

CHAPTER THREE

EMPIRICAL RESEARCH DESIGN

3.1 INTRODUCTION

The previous chapter is comprised of literature review on the effective management of Grade R sites in providing quality foundational education. The purpose of this chapter is to outline the Empirical Research design regarding the current status of the ECD sites in the Sedibeng districts with regard to effective management of quality foundational education. In this chapter the quantitative approach, research design, population and sampling, methods of data collection and analysis are presented. It also focuses on the justification for the self-developed questionnaire, trustworthiness and ethical implications.

3.2 OBJECTIVES OF THIS RESEARCH

The objectives of this research are the following:

- to investigate the fundamental nature of quality education in Grade R;
- to investigate if the management of Grade R sites in the Sedibeng districts ensures quality education; and
- to provide guidelines for effective management of grade R sites to ensure quality education in the Sedibeng Districts.

3.3 RESEARCH DESIGN

Babbie and Rubin (2008:230) indicate that the term research design can refer to all the decisions made in planning and conducting research, including decisions about measurement, sampling, how to collect data, logical arrangements designed to permit certain kinds of inferences. According to Mouton (2002:107) and McMillan and

Schumacher (2001:31), a research design is a set of guidelines and instructions to be used in addressing research problem which lists procedures to be followed during the study, including when and from whom data will be obtained, and what methods of data collection are to be used. Mouton (2001: 55, 94) defines a design as a blueprint or detailed plan on how a specific research is to be conducted. A descriptive study will be used in this research.

Since this research endeavoured to appraise effectiveness of the management in ensuring quality foundational education, the descriptive design was considered to be suitable for achieving this aim. A descriptive study according to De Vos (2005:138), is an investigation aimed at ascertaining the status of a set of variables, such as the number and variety of persons with specific conditions in a specified population, but without any critical analysis or attempt to set causal hypothesis. It can yield valuable information about the specified population's conditions (Leedy & Ormrod, 2005: 198).

Leedy and Ormrod (2005: 198) further indicate that a descriptive study design is one in which the primary goal is to assess a sample at one specific point in time without trying to make inferences or causal statements. Welman *et al.* (2005:23) confirm that descriptive research has two goals, namely, to explain phenomena and predict behaviour. Grinnel (1998:22) remarks that descriptive designs are used if 'less is already known' and so questions are generally of descriptive nature. The goal of the researcher will be to describe the existing phenomenon as accurately as possible.

3.4 THE QUANTITATIVE APPROACH

Creswell (2005:39) defines quantitative research as a type of educational research in which the researcher decides what to study, asks specific, narrow questions, collects numeric (number) data from participants, analyses these numbers using statistics, and conducts the inquiry in an unbiased, objective manner.

As indicated earlier, quantitative research methodology was used in this study. Hopkins (2000:1) asserts that quantitative research aims at determining the relationship between one thing (an independent variable) and another (a dependent or outcome variable) in a population. Leedy and Ormrod (2001:191) concur with the above statement that quantitative research in general terms is implemented to address questions regarding relationships among measured variables with the purpose of explaining, predicting, and controlling phenomena that will be generalised to other persons and places.

In this research, the researcher intended to determine whether there is a relationship between effective management and quality foundational education. This was facilitated through administration of questionnaires to participants. The use of a questionnaire was recommended because it saved time and was cost effective. Participants were managers and practitioners from CBS and SCB.

3.5 DATA COLLECTION

Data was collected by means of questionnaires.

3.5.1 Questionnaire as a data collection technique

A survey questionnaire is a printed list of questions used for the collection of research data. Cluster meetings, principals' meetings and practitioners' meetings were useful in distributing and collecting questionnaires. The suitability of the questionnaire in this research is based on the fact that the respondents were all primary school managers and practitioners of both SBS and CBS in the Sedibeng Districts in the Gauteng Province.

3.5.2 The design of the questionnaire

Babbie and Rubin (2008:201) indicate that the questionnaire must be structured so that it can serve as an appropriate and useful data-gathering device and can boost the

reliability and validity of the data. A questionnaire that is badly designed is a waste of time and efforts for both the researcher and the respondent (Moeketsi, 2004:52). According to Babbie and Rubin (2008:205), questions should allow for the respondents to review their own relevant experiences thoroughly, arrive at accurate and complete responses and should communicate some rules about the process of answering questions by providing participants with the necessary rules, so as to reduce complexities and ambiguities. Questionnaire items must be constructed and carefully developed in such a way, that they would measure specific aspects of the study's objectives. Babbie and Rubin (2008:205) and Creswell (2005:364) indicate that an improperly laid out questionnaire can lead respondents to miss questions, confuse them about the data desired, and, in the worst case, lead them to lose interest in completing it.

In an attempt to reduce complexities, the language proficiency of the sample of the group was taken into consideration. The ranking scale used required participants to indicate their opinions using a five point Lickert scale using the following variables: Strongly agree; Agree; Neutral/not sure; Disagree and Strongly disagree. Section B was constructed in such a way, as to obtain responses that would give an indication on the effective management of ECD sites for quality foundational education.

The questionnaire required managers, and practitioners to respond to the set questions. A total of 48 questions were included in the questionnaire to formulate items relating to the following:

- General information (Section A)
- Management of ECD sites for quality foundational education (Section B).

SECTION A: BIOGRAPHICAL DATA

This section was divided into 6 items. Items 1-6 required participants to record their personal information, i.e. gender, age, highest academic qualification, highest professional qualification. Also all the above items are relevant to the practitioners. In the managers' questionnaire, the question on their present position was added.

Section B of this measuring instrument focused on eliciting information regarding effective management of ECD sites in ensuring quality foundational education. Sections of the questionnaire are indicated below.

Processes affecting Grade R- (Section B1)

The researcher required the participants to indicate as to whether each of the following was applicable:

- managers support Grade R practitioners with their teaching and learning;
- there was open communication between managers and practitioners;
- Grade R practitioners participate in decision making concerning Grade R issues;
- practitioners are able to use different tools to assess achievement; and
- practitioners are engaged in diagnostic assessment to identify learning barriers for learners.

The responses of the participants to this section of the questionnaire enabled the researcher to assess if there were processes in place to ensure quality foundational education in the sites and whether these processes were managed effectively. Questions in this section were developed from the information on process model of quality, quality assurance (IQMS) and managerial tasks.

The next sub-section of this measuring instrument presents information on responses on the attainment of goals by the participants.

Attainment of goals- (Section B2)

The researcher required the participants to indicate whether each of the following was applicable:

- there are clear goals in the assessment of learners in Grade R;
- practitioners achieve the goals specified;
- the goals are measurable;
- the Grade R site has attainable goals;
- the Grade R class has time-framed goals;
- managers monitor the process;
- learner achievements in Grade R are high;
- attendance rate of learners in Grade R is high; and
- drop-out rate in Grade R site is high.

The responses of the participants to the above-mentioned items of this section of the questionnaire enabled the researcher to assess practitioners' endeavour to attain goals to ensure quality education and whether set goals are monitored or not by managers. Questions in this sub-section were formulated from the information regarding attainment of goals model of quality and indicators of quality, managerial tasks, and quality assurance (Quality management).

The next sub-section presents information on the resources for effective management of Grade R

The resources used for effective management of Grade R - (Section B3)

The researcher required the participants to indicate whether the following was the case:

- learners' parents are supportive towards their children's school work and activities;
- the school management motivates parents to be involved in their children's education;

- classrooms are furnished appropriately;
- there is out-door equipment on the site;
- out-door equipment is secured and safe for learner;
- there are enough resources to support learners with learning barriers;
- running water is easily accessible at the site;
- the sites have flush toilets for the use of Grade R learners; and
- teacher/learner ratio is according to policy (SA, 2005) on the site.

The responses of the participants to the above-mentioned items enabled the researcher to assess whether sites had physical and human resources, whether these resources were used to ensure quality foundational education and whether managers managed the use of these resources. Questions in this sub-section were developed from the information on resource model of quality, managerial tasks and quality assurance.

The next section presents information on the responses from the participants on how Grade R site meets organizational requirements.

Organisational requirements - (Section B4)

The researcher required the participants to indicate whether each of the following was applicable:

- Grade R resources are sufficient to provide quality service continually;
- Grade R site is negatively affected by community/social factors against attainment of educational goals;
- learner achievement is high as a result of the high status of the community in which they are; and
- learners struggle to achieve as a result of the low status of the community in which they are.

The responses of the participants to the questions in this section of the questionnaire enabled the researcher to assess whether organizational climate of these sites contributed to the provision and management of quality education. Questions in this

sub-section were developed from the information on organization model of quality and effectiveness in management.

The next section presents information on the participants' responses on how Grade R sites deal with problems.

Problems in the Grade R site - (Section B5)

The researcher required the participants to indicate whether each of the following was applicable:

- they experience problems and difficulties in providing quality education;
- they are familiar with the criteria expected for quality education at the sites;
- their site encounters obstacles to basic functionality; and
- their site is not yet ready to pursue excellent quality since it is still struggling to achieve basic functionality.

The responses of the participants to the above-mentioned items enabled the researcher to assess whether participants experienced problems in ensuring quality education. The questions in this sub-section were developed from the information on absence of problems model of quality, quality assurance and managerial tasks.

The next section presents information on the responses from the participants on how Grade R sites deal with maintaining legitimacy.

Maintaining legitimacy of the Grade R site in the community - (Section B6)

The researcher required the participants to indicate whether each of the following was applicable:

- Grade R site is accepted and supported by the community;
- Grade R site offers programmes which conform to the ethical and moral norms of the community;
- Grade R site has a good image;

- Grade R site has good marketing strategies; and
- Grade R site is accountable to the community.

The responses of the participants to questions in this sub-section of the questionnaires enabled the researcher to assess the manner, if any, in which practitioners were maintaining legitimacy of the Grade R site in their communities. The questions in this sub-section were based on the information on legitimacy model of quality, managerial tasks, and quality assurance (TQM).

The next section presents information on the responses of the participants on whether practitioners find satisfaction in teaching Grade R learners.

Satisfaction - (Section B7)

The researcher required the participants to indicate whether each of the following was applicable:

- they find satisfaction in teaching Grade R learners;
- they satisfy the expectations of the parents and school management; and
- they are satisfied with the way in which they are supported by their managers.

The responses of the participants to the above-mentioned items enabled the researcher to assess whether participants found satisfaction in their work and the way they were supported. The questions in this sub-section were based on the information on the satisfaction model of quality, management and quality assurance (TQM).

3.5.3 Distribution of the questionnaires and administrative procedures

After permission was obtained from the Department of Education, it was made available to the District Directors of the Sedibeng Districts before the researcher could go ahead with the research. Permission was granted from both the Districts.

The researcher managed to distribute questionnaires during principals' meetings, and explained to principals to submit them within two days time. Questionnaires were

distributed during the workshops and in meetings. During the cluster meetings and workshops, the researcher managed to explain to the respondents what was expected in completing the questionnaires. The researcher could not mail the questionnaires to schools especially in Sedibeng East due to the demography of the district. The District stretches from Sharpeville to Heidelberg area. So the mailing of questionnaires was going to pose serious delay in terms of receiving them back.

Questionnaires were submitted to the District office as per the request. This was possible as most principals were collecting and submitting their documents to the office. Very few questionnaires were personally collected from the farm schools. The participants were not pressurized to complete, hence ample time was given to complete the questionnaires. All stakeholders were urged not to complete the questionnaires during their contact time. The same rule applied to the other Sedibeng district. They were also requested to submit their responses to the administrator at the District Office.

However, despite all the attempts made by the researcher to ensure the utmost and appropriate responses, some practitioners had not completed the questionnaires by the time the researcher was expecting them for submission to the District office. The response rate was very good, simply because the researcher was able to follow-up outstanding responses. Principals were requested to act also as contact persons.

3.5.4 Reliability and validity of the questionnaire

Golafshani (2003:2) and Welman *et al.* (2007:9) define reliability as the extent to which results are consistent over time; are a stable measurement of data, are a representation of the total population under study and are reproduced under a similar methodology. Thus the results or observations can be replicated or repeated. De Vos, Fouché and Deport (2005:163) define reliability as a way of ensuring that the instrument will generate the same or almost the same outcome constantly over time. Welman *et al.* (2007:145) and Leedy and Ormrod (2005:29) affirm that reliability will be ensured when evidence and conclusions of the study stand up to the closest scrutiny and that the

results can be generalised to different measuring occasions, measurement/test forms, and measurement. In this research, reliability was ensured by constructing question items for the questionnaire from the theoretical section of chapter two on models of quality educations.

Validity determines whether the research accurately measures that which it was intended to measure or how truthful the research results are. In other words, validity checks whether the research instrument allows the researcher to hit "the bull's eye" of the research object (Coleman & Briggs, 2002:61). This refers to whether the means of measurement are accurate. Researchers generally determine validity by asking a series of questions, and will often look for the answers in the research of others (Golafshani, 2003:3). Validity is important for quantitative research because the objective of the study must be representative of what the researcher is investigating (Welman *et al.*, 2007:9).

Validity can be assured when an effect or test demonstrates or measures what the researcher thinks or claims it does. Thus a research study was valid if it has no research errors and thus, no faulty research procedures or poor samples and inaccurate or misleading measurement (Welman *et al.*, 2007:142; Leedy & Ormrod, 2005:28). Validity ensures credibility, which allows participants to validate that the reported findings represent their experiences (Ellis & Levy, 2009:333). To ensure the validity of the questionnaire, a provisional version was presented to the experts in the field for their comments as suggested by Maree (2007:217). There were few technical errors that were rectified by the researcher.

3.6 POPULATION AND SAMPLING

The target population is the total group of people from whom information can be obtained and whose opinions are needed to fulfil objectives of the research (Leedy & Ormrod, 2005:102). In this study, the target population was identified as all principals, practitioners and HODs from SBS and CBS in the Sedibeng Districts.

A sample is described by De Vos (2005:195) as a representative group which serves as participants from the population. It is thus a portion of the elements in a population. It can be viewed as a subset of measurements drawn from a population in which the researcher is interested. A simple random sampling technique was employed where the sample was chosen by simple random selection. The advantage of a random sampling is that every member of the population has an equal chance of being selected (De Vos, 2005:200).

There are 165 primary schools and 50 CBS sites with Grade R in the Sedibeng districts. The information obtained from the districts indicated an average of 2 practitioners per site. This would mean that there were about 430 practitioners, 50 managers, 165 principals and 165 HODs. A random sample of practitioners (n=236), managers of CBS, principals and HODs (n= 214) was used.

3.7 RESPONSE RATE

Questionnaires were distributed to 450 practitioners, managers and principals of CB and SBS in the Sedibeng districts. All questionnaires were usable. The Table below illustrates the return rate of the questionnaires per sample category.

Table 3.1: The return rate of questionnaires

Sample category	Questionnaires distributed	Usable questionnaires	% return
Practitioners of SBS	186	186	100
Practitioners of CBS	50	50	100
Managers of CBS	30	30	100
Principals SBS	184	184	100
TOTAL	450	450	100

3.8 DATA ANALYSIS

Data collection, processing and analysis followed the survey research. A statistically valid instrument with the applicable STATISCA software package was used to obtain the best results. Data collected was analysed by means of frequencies and percentages.

3.9 ETHICAL ASPECTS

An application form was submitted to the District Offices as well as Head Office to get permission to conduct the research in the Sedibeng Districts, after the proposal had been approved. The researcher looked closely at the ethical implications of the research proposed, namely protection from harm, informed consent, right to confidentiality and honesty with professional colleagues. These ethical implications are explained below.

Informed consent - According to Leedy and Ormrod (2005:101) and Babbie (2002:55) the researcher must inform the research participants about the nature of the study to be conducted and give the participants choice to participate or not to participate and a right to withdraw from the study at any time. The researcher therefore, presented an informed consent form containing the following information: a brief description of the nature of the study; a description of what participation will involve, in terms of activities and duration; a statement indicating that participation is voluntary and can be terminated at any time without penalty; the guarantee that all responses will remain confidential and anonymous and a letter, indicating agreement to participate.

Confidentiality - Leedy and Ormrod (2005:102) and Babbie (2002:58) assert that the researcher must respect participants' right of privacy. The researcher's report was in such a way that no person was aware of how a particular participant had responded or behaved. Thus, the nature and quality of participants' performance was kept strictly confidential.

Honesty with professional Colleagues- Leedy and Ormrod (2005:102) and Babbie (2002:60) further explain that the researcher must act professionally towards his/her colleagues. The researcher did not fabricate data collected to support a particular conclusion. All participants were treated with courtesy and sensitivity.

Protection from harm - The researcher did not expose research participants to undue physical or psychological harm, for example, lose life or limb, or lose self esteem. In cases where a small amount of psychological discomfort may occur, the researcher will inform the participants ahead of time and follow up the participation with necessary counselling or debriefing (Leedy & Ormrod, 2005:101; Babbie, 2002:57).

3.10 CONCLUSION

This chapter briefly focused on the design and methodology employed in this research. The research method and the objectives were demarcated. The quantitative research approach was explored. The research instrument, target population and ethical aspects were also outlined.

In the next chapter the researcher focuses on data analysis and interpretations.