this level, they have also covered almost all study disciplines for the four-year integrated programme (SANC 1985). They will therefore be able to reflect easily on those experiences deemed to be positive and negative throughout their clinical learning.

### **2.2.3 Sampling**

Sampling refers to the process of selecting a portion of the population that conforms to a designated set of specifications to be studied. A sample is a subset of a population selected to participate in the study (Polit & Beck 2004:731; Uys & Basson 1991:87). A purposive sampling method was used, which is most common in phenomenological inquiry.

According to Brink (1996:141), purposive sampling requires selecting participants who are knowledgeable about the issue in question, because of their sheer involvement in and experience of the situation. While Creswell (2003:185) states that purposive sampling refers to selection of sites or participants that will best help the researcher understand the problem and the research question, they must be willing to reflect on and share this knowledge. Student nurses in clinical practice were found to be the best source of rich and valuable information regarding their experiences during placement in clinical settings, as they are experts regarding their own clinical practice experiences (Lincoln & Guba 1985:290; Talbot 1995:487-488). The participants were selected based on their particular knowledge of the phenomenon, for the purpose of sharing their knowledge and experiences with the researcher (Streubert & Carpenter 1999:58).

The researcher personally recruited participants. All forty-seven fourth-year student nurses who were registered for the four-year integrated nursing programme at one of the three campuses of the Limpopo College of Nursing, were requested to participate in the study, of whom only fifteen were willing to participate. Limpopo College of Nursing has three nursing campuses, one of which has been selected for the study. A total of eleven participants were interviewed, and at that stage, data saturation appeared to have been reached. Those interviewed were four males and seven females, with the age range of 23-30 years. Participants were requested to give written consent for the interviews to be audiotaped.

#### **2.2.4 Sampling criteria**

The sampling criteria are the characteristics essential to the membership of the target population. These criteria are the characteristics that delimit the population of interest (Burns & Grove 2001:366).

For this study the inclusion criteria were:

- The participant has to be registered for a four-year nursing diploma programme at one of the selected nursing campuses of the Limpopo College of Nursing. Limpopo College of Nursing has three nursing campuses, one of which has been selected for the study.
- The participants have to be in the fourth year of study (final year)

- The participants should have had exposure to clinics, the community, and hospitals as clinical learning environments in all four disciplines (general, psychiatry, community and midwifery nursing).

### **2.2.5 Setting**

The researcher had agreed to meet with student nurses at a suitable venue and time convenient to the student nurses. The interviews were conducted in the nurses' hostel. The private sitting room for the housekeeper was used, and a tag with the message: "Do not disturb - interviews in progress", was displayed on the door to avoid interruptions.

## **2.3 ETHICAL CONSIDERATIONS**

Ethics refers to the quality of research procedures, with regard to their adherence to professional, legal, and social obligations to the research participants. It is the branch of philosophy that deals with morality (Polit & Beck 2004:717). As this research involves human participants, it was therefore necessary that the following ethical principles be adhered to:

### **➤ Right to self-determination**

According to Burns and Grove (2001:196), the right to self-determination is based on the ethical principle of respect for a person. This means that participants must be given adequate information regarding the research; they must be capable of comprehending the information; and they must have the power of free choice, enabling them to consent voluntarily to participate in research or decline participation.

The objectives of the study were explained to the participants, and their informed consent was obtained. Participants were informed of their rights to withdraw from the study at any time. The participants were continuously reminded and informed of their right to review the first agreement (process-informed consent). The researcher and the participants had discussed and clarified their understanding of the investigation. The informants were briefed on the objectives and purpose of the research during the pre-

interview discussion meeting, when the appointments for the interviews and written consent were secured.

### **Right to confidentiality**

According to Burns and Grove (2001:201), confidentiality is the researcher's management of private information shared by the participants, which must not be shared with others without the authorisation of the participants.

The researcher has ensured and guided against unauthorised access to the data, and that the research data is only made available to the researcher and the promoter.

#### ➤ **Anonymity**

Anonymity occurs when even the researcher cannot link a participant with the data of that person (Burns & Grove 2001:201). Although anonymity cannot be completely guaranteed in qualitative research (Streubert & Carpenter 1999:38), an attempt has been made by the researcher to ensure that there is no unauthorised access to the data. Data will also be kept safe by locking it in the cupboard and destroying the tapes on completion of the study. Revealing materials, such as names of participants, were withdrawn during the process of data collection, to ensure that there is no unnecessary disclosure of the identity of the participant.

#### ➤ **The right to privacy**

The researcher will maintain privacy in all personal matters arising from information coming from the participants. This might be in the form of feelings, beliefs or attitudes, and opinions. Raw data will be protected from unauthorised persons, and will not be shared and no names will be linked to the data. Data will also be kept safe in a locked cupboard, and tapes will be destroyed on completion of the study (Burns & Grove 2001:200).

## **2.4 DATA COLLECTION APPROACH AND INSTRUMENT**

Data collection is the process of selecting participants and gathering data from these participants (Burns & Grove 2001:460).

#### **2.4.1 The instrument**

The researcher has used an unstructured interview as the tool for data collection, because it provides participants with the opportunity to fully describe their experiences. This method of data collection was chosen to allow the participants to share their own stories in their own words, rather than being forced by pre-established lines of thinking developed by the researcher. Interviews are also regarded as the best way for exploring and gathering experiential narrative material, that may serve as a resource for developing a richer and deeper understanding of a human phenomenon (Munhall 2001:156; Streubert & Carpenter 1999:59). Furthermore, interview methods were accepted as valid methods for studying experiences and perceptions of student nurses, as they had been used in many qualitative studies on student nurses, for instance, Baille (1995:1053) and Shields (1995:16). For this study, unstructured interviews yielded rich data, as participants were able to raise their views without the influence of the researcher.

#### **2.4.2 Preparation for the interview**

The researcher had met with individual student nurses at the nurses' hostel. The purpose of this contact session was to introduce the research topic to the student nurses, establish rapport with the student nurses, clear up any questions, obtain consent for participation and permission to tape record the interviews. The researcher had then agreed with those who were willing to participate, on the venue and time for the interviews. A writing pad, pen and tape recorder were also prepared in advance.

#### **2.4.3 Interview process**

All participants were asked one comprehensive, open-ended question which was as follows:

- Describe your clinical learning experiences during placement in a clinical learning environment.

The researcher used communication skills such as reflection, nodding, questioning, clarification, and maintaining eye contact, to facilitate and encourage participants to talk, until there were no new themes or issues emerging from the participants. Field notes were also taken during the interviews. The interviews were tape recorded, and verbatim transcriptions were made. A follow-up interview was done with some of the participants, after first listening to the tapes. This was done to verify and allow the participants to expand on inadequate descriptions, or add descriptions to the phenomenon.

#### **2.4.4 Pilot interview**

According to Brink (1996:60), a pilot study is a small-scale version, or trial run, of the major study. The purpose of the trial run is to obtain information for improving the project or assessing its feasibility. The same main comprehensive question that was planned for the study was asked to one student nurses, before the actual interviews with the participants. This was done to test the effectiveness of the instrument and any difficulties it might impose on the participants, and was found to be effective.

### **2.5 DATA ANALYSIS**

According to Streubert and Carpenter (1999:60), data analysis begins with listening to participants' verbal descriptions, and is followed by reading and re-reading the verbatim transcriptions or written responses. Data analysis was conducted using Tesch's method of analysis of qualitative data, and the steps are as detailed below:

- (a) The researcher had listened to audiotapes and had also read and re-read all the transcriptions. This was done to get a sense of the whole data, and some ideas were jotted down as they emerged.
- (b) One transcript of the interview was picked at a time and re-read. The underlying meaning of the data was sought, and was written in the margin. Topics which represented positive experiences were written in a blue colour, and those that represented negative experiences were written in a red colour. This was done with all transcripts.
- (c) A list of topics was made, and then similar topics were clustered together. Thereafter, columns were drawn to form major topics, unique topics and leftovers



(i.e. those that fitted into major topics/categories and those that did not fit into either of the categories).

- (d) The compiled list was then used to compare the data, and topics were abbreviated as codes. These codes were written next to the segments of the text, while checking if new categories and codes were emerging. These codes were colour-coded (i.e. red for negative experiences, and blue for positive experiences).
- (e) The most descriptive words for the topics were assigned and turned into categories. Topics that were related to each other were grouped together, in order to reduce the list of categories.
- (f) Each category was checked and alphabetised.
- (g) Data was analysed and systematically explored to generate meanings, and existing data was recorded, participants were asked to validate analysed data, and recoding was done where necessary (Creswell 2003:192; Tesch 1992:141).

In reporting the findings, examples from the participants' verbatim statements have been included, to engage the reader in consensual validation of the text (Leonard 1989:40-45).

## **2.6 DEMONSTRATING TRUSTWORTHINESS**

Trustworthiness refers to the establishment of validity and reliability of qualitative research. Qualitative research is trustworthy, when it accurately represents the experience of the study participant (Streubert & Carpenter 1999:333). The method of establishing trustworthiness was adopted from that of Lincoln and Guba (1985:294), also cited in Krefting (1991:24) and Mouton (2001:227).

### **➤ Credibility**

Credibility relates to the trustworthiness of findings in qualitative research studies. Credibility is demonstrated when participants recognise the reported research findings as their own experiences (Streubert & Carpenter 1999:330). To ensure credibility, the researcher has employed the following measures:

- All participants were taken through the same main question

- The researcher had conducted debriefing with informants, and any additional information was taken into consideration when analysing (member checks).
- The researcher had interviewed the participants to the point at which there was data saturation (prolonged engagement). No new information was raised.
- The interviews were tape-recorded and transcriptions were made of each interview (referral adequacy).
- The researcher went back to some of the participants, to ascertain whether the transcribed data was a truthful version of their experiences.

➤ **Dependability**

The *dependability* criterion relates to the consistency of findings. According to Lincoln and Guba (1985:316), there can be no validity without reliability (and thus no credibility without dependability). Therefore, a demonstration of the former is sufficient to establish the existence of the latter. The same principle also applied in this research.

A dense description of the methodology used to conduct the study, and a dense description of the data, was done. Data was also organised in categories and themes. All interview materials, transcriptions, documents, findings, interpretations, and recommendations, were kept, and any other material relevant to the study made available and accessible to the supervisor and any other researcher, for the purpose of conducting an audit trail.

➤ **Confirmability**

*Confirmability* refers to the objectivity or neutrality of the data, such that there will be agreement between two or more independent people about the data's relevance or meaning (Krefting 1991:221; Polit & Hungler 1995:255;). The researcher did data analysis, and the supervisor did an audit trail of the verbatim descriptions, categories and themes.

➤ **Transferability**

*Transferability* refers to the extent to which the findings can be applied in other contexts, or with other participants (Mouton 2001:277; Polit & Hungler 1995:255). A literature

control was done wherein similar findings of other research studies were reported. The researcher had provided a dense description of the research methodology, the participants' background, and the research context to enable someone interested in making a transfer, to reach a conclusion about whether transfer can be possible or not. Purposive sampling was used (Krefting 1991:214; Lincoln & Guba 1985:316; Mouton 2001:277).

## **2.7 CONCLUSION**

The research design and method, population and sampling, ethical considerations, data collection approach and instrument, data analysis and demonstration of trustworthiness of the research data, were described. In the following chapter, literature reviewed will be discussed.