

## CHAPTER 5

### RESEARCH DESIGN

#### 5.1 Introduction

Chapter 5 outlines the method of research of this study. It explains the rationale behind the methodology employed, how the research was conducted, and what steps were taken to ensure the validity of the study. The theoretical framework is provided in chapters 2, 3 and 4, and the purpose of the study as stated in chapter 1 was the guiding force in this investigation.

Empirical investigation is needed to determine the problems of beginning principals as well as the critical skills needed for effective performance of their role in developing countries like Bophuthatswana.

#### 5.2 The questionnaire as a research tool

Tools employed in the collection of data in surveys are the questionnaire and individual interview (Borg & Gall, 1989:418). The method of data collection is to some extent guided by the purpose of the study (Dixon, 1989:13). As stated in chapter 1, the purpose of this chapter is to explore the problems of beginning principals and what critical skills they need, and to gather the views of the experienced principals on the problems and skills of beginner school principals empirically.

In the empirical investigation of this study, the mail questionnaire was employed as a tool for collecting the data. The most important aspect of this type of data collection is that the questionnaire is the only means of communication between the respondents and the researcher.

##### 5.2.1 *Advantages of the postal survey*

The questionnaire was employed because of the following advantages of the mail questionnaire (Dixon, 1989:19):

- \* Low unit cost: travelling and subsistence costs are minimal.

- \* Homogeneous stimuli: since questionnaires are identical, the stimuli provided are identical.
- \* Geographical coverage: respondents from all parts of the country could be reached.
- \* Anonymity of respondents: respondents' names are not given. In this study even the names of the schools or the circuit offices were not divulged, because doubts about anonymity could influence the validity of the responses.
- \* Speed: information from thousands respondents could be obtained within a month.
- \* Ease of processing: the questionnaire could be carefully structured and precoded, and very little use is made of open-ended questions.

### 5.2.2 *Limitations of the postal survey*

Limitations of the postal survey can not be overlooked. Like all other strategies for data collection the postal survey has some disadvantages:

- \* Representativeness: the high non-response rate is quite common.
- \* Impersonal: impersonality may cause frustrations to some respondents.
- \* Negative attitudes to the questionnaire: questionnaires are commonly used today and some respondents could have negative attitude towards them.
- \* Availability of addresses of the sample population poses some problems.

Despite these limitations the mail questionnaire is still commonly used in collection of data. With great care taken in the construction of the questionnaire and its administration more favourable responses could be attained (Dixon, 1989:22).

### 5.2.3 *Questionnaire construction*

The measuring instrument has the greatest influence on the reliability of the collected data, hence great care was taken in the construction of the questionnaire. A well-designed questionnaire boosts the reliability and validity of the data to acceptable levels of tolerance (Schnetler, 1989:44).

The questionnaire is commonly used as a tool for data collection (Wiersma, 1985:146; Kamil *et al.*, 1985:48; Schnetler, 1989:44). However, there are some criticisms against the use of the questionnaire, like:

- \* excessive non-response rates;
- \* poorly-constructed items;
- \* questionnaires deal with trivial information; and
- \* data from different questions are difficult to synthesize.

Schnetler (1989:44) argues that the major criticisms against the use of questionnaires is the poor design rather than the questionnaire per se. To overcome the difficulty of poorly-constructed questionnaires, items should deal with meaningful research problems, questionnaires are to be structured carefully and administered effectively to qualified respondents (Van Dalen, 1979:156).

According to Borg and Gall (1989:430-431) some of the rules for constructing a questionnaire are:

- clarity - items should mean the same to all respondents;
- short items are preferable;
- negative items should be avoided;
- double-barrelled items which require the subject to respond to two separate ideas with a single answer should be avoided; and
- biased questions are to be avoided.

#### *5.2.3.1 Development of the questionnaire items*

The aim of the questionnaire was to gather information about the background and the problems experienced by newly-appointed principals as well as critical skills for effective performance of their roles. This instrument has been used successfully to determine the induction needs of beginning principals (Anderson, 1991; Janson, 1989).

Three important strategies were employed in the development of the questionnaire:

- \* Firstly, issues raised in the literature on the problems experienced by beginner principals and critical skills needed by beginning principals in chapter 2, 3, and 4 were examined.
- \* Secondly, in October 1992 extensive interviews were conducted with professors of educational management in U.S.A. and U.K. universities on the induction of new school principals (see Appendix D). The analysis of those interviews helped in the construction of the questionnaire.
- \* Thirdly, tools employed in the gathering of data in similar studies like Daresh and Playko (1992c), Janson (1989), Parkay *et al.* (1992) and Weindling and Early (1987) were examined.

The items included in the questionnaire were derived from all these sources.

The instrument was constructed in a similar pattern to the new head-teachers' study conducted by Weindling and Early (1987) in England and Wales. The Weindling and Early study requested open-ended responses and the Likert scale responses on problems facing beginning principals and "old" head-teachers. Similar studies (Janson, 1989; Potgieter, 1990; Parkay *et al.*, 1992), also used the Likert scale responses and open-ended questions.

To gather more information on the experiences of the first-year principals the researcher has chosen to use a structured format of questions to elicit experiences on problems experienced at the personal level, management of staff and pupil personnel and external management issues, as well as critical skills that they viewed as important to the performance of their roles. Principals with more than three years' experience were also asked to give their views on the problems of beginning principals.

### 5.2.3.2 *Format and content of the questionnaire*

The questionnaire was divided into four sections (see Appendix A) according to their focus:

Sections A (questions 1-8). The purpose of these questions was to gather biographical information about the respondents.

Section B (questions 9-12). The purpose of these questions was to collect demographic data about each respondent. Such information is essential to understand the background information of the respondents. It is important to know who the beginning principals are and to compare them with experienced principals.

Section C (questions 1-9). To determine the problems experienced by beginning principals, these questions were constructed to elicit data on problems experienced at the personal level as well as internal and external difficulties faced by beginning principals. Space was provided for respondents to list other difficulties facing new principals.

58 items were developed from the literature study, and for each item the respondents were asked to indicate, on a four-point scale, the extent of the problem (1 = not a problem, 2 = a minor problem, 3 = a problem and 4 = a serious problem).

Section D (questions 1-25). The objective of these questions was to determine the critical skills for beginning principals. A space was provided for respondents to list other essential skills for beginning principals.

Permission was obtained from Daresh by the researcher's promoter (Van der Westhuizen, P.C.) to allow the researcher to use the 24 items in the Beginning Principals Critical Skills Survey instrument developed by Daresh and Playko (1992c). Daresh and Playko's instrument was designed by using data developed by employing the Delphi Technique.

The Delphi Technique is another useful needs assessment tool. A typical Delphi Technique employs at least a three-staged process. In the first

stage the questionnaire collects information about the personal concerns and priorities of the participants on a specific topic. The second stage consists of items developed from the first-stage responses. Respondents rank items according to their own priorities. The third questionnaire gives the respondents the average of the second round, and opportunities to reconsider their personal choices in the light of the group judgements, and eventually a group consensus is reached, that is, the participants rank responses until agreement is reached (Treece & Treece, 1986:367; Kolwaski, 1988:126; Keefe & Jenkins, 1991:106).

Daresh and Playko (1992c:6), in developing their "critical skills survey instrument" using the Delphi Technique, determined specific skills valued by superintendents as they select new principals for their school districts. Within a year, 24 specific skills were identified by superintendents who were participating in a multi-stage Delphi survey.

Daresh and Playko's 24 items "critical skills survey" instrument uses a five-point scale, (see Appendix A) and for each item the respondents indicate, on the scale from 1 to 5, the importance of each skill for the effective performance of the job of the principal (1 = irrelevant, 2 = somewhat important, 3 = fairly important, 4 = somewhat critical and 5 = extremely critical).

#### 5.2.4 *Pre-testing the questionnaire*

A pilot study is a small-scale preliminary investigation designed to acquaint the researcher with flaws and problems that need attention before the major study is conducted (Treece & Treece, 1986:382). It offers the researcher an opportunity to pre-test the instrument. The major purpose of the pilot trial is to detect the problems that must be solved before the major study. Most of the flaws of the measuring instrument are detected during the pilot study (Schnetler, 1989:92).

In order to determine any ambiguity, flaws and problems, the questionnaire was pre-tested using a sample of (n = 10) school principals. The 10 principals were asked to complete the questionnaire and to indicate whether some questions seemed ambiguous to them, and to comment on

other points that might need to be considered to improve the instrument (Borg & Gall, 1989:435).

The pre-test results were checked, and the suggestions made by the respondents were taken into considerations to improve the questionnaire. The four beginning principals in the pre-test to some extent showed that they were not aware of the extent of the problems they faced, hence the researcher decided to gather data from the experienced principals by asking them to reflect their views on problems experienced by beginning principals. The population of the pre-test was not used in the final study.

### *5.2.5 Final questionnaire*

Thereafter, the final questionnaire was administered to 250 beginning principals and 250 veteran principals.

### *5.2.6 Covering letter*

The covering letter is a tool employed to introduce the questionnaire to the respondents with the main purpose of getting them to respond to the questionnaire. It gives the respondents direction in the completion of the questionnaire, directions about returning the questionnaire and it guarantees anonymity (Wiersma, 1985:152; Treece & Treece, 1986:294; Borg & Gall, 1989:436).

A simple and straightforward covering letter (Appendix C) that explained the purpose of the study accompanied the questionnaire to the respondents. The letter also reassured the respondents that all the information they provided would remain confidential, and directed the respondents on how to return the completed questionnaires (Wiersma, 1985:152).

## **5.3 Administration procedures**

The 1991-93 cohort of beginning principals was established through a series of steps. Initially, permission was obtained from the Department of Education of Bophuthatswana to obtain access to the records of

appointment of school principals and to administer the questionnaire in all schools under its jurisdiction (Appendix B).

The second step was to identify the 1991-July 1993 cohort of beginning principals from the available records. Though the Department of Education - Bophuthatswana did not keep a list of all newly-appointed principals, its records of the appointments of heads of departments, deputies and principals for pre-schools, schools and colleges were employed to identify beginning principals.

The next step was to identify the postal addresses of the new school principals. From the list of the school addresses provided, it appeared that some of the newly registered schools did not have their own addresses or did not appear in the list of school addresses.

Furthermore, it emerged from the available records that in the most remote rural areas up to five schools could use the same address or even share the address with the local tribal authority. These factors could have a very high impact on the response rate. Three principals in the remote rural areas were asked about the official procedures used to sent the mail to them.

On the basis of the information provided and the observations made, the researcher requested the circuit education officers to help with the distribution of questionnaires to selected principals. With the help of the circuit offices contact persons in each circuit were selected from members of the circuit office staff.

On 23 July 1993, 500 questionnaires were mailed to 17 circuit offices through the office of the Deputy Director Auxiliary Services of the Department of Education - Bophuthatswana. Selected school principals collected questionnaires from their respective circuit offices when they visited circuits to collect teachers' monthly salaries.

With the help of the contact person in each circuit, questionnaires were returned using the same procedures. The researcher collected the returned questionnaire from the office of the Deputy Director of Auxiliary Services.

## 5.4 Follow-ups

A major disadvantage of the questionnaire is non-response. The respondents may simply decide not to respond to the questionnaire.

Although the degree of response to the questionnaire may be correlated with the group being surveyed, certain measures were taken to ensure a high response rate - like a carefully planned questionnaire, self-addressed envelopes as well as the covering letter (Cohen & Manion, 1989:440).

Within three weeks 280 questionnaires were returned and follow-ups were started with the help of contact persons in the circuit. At the end of the fourth week, follow-up letters with the questionnaire were sent to the non-returners, to increase the number of questionnaires returned (Borg & Gall 1989:440).

## 5.5 Population and sampling

The first step was to identify beginning principals. Beginning principals in the study refer to all principals who were appointed for the first time to principalships during the school year 1991-July 1993 in Bophuthatswana. A list of all new principals who took up their first appointments in the school year 1991-July 1993 was compiled with the help of the Department of Education - Bophuthatswana.

From the records available it emerged that 254 new principals were appointed during the school year 1991-July 1993 throughout the country. These new principals were appointed from all 17 education circuits. Because four new principals were used in the pre-testing, only 250 new principals participated in the major study.

The second step was to select stratified random sample of 250 veteran principals (per school phase) to gather information on their views on the problems and essential skills for beginning principals. **School phase** was the only stratification factor. **Experienced principals** in this study refers to "old" principals with more than three years' practical experience in a principalship.

According to the 1992 Annual Report of the Department of Education (Bophuthatswana, 1992:97-100), there were 1459 school principals (932 primary, 163 middle and 163 high schools) in Bophuthatswana at the end of 1992. This suggests that around 1205 schools had principals with more than three years' experience as principals of schools.

A list of experienced school principals per school phase (primary, middle and high) was compiled. Once this had been done stratified random sampling began within each strata until the required number per strata was attained. Eventually, the 250 stratified random sample of veteran principals was selected to increase the external validity of the results of the study. This group of veteran principals formed a comparison group.

**Table 5.1: DISTRIBUTION OF THE SAMPLE POPULATION PER SCHOOL PHASE**

School	Sample population			
Phase	New	Old	Total	%
Primary	138	138	276	55,2
Middle	67	67	134	26,8
High	45	45	90	18,0
Total	250	250	500	100,0

Table 5.1 shows the distribution of the sample population per school phase. Table 5.1 illustrates that 500 (34,3%) principals out of 1459 were identified to participate in the study. Though this sample is not a proportionate stratified sample, it does to some extent show the proportion of school principals per school phase.

More than 55% of the sample population was drawn from the primary school phase and only 18% from the high school phase. This suggests that more new primary school principals come on board than high school principals. This difference could be ascribed to the mushrooming of primary schools caused by high popular demand for schooling, and the rate at which primary school principals retire from teaching.

## 5.6 Response rate per school phase

Questionnaires were mailed to 500 selected school principals. Table 5.2 shows the response rate of the selected school principals per school phase.

**TABLE 5.2: RESPONSE RATE PER SCHOOL PHASE**

School phase	n	Response	%
No response		1	0,0
Primary	276	235	85,1
Middle	134	105	78,4
High	90	53	58,8
Total	500	394	78,8

From Table 5.2 it is clear that of the total sample population (500) 78.8% returned questionnaires were usable. This is an acceptable response rate in a postal survey (Landman, 1980:112). This good response rate indicates the importance of using contact persons and employers in conducting research in a situation where not all participants have fixed postal addresses.

Table 5.2 reveals, furthermore, that the primary school phase had the highest response rate of 85,1% of the total primary school principals selected in the study.

This could be ascribed to the high frequency of meetings held by the primary school principals and teachers. The recent Primary Education Upgrading Project (P.E.U.P), which is now almost in full operation in all primary schools in Bophuthatswana, requires primary principals to meet several times in a year to discuss the progress registered and new ideas to be implemented. Furthermore, the Beginning Principal Project could be seen by primary school principals as another opportunity to improve instructional management skills with some credits in improving their

professional qualifications, since most of them had a two-year professional qualification which might not be recognised in the near future.

The high school phase had the lowest response rate of 58.8% of the total high school principals selected in the study. This could be ascribed to negative attitudes towards questionnaires. Furthermore, the high school principals could consider themselves suitably qualified for their positions, since all high school principals should have a university degree in accordance with the policy of the ministry of education (Motsilenyane, 1992).

## 5.7 Statistical techniques

### 5.7.1 *Descriptive data*

A computer-aided statistical analysis was employed. The SAS-programme was used to compute the result of the study (SAS Institute Inc. 1985). The first step in the analysis was to compute descriptive data for each group of principals in the study. These include statistics like frequency distribution, central tendency (mean), and variability (standard deviation).

### 5.7.2 *Quantitative data*

To determine the practical significance and the statistical significance between the sample means, the one sample z-test and the effect size were computed respectively.

The one sample z-test is usually used when comparing the mean scores of two samples to determine whether they are significantly different from each other (Borg & Gall, 1989:551). The one-sample z-test is discussed in chapter 6 (6.9.1).

Effect size is another determinant of statistical power. Effect size is the difference of magnitude or relationship in the sample population (Borg & Gall, 1989:5). In this study the effect size measures the difference in views between the new principals and the veteran principals. The effect size is discussed in chapter 6 (cf. 6.9.2).

## **5.8 Summary**

In sum, the mail questionnaire was employed as the main instrument in the collection of data because of its advantages (5.2.1). Both descriptive and inferential statistics, with the help of the PU for CHE statistical consultants, were employed to verify the problems and essential skills for new principals empirically.