

CHAPTER 5

EMPIRICAL RESEARCH DESIGN

5.1 INTRODUCTION

The previous chapter completed the literature investigation on management development. The purpose of this chapter is to outline the design of the empirical research regarding the current management development in schools in the Gauteng Province.

This chapter then sets out to present the research design with regard to the research method and the development of the research.

5.2 THE AIM OF THE EMPRICAL RESEARCH

The empirical investigation aims to gather data on the current management development practices in schools in order to develop a management development model for schools. It emerged in the literature study that most school principals and consequently, their management teams in schools have received little or no significant form of management training. It also emerged that there is currently no formal management development system for school management teams in South African schools.

5.3 THE RESEARCH INSTRUMENT

For the purpose of this research a structured questionnaire was selected as the research tool. The rationale for the use of the questionnaire will now be presented.

5.3.1 The questionnaire as a research tool

A survey questionnaire is one of the tools used in the collection of research data and is ultimately dependent on the purpose of the study (Tuckman, 1994:216; Gall *et al.*, 1996:289). According to Best and Kahn (1993:230) the questionnaire is a self-report instrument used for gathering data about variables of interest to the researcher and consist of a number of questions or items that a respondent reads and answers. Tuckman (1993:230) espouses that questionnaires are used by researchers to convert the information directly given by people into data. In this sense the questionnaire became appropriate to gather data for this research in that it would elicit factual data about the management development practices currently prevailing in Gauteng schools (cf. Vockel & Asher, 1995:124).

The questionnaire was seen as being cost-effective in this research (Fraenkel & Wallen, 1990:336). This was because it would be easy to administer since contact persons would be used to distribute and collect the questionnaires.

The use of questionnaires in this research is based on the following assumptions (cf. Wolf, 1997:422):

- that the respondents can read and understand the questions;
- that respondents are possibly willing to answer the questions;
- that the respondents are in the position to supply the information to answer the questions, and especially in view of the presumed willingness to find a suitable management development approach.

The suitability of the questionnaire is based on the fact that the respondents are school managers and will profoundly be interested in the final outcome of the research and its implications for the betterment of their situation as school managers.

Since the questionnaire is on paper and the interaction is impersonal, the questionnaire has, according to Fraenkel and Wallen (1990:336) both advantages and disadvantages.

5.3.2 The advantages of questionnaires

The following are some of the advantages of the questionnaire as used in this study (Fraenkel & Wallen, 1990:336; Ary *et al.*, 1990:421; Best & Kahn, 1993:230; Tuckman, 1994:216):

- ◆ It can be distributed to respondents with financial and time cost effectiveness and covers a wide coverage.
- ◆ It reaches people who would be difficult to reach thus obtaining a broad spectrum of views.
- ◆ Since the questions are phrased identically, the questionnaire allows for uniformity and elicits more comparable data.
- ◆ Anonymity of respondents is assured since respondents are not required to divulge their identities, addresses and schools.

- ◆ It is relatively easy to plan, construct and administer.
- ◆ It can be administered by anybody on behalf of the researcher.
- ◆ Respondents can answer the questionnaire at leisure without any pressure for immediate response.
- ◆ Permission from education authorities can be given easily since the contents of the questionnaire can be pre-viewed.
- ◆ The influence an interviewer could have on the respondent is obviated.
- ◆ Processing is made easy by the questionnaire being well compiled.
- ◆ Due to its impersonal nature, the questionnaire may elicit more candid and objective and therefore more valid responses.
- ◆ The questionnaire enhances progress in many areas of educational research and brings to light much information, which would otherwise be lost.

5.3.3 Disadvantages of questionnaires

Despite its usefulness the questionnaire has the following limitations ((Fraenkel & Wallen, 1990:336; Ary *et al.*, 1990:421; Best & Kahn, 1993:230; Tuckman, 1994:216):

- ◆ The motivation of respondents may be difficult to check which this may lead to misleading responses.
- ◆ A low response rate is the biggest common limitation of the questionnaire. This will affect the validity of the results.
- ◆ Questionnaires can frustrate respondents who may feel that their personal options are left out.
- ◆ Respondents may be unwilling to respond to questions bordering on private matters or controversial issues and may consequently give what they believe to be socially desirable responses.
- ◆ The length of the questionnaire may lead to careless or inaccurate responses and may result in low return rates.

- ◆ Questionnaires may not probe deep enough to reveal a true picture of opinions and feelings.
- ◆ Little can be done to rectify a misinterpreted question.
- ◆ Because of its apparent simplicity, a questionnaire might appeal to the amateur investigator and may be abused.
- ◆ The respondents may have little interest in a particular problem and therefore may answer the questionnaire indiscriminately.

In spite of these limitations a questionnaire is still a valid instrument for data collection and is still commonly and widely used. Wolf (1997:422) argues that careful and sensitive developmental work will help to identify and make full provision for these limitations. In using the questionnaire, the researcher must be satisfied that the questions are stated with sufficient clarity to function in the impersonal interaction and he must try to maximise the likelihood that a respondent will answer the questions and return the questionnaire (Ary *et al.*, 1990:422-423).

5.3.4 THE DESIGN OF THE QUESTIONNAIRE

5.3.4.1 *Preparing the questionnaire*

The design of a questionnaire must be well organised by a thorough process. Moloko (1996:90) cites Sidhu's exposition that a well-designed and administered questionnaire can serve as an appropriate and useful data-gathering device and can boost the reliability and validity of the data.

According to Ary *et al.* (1990:422-424; Gall *et al.*, 1996:294) the following factors need to be considered in preparing a questionnaire:

- ◆ The questionnaire should reflect scholarship so as to elicit high returns.
- ◆ The questionnaire should be kept as brief as possible so that answering it requires a minimum of respondents' time. All unnecessary items, especially those whose answers are available from other sources, should be eliminated.
- ◆ Questionnaire items should be phrased such that they can be understood by every respondent. It would be best to construct simple and short sentences.
- ◆ Items in the questionnaire should be phrased in a way that will elicit unambiguous

responses. Words like 'often' and 'sometimes' should be avoided as they mean different things to different people.

- ◆ Items should be so phrased as to avoid bias or prejudice that might predetermine respondents' answers.
- ◆ Questionnaire items should be not misread because of unstated assumptions. The frame of reference for answering questions should be clear and consistent for all respondents.
- ◆ Alternatives to items should be exhaustive, e.g. What is your marital status? should include not only alternatives *married* or *single*, but also *widowed*, *divorced* and *separated*.
- ◆ Questions that might elicit embarrassment, suspicion or even hostility in the respondents should be avoided.
- ◆ Questions should be arranged in the correct psychological order, e.g. if both general and specific questions are asked, the general questions should precede the specific ones.
- ◆ The questionnaire should be attractive in appearance, neatly arranged and clearly duplicated or printed.

Questions should allow for respondents to review their own relevant experiences thoroughly, arrive at accurate and complete responses and should communicate some rules about the process of question answering by providing respondents with the necessary rules so as to reduce complexities (cf. Best & Kahn, 1993:230; Ary *et al.*, 1990:426-427).

5.3.4.2 *Construction of the questionnaire items*

According to Tuckman (1994:225) questionnaire items must be developed carefully such that they measure a specific aspect of the study's objectives or hypotheses.

The questionnaire items in this study were carefully constructed. The aim of the empirical study was taken into consideration. Sections B and D were constructed in such a way as to elicit responses that would give an indication of what actually the management development activities in schools are. The ranking scale used required respondents to prioritise the needs identified for school management teams' management development. This would shed light on whether there was a need for

management development of school management teams. Since the same questionnaire would be administered to the categories of the target population, the results would shed light a balanced view of the respondents' needs as belonging to each category or being equally applicable for the entire respondent population in Gauteng. It would, for instance, be interesting to see if there are correlations or discrepancies among the respondents regarding the questionnaire items as would perhaps be influenced by, *inter alia*, their various backgrounds, e.g. school type, location of school and gender.

Section C required the respondents to respond to questions on their own management development experiences. This would explain the extent of the respondents' management development experiences and perhaps indicate if there would be a need for management development programmes from the GDE and the need for measures to ensure that the cascading of such programmes to schools is strictly monitored and evaluated.

A total of 40 questions were used in the questionnaire (Appendix A). First, the literature study (Chapter 2 & 3) was used to construct items relating to,

- ◆ management development needs (Section B).
- ◆ the implementation, monitoring and actual experience of respondents with regard to management development activities and programmes (Section C).
- ◆ management development activities prevailing in schools (Section D).

In line with Ary *et al.*'s (1990:422-423) exposition, the questionnaire items were ordered in a logically sound sequence, i.e. simple, interesting and neutral questions preceded more difficult and crucial items or those that established a frame of reference or provided keys to recall before those relating to details (cf. Appendix A).

5.3.4.3 *The questionnaire format*

Ary *et al.* (1990:429) propound that the questionnaire and the covering letter are the main sources of information that the respondent will refer to in deciding whether or not to complete the questionnaire. The following rules of questionnaire formatting are espoused (Ary *et al.*, 1990:429):

- The questionnaire should be made attractive.
- Questions should be laid out or organised in such a way that the questionnaire is

as easy to complete as possible.

- Questionnaire items and pages should be numbered.
- Brief, clear and bold-type printed instructions should be included.
- A few interesting and non-threatening items should be started with.
- Questionnaires should not be too long and should include enough information so that, items are interesting to the respondents.

The afore-mentioned rules were taken into consideration in formatting the questionnaire. Instructions for completing and keys for ranking the items were provided in each section (cf. Moloko, 1996:92).

Section A comprised items relating to the general or biographical data. Biographical questions serve an “ice breaker” purpose at the beginning of the questionnaire (Moloko, 1996:92). The data relating to biographical details would help the researcher gain an understanding into differences in responses on certain items as would be dictated upon by differences in, *inter alia*, social backgrounds, location and type of school, educational management experience, academic qualifications, age and gender of respondents.

Section B consisted of questions relating to management development needs of educational managers identified through the literature study. This would assist the researcher to find out the need for management development of school management teams as well as to design a model that would be sensitive to management development needs of school management teams in Gauteng.

Section C constituted items related to management development experiences of school management teams. This would help in discovering the extent to which respondents have experienced management development and the extent to which experiences gained in management development programmes if any are enacted to build effective monitoring and evaluation mechanisms.

Section D comprised questions that aimed at eliciting responses about the actual management development activities prevailing in schools. This would be pivotal to the research aims (cf. 1.1 & 1.2).

For each item in Section B respondents were required to indicate their prioritisation of items relating to management development needs on a five-point scale, e.g.

1. = Very low 2. = Low 3. = Medium 4. = High 5. = Very high

Sections C and D required respondents to rank items on a three-point scale, e.g.

1. = Yes 2. = No 3. = Not sure

5.3.4.4 *Pilot study*

Ary *et al.* (1990:428) and Tuckman (1994:235) assert that in addition to the preliminary check made of the questions in order to locate ambiguities, it is desirable to carry out a thorough pre-test of the questionnaire before using it in the research. For this pre-test, a sample of individuals from a population similar to that of the research subjects should be selected. The pre-test form of the questionnaire should provide space for respondents to make comments about the questionnaire itself so as to indicate whether some questions seem ambiguous or not and to indicate other points that can lead to improving the questionnaire.

The questionnaire was first submitted to the researcher's promoter for his scrutiny and comments. The questionnaire was thereafter piloted to a sample of school principals (n = 20), deputy principals (n = 15) and heads of departments (n = 10). This pilot group was drawn from the intended target population that would not be part of the final study sample. The pilot study group was requested to comment on the questionnaire with regard to its length, any unclear or ambiguous questions and to make any comments and suggestions as is advised by Ary *et al.* (1990:428).

The pilot study responses were analysed. The analysis revealed satisfaction with the questionnaire. A few adjustments were made and the questionnaire was finalised.

5.3.4.5 *Questionnaire distribution*

The final questionnaire was then distributed to the sample population. A covering letter was enclosed (cf. Appendix D). The covering letter was aimed at orientating the respondents to the questionnaire as well as assuring them of confidentiality and anonymity (Best & Kahn, 1993:241).

Contact persons were enlisted to distribute the questionnaires. School principals and District Education Co-ordinators in other GDE Districts were requested to be contact persons. Contact persons were used to minimise the disadvantage of postal questionnaire surveys and ensure a high return rate as well as exercise control over the time for the return of questionnaires. Consequently, it took four weeks for the

distribution, completion and collection and return of the questionnaires.

5.4 POPULATION AND SAMPLING

The target population for the research was identified as the management teams of primary and secondary schools in the Gauteng Department of Education. This would include the school principal, deputy principal and heads of departments. The deputy principals and heads of departments were included on the basis of the GDE's mission that embraces participative management and the involvement of as broad a spectrum of stakeholders in education as possible. The ideal of whole-school development was a further motivation for the inclusion of the whole school management teams in the empirical research.

The first step was to find out the number school principals, deputy principals and heads of departments in permanent positions in Gauteng schools. It was decided that only the target population employed in public schools would comprise the target population. The GDE's EMIS unit was requested to provide statistical data on the target population (cf. Appendix B). The data indicated a target population (N=7791) of school principals (n=1800), deputy principals (n=1334) and heads of departments (n=4657). Table 5.1 shows the target population data.

Table 5.1 Target population

Principals	Deputy principals	Heads of Departments	Total
1800	1334	4657	7791

The second step was to determine a sample of the three categories of the target population that would be representative of the target population. The size of the sample should be reasonably small for reasons of time and cost while being large enough to ensure that it was representative enough (Vermeulen, 1998:52). According to Vermeulen (1998:52) the following should guide the sample size:

- the larger the population, the smaller the percentage of that population the sample needs to be; and
- the size of the sample will be influenced by the relative homogeneity and heterogeneity of the population.

In line with this exposition, a sample (n=398) of the target population was decided

upon (cf. Vermeulen, 1998:52). The sample comprised school principals, deputy principals and heads of departments.

The GDE consists of 18 districts grouped into three regions. Since the three regions fall under the GDE and were deemed to have similar education management development conditions as espoused in Chapter 2, it was decided to administer the questionnaire in the South Region's five districts. This would also facilitate the administration and collection of the questionnaires. A list of schools in the South Region was obtained from the EMIS unit of the GDE and a random sample was drawn from them. A random sample of school principals (n=108), deputy principals (n=80) and heads of departments (n=210) was then selected. This distribution was guided by guidelines of sample sizes (Vermeulen, 1998:52) as well as discussions with the author.

Table 5.2 Sampling

Population group	Total	Sample
Principals	1800	108
Deputy Principals	1334	80
Heads of Departments	4657	210

This sample of the target population was deemed representative of the target population in Gauteng schools.

5.5 RESPONSE RATE

Questionnaires were distributed to the sample population in Gauteng schools. Table 5.3 shows the return rate per sample category.

Table 5.3 Response rate

Population category	Questionnaires distributed	Questionnaires received	Percentage
<i>School principals</i>	108	84	77,8
<i>Deputy principals</i>	80	72	90,0
<i>Heads of Departments</i>	210	185	88,1

From Table 5.3 it can be seen that the response rates exceed 70% for all respondent categories. This, according to Landman (1980:112), is an acceptable response rate

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from which generalisations can be made.

5.6 ADMINISTRATIVE PROCEDURES

5.6.1 Approval from the Gauteng Department of Education

The Gauteng Department of Education was requested to give permission for the questionnaire to be administered to the target population in the province. The questionnaire was submitted to the GDE and the permission to administer it to school principals, deputy principals and heads of departments in Gauteng was subsequently given (cf. Appendix C). The questionnaire was then distributed to the target population. The distribution was done personally and through contact persons in schools and GDE District Offices.

The GDE was also requested to give permission for the use of the indicators of good practice developed for Gauteng schools. Permission was thereof was granted (cf. Appendix C).

5.6.2 Follow-up on questionnaires

The response rate was generally good because contact persons were personally able to follow-up on outstanding responses. There was a need for telephonic and personal follow-ups on some questionnaires that were not returned in time.

5.7 STATISTICAL TECHNIQUES

The Statistical Services of the Vaal Triangle Campus of the Potchefstroom University for Christian Higher Education analysed and processed the data collected by means of the SAS-programme. The programme was used to find the frequencies and means. The t-test was used to analyse statistical differences between the means of various scores, while the d-test was used to determine if the differences were practically significant or not.

5.8 SUMMARY

This chapter briefly presented the research design. The research method, development and the pilot study were outlined.

The questionnaire was decided for use because of its advantages and was distributed and collected by contact persons in the GDE's South Regions' Districts. The next chapter will present the research data analysis and interpretation.