CHAPTER FIVE

RESEARCH STRATEGIES AND DATA COLLECTION METHODS APPLIED

5.1   INTRODUCTION

The underlying objective of the investigation is to determine Grade 4 educators' exprinces with a READ Educational Trust training programme and its impact on their classroom practices and professional development. It also assesses the impact of a teaching and learning intervention programme offered by service providers such as READ Educational Trust on the writing performances of Grade 4 learners. This chapter also outlines the concept of evaluation research, the conceptual framework supporting the investigation, the research design, as well as the qualitative and quantitative strategies applied in the study.

Programme evaluation research is used to establish the effectiveness of social programmes like those offered by READ Educational Trust. In South Africa, a growing number of programme evaluations are being conducted, but this is still relatively small in comparison to the number of social programmes that exist (Terre Blanche & Durrheim, 1999:209). It has been estimated that over 6 billion Rands of both overseas and local funding has been spent since the 1970s on supporting the various non-governmental organizations, like the READ Educational Trust, that have worked to promote innovation and change in various sectors of society. Only a small fraction of these programmes have been formally evaluated. Thus, we do not know whether the social programmes have been successful or not. This is not the case in many other countries where programme evaluation has a long tradition, based on both donor insistence and the public's right to know whether interventions undertaken to promote social change are successful.

Basically, programme evaluation is the systematic application of social research procedures for assessing the conceptualization, design, implementation and utility of social intervention programmes (De Vos, 1998:36). In other words, evaluation researchers use social research methodologies to evaluate and improve the ways in which human service policies and intervention programmes are implemented. The conceptual framework that has been used in this investigation suggests that programme evaluation be undertaken according to the following steps:

- Planning;
- Data Collection;
- Data Analysis; and
- Reporting.

According to the ROI model, programme evaluation is also divided into different levels, namely reaction, learning, application and business impact. A detailed discussion of the various steps is presented below.

As indicated in the literature overview, an evaluation of the impact of intervention programmes offered by organizations such as READ Educational Trust, and the need to enhance the provision of quality education, is a large and complex body of research. This study seeks to answer the following specific research questions:

1. What is the impact of the teaching and learning programme interventions offered by external service providers such as READ Educational Trust on the performance of Grade 4 learners and what influence does it have on the classroom practices and professional development of educators involved in the application of such programmes?

2. How are supplemental language programmes structured in order to support and complement formal classroom teaching and learning environment?

3. What are the perceptions of Grade 4 language educators towards language programmes offered by organizations such as READ Educational Trust on the achievement of the curriculum outcomes?

4. How do language programmes such as those offered by READ Educational Trust contribute to effective language teaching?

5. How do the methodologies of service providers such as READ Educational Trust advance staff development?

6. To what extent does the READ Educational Trust's intervention programmes impact on Grade 4 learners' writing competencies?

7. How do intervention programmes offered by organizations such as READ Educational Trust impact on the level at which Grade 4 learners develop their language competencies?

8. How do intervention programmes offered by service providers such as READ Educational Trust contribute to effective language teaching?

This study follows a programme evaluation research approach, which falls under the category of evaluation or impact assessment studies. Evaluation research is not really a different method of doing research, rather it is research conducted for a specific purpose. The purpose of programme evaluation is to evaluate some social programme, which has been set up to address and ameliorate a social problem (Baker, 1994:289). The main aim of outcome or product evaluation studies is to establish whether the intended (and unintended) outcomes of the programme have been achieved or not. Mouton (2002:160) postulates that programme evaluation research aims to answer the question of whether an intervention programme, therapy, policy or strategy has been successful or effective. This normally includes immediate or short-term outcomes, as well as long-term outcomes (or the so-called "impact" of the programmes). The latter is the main crux of this investigation.

Such applied research is set up to address specific questions for which the programme's sponsors need answers. The rationale for using programme evaluation research in this study is that the underlying objective of the investigation is to gauge the impact of a teaching and learning programme offered by service providers such as READ Educational Trust on the writing performance of Grade 4 learners and the influence it has had on the classroom practices and professional development of educators who were involved in the implementation of such programmes. It also seeks to determine educators' experiences with and opinions of a READ Educational Trust training on their approaches towards teaching and learning in the primary schools. It is therefore, vital for researchers studying social programmes to determine whether such programmes work effectively or not. Similarly, educators and practitioners working in the programme need to know whether the intervention is helping improve their daily practice or not.

From the preceeding definitions and discussions, one can argue that evaluation research has two essential aims, namely to improve practice and to involve the stakeholders.

Evaluation research aims at improving three key areas, which are, firstly, the improvements of teaching practice in general, secondly, the improvement of the understanding of the practice by the educators themselves, and thirdly, the improvement of the situation in which the practice takes place.

Some critics further assert that the fundamental aim of evaluation research is to improve practice rather than to produce knowledge. According to these scholars, the production and utilization of knowledge is subordinate to, and conditioned by, this fundamental aim. With a better understanding of evaluation research, one would argue that it is a combination of quantitative and qualitative research approaches. Schurink (1998:406, in Wickman 2001:10) mentions that evaluation research is recognized in the literature as an alternative system of knowledge production. In other words, evaluation research uses social research methodologies to judge and improve the ways in which human service policies and programmes are conducted, from the earliest stages of defining and designing programmes through to their development and implementation (De Vos, 1998:367).

It is against this background that this study focuses on writing as an aspect of language development. Furthermore, it was deemed necessary to work with Grade 4 learners as they are between the foundation and senior phases.

5.1.1   The Conceptual Framework Supporting this Investigation

It is necessary to give an account of the conceptual framework underpinning this investigation. A paradigm or conceptual framework is a system of interrelated ontological, epistemological and methodological assumptions. It is a model that is made up of related theories or aspects of the study of knowledge. Terre Blanche and Durrheim (1996:36) view paradigms as perspectives that provide a rationale for the research. They also commit the research to particular methods of data collection, observation and interpretation. Paradigms are thus central to the research design because they impact both on the nature of the research question, i.e. what is to be studied and the manner in which it is to be studied.

Refining a research problem involves identifying a theoretical framework upon which to base the research. As Bless and Higson Smith (1995:23, in Terre Blanche and Durrheim, 1999:19) have argued, theory serves as an orientation for gathering facts, since it specifies

the types of facts to be systematically observed. This is so because the elements or variables of a theory are logically interrelated, and if relevant theory exists, hypotheses or research questions can be deduced based upon particular relationships between the elements. Phillips (2003:33) supports this view when postulating that the selection of an evaluation framework is the building block of research as it entails the categorization of data.

5.1.2 The ROI Model

The Return on Investment Model consists of various steps that are closely interrelated, namely planning, data collection, data analysis and reporting. Data collection is further divided into five levels, namely reaction/customer satisfaction, learning, application/implementation, business impact/results and Return on Investment. The ROI model suggested for the study is depicted in Figure 5.1 below.

Figure 5.1 The Return on Investment Model

(Adapted from Phillips 2003:32)
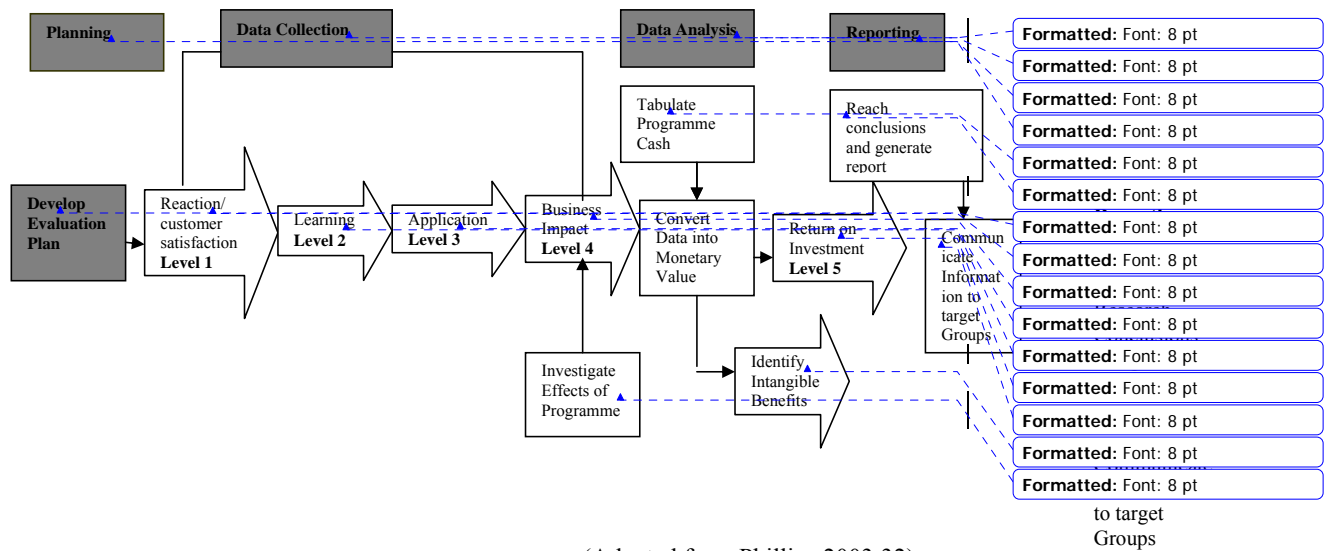
Evaluation research is the systematic application of social research procedures for assessing the conceptualization, design, implementation, and utility of social intervention programmes (De Vos, 1998:367). Different kinds of programme evaluation, namely needs assessment, evaluability assessment, programme monitoring, impact assessment, evaluation phase and utilization evaluation. Evaluation research in education and allied fields has been defined traditionally as the application of experimental or control group designs to estimating the impact of social interventions (Reynolds, 2005:2401). Research on programme conceptualization and implementation has received less attention. To balance these approaches, theory-driven or theory-based evaluations have grown in interest. According to Reynolds (2005:2401), theory-driven evaluations formalize the role of programme theory to document and understand programme impacts. It is worth stressing that this particular study falls under the category of impact assessment studies as it seeks to gauge the impact of a teaching and learning programme intervention offered by external service providers such as READ Educatioanl Trust on the writing performance of Grade 4 learners and the extent to which the programmes have influenced the classroom practices and professional development of educators who were involved in the implementation of such programmes.

Certainly, there is no single correct approach to programme evaluation, and the onus is on the researcher to choose an appropriate method that will fit the pragmatic requirements of each programme. The ROI model was chosen as the conceptual framework underpinning the investigation. The ROI model consists of various steps that are closely interrelated as already indicated. Following is a discussion of the main elements of the ROI model.

(a) **Planning**

Planning is the first step of the ROI model. It is also one of the most critical steps in developing an ROI impact study. Planning an evaluation begins with identifying and communicating with key stakeholders and identifying the purpose for the evaluation with a view to meeting stakeholder's expectations (Phillips, 2006: 38). Planning also entails linking the evaluation to the programme objectives. Once these three steps take place, data collection, ROI analysis, and communication plans as well as the project plan can be developed (Phillips, 2006:38). Purposes of evaluation vary. According to Phillips (2006:38), some ROI impact studies focus on the impact the programme results would have on the organization. Programme evaluation is also

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intended to provide useful information. Phillips (2006:38) maintains that evaluation data can be used to answer questions, make decisions, and take action. Based on the above information, it can be argued that the purpose of evaluation drives the type of data to be collected and reported.

Other typical purposes for evaluation include:

- Identify strengths and weaknesses in the training process;
- Determine if the skills learned are being applied on the job;
- Improve training processes to track participant progression with skills;
- Gain stronger commitment from key stakeholders;
- Determine which employees would benefit most from participating in a training programme;
- Supply data for training researchers; and
- Increase knowledge and expertise in developing and delivering results-based training programmes.

(Phillips, 2006:40)

According to Glatthorn *et al.,* (2006:309), preparations for the evaluation include three major steps, namely setting the project parameters, selecting the project director and the evaluation task team, and preparing the evaluation documents.

For the purpose of this investigation, the researcher made sure that district managers and the school principals were informed about the purpose and the limits of the research project. In identifying the limits of the project, the reasearcher also tried to develop and provide answers to the following questions:

- How much time will be allocated and by what date should the evaluation be completed?
- What human, physical, and material resources will be provided?
- Which fields will be evaluated?
- What constituencies will be asked for input?

(Glatthorn *et al.*, 2006:309)

An evaluation plan for this investigation is illustrated in Table 5.1

Table 5.1   An evaluation plan for the research study

TIME FRAME	HUMAN AND MATERIAL RESOURCES NEEDED	LEARNING AREA TO BE EVALUATED	CONSTITUENCIES TO BE INVOLVED
2002-2007	Researcher A questionnaire (Grade 4 educators) An interview schedule (Grade 4 educators and READ Staff)	Languages Learning Area	Grade 4 educators Profesional staff Training Manager Project coordinators Trainers

(Adapted from Glatthorn *et al.,* 2006:309)

The following is a discussion of Data Collection as the second step of the ROI Model.

(b) Data Collection

Collecting data during and after the training programme has been implemented is the first operational phase of the ROI process, as depicted in Figure 5.1. Data collection is usually the most time-consuming of all the steps and is also the part of the ROI process that can be the most disruptive to the organization (Phillips, 2003:58). It is, therefore, imperative to use a variety of methods to capture data at the appropriate time after training. In addition, appropriate attention must be given to the actual implementation of the programme within the organization, the value of comprehensive measurement and evaluation process brings to the organization, and the impact the specific programme evaluated has on the organization (Phillips, 2003:34). Data collection is divided into four levels, namely reaction, learning, application / implementation, and business impact or results. A discussion of the above levels is presented in the next subsections.

(c) Data Analysis

Data analysis is the third step of the ROI model. It involves the tabulation of programme costs with a view to converting the data into monetary value (Phillips, 2003:32). Phillips (2006:177) also posits that converting data into monetary value is a key step in moving from impact to ROI. Therefore, it is worth mentioning that level 5 of the ROI model was not used in this investigation as it is an impact assessment study. Data analysis also involves the identification of intangible benefits which

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could be communicated to the target groups. Level 5, namely Return on Investment (ROI) falls under data analysis as an element of the ROI model.

(d) Reporting

Reporting is the last step of the conceptual framework. According to Phillips (2003:32), reporting involves reaching conclusions, generating the report and communicating information to target groups. The product of the measurement process is a set of conclusions based on facts that must be reported to the stakeholders. Reporting the results to others should be done in an unbiased and objective way (Phillips, 2006:217). In addition, reporting requires good mastery of the principles of communicate results, the ability to develop an impact study report and knowledge of how to communicate the results (Phillips, 2006:217).

The rationale for performing these evaluation levels is to collect data, to analyze it and use it to make sound decisions which could serve as an indicator to improve training where necessary (Basarab & Root, 1992:2). In other words, these processes support the purpose of programme evaluation, not to prove but to improve. A five-step process was used in this thesis to describe the four levels of evaluation. Following are the five steps that were proposed by Basarab & Root (1992:2):

- Planning an evaluation;
- Developing appropriate data collection instruments;
- Associated data analysis modes;
- Obtaining data to evaluate training;
- Systematically compiling and analyzing information; and
- Reporting results and making recommendations.

Following is a discussion of the four levels of programme evaluation. In the light of the reasons that were presented in the introductory section of the conceptual framework, Tyler's Objective-Centred model could not easily have been used in this reasrch. Tyler's model focuses attention on curricular strengths and weaknesses, rather than being concerned soley with the performance of individual students (Glatthon *et al.,* 2006:303). It also emphasises the importance of a continuing cycle of assessment, analysis and improvement.

According to Glatthorn *et al.,* (2006:303), Tyler's model has many deficiencies. For example, it does not suggest how the objectives themselves should be evaluated. It would also not be suitable for this investigation because its starting point is a behavioural objective that has previously been determined (Glatthorn *et al.,* 2006:302).

Similarly, the researcher could not use Stufflebeam's Context-Input-Process-Product model in this study. Stufflebeam's model differs from the ROI model and Tyler's model in its emphasis on the importance of producing evaluative data for decision making. According to Glatthorn *et al.,* (2006:303), Stufflebeam's model provides a means for generating data relating to four stages of programme operation, namely

- Context evaluation, which continuously assesses needs and problems in the context in order to help decision makers determine goals and objectives;
- Input evaluation; which assesses alternative means for achieving those goals to help decision makers choose optimal means;
- Process evalution; which monitors the processes both to ensure that the means are actually being implemented and to make the necessary modifications; and
- Product evaluation; which compares actual ends with intended ends and leads to a series of recycling decisions. Stufflebeam's model would also not be suitable for this investigation mainly because of its different focus.

The researcher could also not use Scriven's Goal-Free model because it differs markedly from the ROI model. In conducting a goal-free evaluation, the evaluator functions as an unbiased observer who begins by generating a profile of needs for the group served by a given programme (Glatthorn *et al.,* 2006:304). It would not be suitable for this study because it is only regarded as a complementary model.

Although the ROI model has some affinities with Stake's Responsive Model, it could also not be used in this investigation. Both models emphasize the importance of addressing the concerns of the stakeholders, but there are some differences in terms of the approach. The ROI model suggests a step-by-step approach whereas the Stake's Responsive model emphasizes an interactive and recursive evalution process (Glatthorn *et al.,* 2006:305). Stake's Responsive Model would not be suitable for this study because it is based explicitly upon the assumption that the concerns of the stakeholders should be paramount in determining the evalution issues. The ROI

model is suitable for this study in the sense that it focuses on critical aspects of programme evaluation. This conceptual framework is suitable for this study in the sense that it affords the evaluator the opportunity to achieve different objectives at different levels of the evaluation process.

Whereas the ROI model has some affinities with Stake's Responsive Model, it differs markedly from Eisner's Connoisseurship model. Eisner's model breaks sharply with all the traditional scientific models and offers a radically different view of what evaluation might be (Glatthorn *et al.*, 2006:306). It is for this reason that it could not be used in this investigation. Basically, Eisner's model emphasizes qualitative appreciation through connoisseurship and critism (Glatthorn *et al.,* 2006:306). The ROI model also differs completely with the Countenance model. In fact, any of the Pluralistic evaluation models could not be used in this evaluation because they are chiefly used with curriculum which is out of the mainstream, for example, curriculum associated with aesthetic education, multicultural projects, and alternative schools (McNeil, 1985:211). The Countenance model divides the evaluation process into the antecedent, transaction and outcome phases which could not be relevant to this investigation.

There are other models that are more or less similar to the ROI model, namely, the Two-loop Model of assessment, the 3-level Hierarchical Linear Model and the Social Reconstructionists and Humanists models.

The Two-loop Model of assessment consists of two loops. One loop is primarily concerned with determining programme objectives, constituent's input and outcomes, and the other loop is concerned with the actual courses and other components of the programme having to do with the activities that students engage in (Soundarajan, 2004:600). The aim of this model is to determine programme outcomes. Similarly, the ROI model seeks to determine programme outcomes by ensuring that aspects such as participant's reaction, learning, application/implementation and results/business impact are evaluated during the research process.

The Social Reconstructionists and Humanists model also have a pluralistic view of evaluation. This view holds that evaluators should be sensitive to the different values of programme participants and should shift the judgement away from the evaluator to

the participants (McNeil, 1985:205). As evaluators, pluralists tend to base their evaluations more on programme activity than on programme intent and to accept anecdotal accounts and other naturalistic data rather than numerical and experimental designs. The Social Reconstructionists and Humanists believe that evaluation is fair to all parties as its effectiveness is measured by test scores. Similarly, the ROI model suggests a holistic approach to programme evaluation. The model focuses mainly on participant's reaction, programme implementation/application and the results/business impact.

On the other hand, the 3-hierarchical Linear Model is being used to estimate the impact of programmes. Basically, this model was estimated to examine relations between student characteristics and growth in reading achievement, and to estimate the impact of treatment condition on the growth trajectory of students (Nunnery *et al.,* 2006:10). Level 2 evaluates student's characteristics within the classroom. The focus area of level 2 is similar to that of the ROI model in the sense that it seeks to assess learning which occurs within the classroom or during training. Level 3 of this model has a different focus as it estimates aspects between classrooms (Nunnery *et al.,* 2006:10). The focus of this level differs markedly from that of the ROI model where level 3 assesses the impact of READ's training programmes on Grade 4 educators' application or implementation skills.

Based on the realization that models have different focus areas, the researcher decided to use the ROI model as it is the most suitable conceptual framework for this investigation. The ROI model consists of four main elements, namely planning, data collection, data analysis and reporting. The four steps were followed in this study. In this research study, planning the evaluation answered the questions why, what, how, who and when the READ's training programme could be evaluated. Various data collection methods and sources of data were used in this investigation. Thereafter, the data was analyzed quantitatively and qualitatively. Having analyzed the data, the researcher reported and communicated the results or findings to the stakeholders.

The ROI model matches the methodology of this research study in the sense that the second element of the model, namely data collection consists of four levels, namely reaction, learning, application/implementation and business impact or results. The

four levels of data collection were used to address the research questions that are highlighted on pages 173-174.

In this case, the research problem and the research questions served as a guide regarding the choice of a theory that underpinned the research study.

This investigation focuses mainly on the four levels of the ROI model as it is an impact assessment study. An impact assessment in this study gauges the impact of a teaching and learning programme offered by external service providers such as READ Educational Trust on the writing performance of Grade 4 learners and the influence it has had on the classroom practices and professional development of educators who were involved in the implementation of such programmes. A discussion of Kirkpartrick's four levels of programme evaluation is presented in the following sub-sections.

(a) Reaction/Customer Satisfaction

Evaluation on this level measures how those who participated in the programme react to it (Kirkpatrick, 1998:19). According to Phillips (2003:34), reaction measures the satisfaction of programme participants, along with their plans to apply what they have learned. Reaction has to be favourable if the organization is to stay in business and attract new clients. Having said that, one would say that it is evident that the future of every training programme depends on a positive reaction (Kirkpatrick, 1998:20). Basically, measuring reaction provides the stakeholders with valuable feedback and suggestions for improving future programmes. For the purpose of this study, level 1 was used to determine whether Grade 4 language educators have a positive reaction towards READ's training programmes or not.

(b) Learning

Learning can be defined as the extent to which participants change attitudes, improve knowledge, and/or increase skill as a result of attending the programme (Kirkpatrick, 1998:20). According to Phillips (2003:34), learning as the second level of data collection focuses on what participants learned during training, using tests, skill practices, role plays, simulations, group evaluations and other assessment tools. Level

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2 was meant to establish whether Grade 4 educators have learnt language teaching skills during READ's training workshops or not.

(c) Application

Application is related to the extent to which change in behaviour has occurred (Kirkpatrick, 1998:20). Level 3 evaluation is important to gauge the success of the application of a programme. However, the measurement of a programme does not guarantee that there will be a positive impact on the organization. Level 3 was used to determine whether READ's training programmes enabled Grade 4 language educators to apply the acquired knowledge or not.

(d) Business Impact

Business impact can be defined as the final results that occurred because the participants attended the training programme (Kirkpatrick, 1998:23). According to Phillips (2003:35), business impact measures focus on the actual results achieved by programme participants as they successfully apply what they have learned.

Worth mentioning is the fact that the "business impact " section of the ROI approach is relevant to the research question as it seeks to determine the impact of a teaching and learning programme intervention offered by service providers such as READ Educational Trust on the writing performance of Grade 4 learners and the influence it has had on the classroom practices and professional development of educators involved in the application of such programmes. It is imperative to determine the business impact of a programme as well as a result of exposure to the programme. The above-mentioned aspects relate to the improvement of the pass rate, effective teaching and learning and low drop-out rates in the education context. On the other hand, aspects such as increased sales, reduced turnover and higher profits relates to the benefits that READ Educational Trust gained because of the quality of its language programmes. Moreover, reference is made to the extent to which the above institutions enhance organizational growth and sustainability because of the achieved benefits. Having said that, one would say that the fourth level of the ROI model was geared towards assessing the final results of READ's language programmes.

The final results can include increased production, improved quality, decreased costs, reduced frequently and/or severity of accidents, increased sales, reduced turnover, and higher profits (Kirkpatrick, 1998:23). Basically, the fourth level of the ROI model was used to establish whether the implementation of READ's training programmes had a positive business impact on organizational growth and sustainability or not.

5.2   CLASSIFICATION AND DESCRIPTION OF THE RESEARCH DESIGN

In developing a research design, the researcher asked two further questions about the research purpose. These are who or what does she want to draw conclusions about, and what type of conclusions does she want to draw about them? These objects of investigation are known as the units of analysis. There are four different units of analysis that are common in the social sciences, namely individuals, groups, organizations and social artifacts. The 'units of analysis' for this particular study are individuals, i.e., Grade 4 language educators and READ staff. The researcher wanted to assess the impact of a teaching and learning programme offered by external service providers such as READ Educational Trust on the writing performance of Grade 4 learners and the influence it has had on the classroom practices and professional development of educators who were involved in the implementation of such programmes. Design coherence was achieved by matching the sampling and data collection strategies to the unit of analysis.

According to Larry (1997:343), the design of a research study is the basic outline of the experiment, specifying how the data will be collected and analyzed and how variations will be controlled. The research design determines to a great extent whether the research question will be answered or not. A true research design satisfies three criteria. First, the design must test the hypotheses advanced. Secondly, extraneous variables must be controlled so that the experimenter can attribute the observed effects to the independent variable. Thirdly, it must be possible to generalize the results.

In the light of the above, one would argue that a research design is a strategic framework for action that serves as a bridge between research questions and the execution or implementation of the research. Terre Blanche and Durrheim (1999:29) define research designs as plans that guide the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose and procedure. It

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is the designed and planned nature of observation that distinguishes research from other forms of observation. Designing a research study has been compared to designing a building. Therefore, a research design should actually provide a plan that specifies how the research is going to be executed in such a way that it answers the research question(s).

Research designs should be developed in accordance with specific principles to ensure that the findings will stand criticism. For example, the following dimensions may be considered when designing a research design:

- The purpose of the research;
- The theoretical paradigm informing the research;
- The context or situation within which the research is carried out; and
- The research techniques employed to collect and analyze data.

Multiple considerations that derive from these four dimensions must be woven together in a coherent research design in a way that will maximize the validity of the findings. The strategic framework (research design) that links the research question to the execution of the research is developed through a process of reflecting on issues relevant to each of the four dimensions discussed above in order to produce a coherent guide for action which will provide valid answers to the research question (Terre Blanche & Durrheim, 1999:35). Researchers achieve coherent designs by ensuring that the research purposes and techniques are arranged logically within the research framework provided by a particular design.

5.3   THE RESEARCH HYPOTHESES

Based on the literature review, a number of research hypotheses were formulated and used to observe a phenomenon (Grade 4 learners' writing competencies) and speculated about possible causes as well. According to Tuckman (1994:67), a hypothesis is an expectation about events, based on generalizations of the assumed relationship between variables. Hypotheses are abstract and are concerned with theories and concepts whereas the observations used to test hypotheses are specific and are based on facts. In a similar vein, Best and Kahn (1993:11) perceive the research hypotheses as a formal affirmative statement predicting a single research outcome, or a tentative explanation of the relationship between two or more variables.

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In view of the above definition, one would say that a hypothesis is the presumptive statement of a proposition that the investigation seeks to prove. It has been said earlier that science seeks to describe phenomena by means of condensed generalizations. Since the essence of the research is stated on the hypothesis, it needs to be a good one with a high probability of causing a clear and definite result, either acceptance or rejection which is also a positive result in an eliminative sense. According to Best and Kahn (1993:11), two functions that hypotheses serve in scientific inquiry are the development of theory and the statement of parts of an existing theory in testable form.

The purpose of a hypothesis can be summarized as follows:

- Hypotheses provide direction; they bridge the gap between the problem and the evidence needed for its solution. They ensure the collection of evidence necessary to answer the question posed in the statement of the problem and present waste in the collection of irrelevant information. They also enable the investigator to assess the information he/she has collected from the standpoint of both relevance and organization;

- Hypotheses sensitize the investigator to certain aspects of the situation that are relevant from the standpoint of the problem at hand. They generally spell the difference between precision and haphazardness, between fruitful and fruitless research. The researcher must, however, remember that sensitization can lead to the uncritical acceptance of false data;

- Hypotheses permit the investigator to understand with greater clarity the problem and its ramifications as well as the data that bear on it. They enable the researcher to identify the procedures and methods to be used in its solution and to rule out methods that are incapable of providing the necessary answer;

- Hypotheses act as a framework for the conclusions. They guide the collection of relevant data and provide the structure for their meaningful interpretation in relation to the specific problem under investigation (De Vos, 1998:116-117); and

- The most common use of hypotheses is to test whether an existing theory can be used to solve the research problem (Best & Kahn, 1993:11).

The purpose of a hypothesis is thus to state, in explicit terms, the researcher's expectations concerning the relationship between the variables in the research problem as

was indicated above. Hypothesis construction and testing enable researchers to generalize their findings beyond the specific conditions in which they were obtained. For the purpose of this study, the following hypotheses were formulated and used to collect data with a view to seeking answers for problems relating to language programmes offered by READ Educational Trust:

- Hypothesis 1 :
  READ's language programme impacts on language teaching with expected correlations between its training method and the improvement of learners' language skills. Hypothesis 1 is intended to test the third research sub-question, namely: How do language programmes such as those offered by READ contribute to effective language teaching?

- Hypothesis 2: There is a correlation between READ's training programme, staff development and their professional growth. The classroom interventions therefore contribute significantly to educators' performance measured in terms of the development of their language teaching competences, classroom practices and professional skills. Hypothesis 2 is aimed at addressing the fourth research sub-question, namely: How do the methodologies of service providers such as READ Educational Trust advance staff development?

- Hypothesis 3: Educators regard READ's language programme as contributing to Grade 4 learners' language development in general and their ability to write and design text (writing skills). Hypothesis 3 is intended to test the fifth research sub-question, namely : To what extent does the READ Educational Trust's intervention programmes impact on Grade 4 learners' writing competencies?

- Hypothesis 4: Female and male educators have different opinions regarding the value of READ's training programme on the performance of primary school children with specific reference to the impact of the programme on children's writing competences. Hypothesis 4 is aimed at addressing the second research sub-question, namely: What are the perceptions of Grade 4 language educators towards language programmes offered by organizations such as READ Educational Trust on the achievement of the curriculum outcomes?

- Hypothesis 5: External training programmes such as those offered by READ have more significant impacts on teaching and learning in rural schools as compared to urban schools. Hypothesis 5 is geared towards addressing the sixth research sub-question, namely: How do intervention programmes offered by organizations such as READ impact on the level at which Grade 4 learners develop their language competencies?

Basically, the above hypotheses are intended to address the first research question in this investigation, namely what is the impact of a teaching and learning programme interventions offered by external service providers such as READ Educational Trust on the performances of Grade 4 learners and what influence does it have on the classroom practices and professional development of educators involved in the application of such programmes? The information was gleaned from Grade 4 language educators and READ staff through a structured questionnaire and open-ended interviews.

The null hypothesis predicts no relationship between variables. It needs to be specified in null form because it is the hypothesis that is statistically tested in an effort to disprove it. It also relates to a statistical method of interpreting conclusions about population characteristics that are inferred from the variable relationships observed in samples. The null hypothesis actually asserts that observed differences or relationships merely result from chance errors inherent in the sampling process (Best and Kahn, 1993:13). If the null hypothesis is rejected, then the alternative hypothesis is accepted concluding that the magnitude of the observed variable relationship is probably too great to attribute to sampling error. For the hypotheses to be testable, the variables must be operationally defined. In a nutshell, the research hypothesis focuses the investigation on a definite target and determines what observations or measurements are to be used (Best and Kahn, 1993:11).

The same problem statement can be combined with different operational definitions of the independent and dependent variables and different research designs. In essence, this allows the researcher to replicate systematically the study of the hypothesized relationship in several ways, thus increasing confidence in the conclusion about that hypothesized relationship between intervention programmes and writing skills.

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5.4   QUANTITATIVE AND QUALITATIVE RESEARCH PARADIGMS

According to Bogdan and Biklen (1992, in Tuckman, 1994:366), qualitative research has the following five features:

- The natural setting is the data source and the researcher is the key data-collection instrument;
- It attempts to describe and only secondarily to analyze the phenomenon in the study;
- The concern is with the process, that is, with what has transpired, as much as with the product or outcome;
- Its data are analyzed inductively, as in putting together the parts of a puzzle; and
- It is essentially concerned with what things mean, that is the why as well as the what. This type of research methodology is also referred to as ethnography. Ethnography relies on observation of interactions and interviews of participants to discover patterns and their meanings (Tuckman, 1994:366). The above-mentioned patterns and meanings form the basis for generalizations, which are then tested through further observation and questioning.

The application of a qualitative research strategy is by nature the generation of a new theory whereas a quantitative strategy is to a large extent the testing of theory (McMillan & Schumacher, 1993:40). This implies that when a qualitative strategy is followed, inductive reasoning is involved in the building of statements and relationships and in the formulation of a conclusion.

Evaluation research was selected as the type that was best suited to explore the problem. A researcher could make use of a combined quantitative or and qualitative approach to arrive at a true understanding of the problem. In this case study, the researcher had to make such a choice because determining whether the language programme provided by READ had a positive impact on Grade 4 learners' writing skills is a complex process.

Data collection can be defined as the process through which the researcher obtains the data (McMillan & Schumacher, 1993:40). There are a number of different ways in which this research could have been carried out, but the questionnaire and open-ended interviews were chosen as the preferred data collection methods in this study.

Following is a discussion of quantitative research paradigms and data collection methods.

5.4.1   Quantitative Research Paradigms: Data Collection Methods

Use of the questionnaire

Questionnaires are used in connection with many modes of observation in social research. Though questionnaires are essential to and most directly associated with survey research, they are also widely used in experiments, field research and other data-collection activities (Babbie, 1998:153). Thus, the researcher decided to use the questionnaire to collect data in this investigation.

A questionnaire is a popular means of collecting all kinds of data in research but thus also runs the greatest risk of misuse (Babbie, 1998:153). It is easy to string together a large number of questions, but the trouble starts when a helter-skelter of responses which defy systematization and orderly analysis are elicited.   Probably no instrument of research has been more subject to censure than the questionnaire. Yet it continues to be the most used and most abused instrument, particularly in educational research where both graduate students and professional agencies continue to rely on it. It is, therefore, advisable to decide first why the questions are being asked, and secondly what is to be done with the responses. The first will decide the content and form of the questions and the second their utilization in the subsequent analysis.

However, the advantages of the questionnaire are obvious. It permits group administration and is adaptable to almost any objective. The basic purpose of a questionnaire is to obtain facts and opinions about a phenomenon from people who are informed on a particular issue (De Vos, 1998:153). Questionnaires also permit wide sample coverage at minimum expense of both money and effort. It does not only afford wider geographic coverage, but it also reaches persons who are difficult to contact. This greater coverage leads to greater validity in the result through promoting the selection of a larger and more representative sample. Moreover, the questionnaire allows greater uniformity in the way the questions are asked and thus ensures greater comparability between the responses. The advantages of the questionnaire outweigh its disadvantages. It is for this reason that the researcher decided to use a questionnaire in this study to gauge the perceptions of educators who are involved in the implementation of READ's language programme.

One disadvantage of the questionnaire is the possibility of misinterpretation of the questions. Another is that the validity of questionnaire data depends on the ability and willingness of the respondent to provide the information requested truthfully.

A major determinant of the success of a questionnaire study is the adequacy of construction of the questionnaire itself. Firstly, questionnaires draw accurate data from the respondents. Secondly, they provide structure to interviews. Thirdly, they provide a standard form on which facts, comments and attitudes can be written down. Lastly, questionnaires facilitate data processing. For the purpose of this study, a structured questionnaire was used to gauge the perceptions of educators who are involved in the implementation of intervention programmes offered by READ Educational Trust.

Questionnaires can be administered in different ways, such as by mail or in groups. In this study, questionnaires were hand-delivered.

Questionnaires delivered by hand

Sometimes researchers deliver questionnaires by hand so that the respondents may complete them in their own time, and then they collect them later on. The researcher decided to use this method of delivery because research findings show that the completion rate seems to be higher with hand-delivered questionnaires than with mailed questionnaires (Babbie, 1995:258). The researcher distributed questionnaires at a time convenient to the respondents (De Vos, 1998:155), and took the opportunity to clarify the questions or procedure in case respondents had any difficulties with the questionnaires. A total number of 150 questionnaires were distributed to project schools in this investigation, and a return rate of 70% was the target.

A letter was also addressed to the respondents explaining the reasons for the investigation and the purpose of the questionnaire. Anonymity of the respondents was clearly emphasized. The respondents were also provided with instructions for the return of the questionnaire, then the letter ended by thanking the respondents for their cooperation and participation.

The questionnaire satisfied part of the basic objectives in that the:

- Researcher first identified the key objectives of Learning Outcome 4 namely writing, as the focus of this investigation, then followed.
- National Curriculum Statement (NCS) and the READ curriculum during the first stage of development, and finally

A pilot study conducted

Table 5.2 Questionnaire Return Statistics

Questionnaire	Dispatched	Returned	Questionnaire with missing data	Questionnaire with completed data	%
Grade 4 language educators	150	150	1	149	99,3%

Surveys using paper-based questionnaires (PBQ) established Grade 4 language educators' demographic information, their teaching experience, their perceptions of Grade 4 learners' writing skills and their opinions about the impact of READ's language programme on Grade 4 learners' writing competencies. The data on Grade 4 language educators had to be collected as they are the key role players in the implementation of READ's language programme in Limpopo.

The researcher designed a questionnaire with 68 items, divided into four sub-sections. Each section contained items that were aimed at addressing one of the four research objectives. A 5-point Likert rating scale was used in the questionnaire, as illustrated below.

Item 1: READ's language programme impacts positively on Grade 4 learners' ability to write words

1	2	3	4	5

KEY

1 = Strongly Disagree

2 = Disagree

3 = Uncertain

4 = Agree

5 = Strongly Agree

Content validation of the questionnaire

Section A of the questionnaire deals with biographical information, Section B relates to READ's language programme in general, section C relates to the specific objectives of READ's language programme, and Section D covers general aspects such as the availability of resources and the extent to which the READ programme has impacted on teaching and learning in the primary schools. Section C of the questionnaire deals with level 2 of the conceptual framework, namely impact of READ's training programmes on Grade 4 learners' writing competencies. Items contained in section C of the questionnaire are based on aspects of writing that relate to Learning Outcome 4, namely writing as the focus of the investigation. The researcher also used items contained in section C of the questionnaire to address level 1 of the conceptual framework, namely the reaction of Grade 4 educators towards READ's training programmes.

Section C is significant to this study as it covers the objectives of the READ programme. Only items in section C were content validated in this investigation. These items are presented in Table 5.3. Furthermore, statements in the "assessment" column seek to indicate whether Grade 4 learners are able to perform written activities that are involved in Learning Outcome 4, namely writing as the focus of this investigation.

Table 5.3: Section of items contained in Section C of the questionnaire

	Statement	Assessment	Reason for asking
1.	READ's programme enables Grade 4 learners to write imaginative and creative texts for a wide range of purposes.	Grade 4 learners are capable of writing imaginative and creative texts for a wide range of purposes.	To determine whether READ's language programme enabled Grade 4 learners to write imaginative and creative texts for a wide range of purposes.
2.	READ's language programme assists Grade 4 learners to spell words correctly.	Grade 4 learners have been able to spell words correctly since the implementation of READ's language programme.	To find out whether Grade 4 learners are capable of spelling words correctly and whether the result could be attributed to the READ programme.
3.	READ's language	Grade 4 learners are	To establish whether the

	programme assists Grade 4 learners to write meaningful words.	capable of writing meaningful words.	READ programme guided Grade 4 learners how to write meaningful words.
4..	READ's language programme assists Grade 4 learners to follow sequential steps in the writing process.	Grade 4 learners are capable of following sequential steps in the wring process.	To determine whether the READ programme assists Grade 4 learners to do logical sequencing in the writing process.
5.	Since the introduction of the READ programme Grade 4 learners are encouraged to develop writing skills.	Graded 4 learners are capable of developing their writing skills.	To establish whether the READ programme encouraged Grade 4 learners to develop their writing skills.

	Statement	**Assessment**	**Reason for asking**
6.	Since the implementation of the READ programme, Grade 4 learners have been able to write meaningful paragraphs.	Grade 4 learners are capable of writing meaningful paragraphs.	To determine whether the READ language programme enabled Grade 4 learners to write meaningful paragraphs.
7.	READ's training programme guides Grade 4 learners on how to use prepositions.	Grade 4 learners are capable of using prepositions correctly in the writing process.	To find out whether the READ programme assisted Grade 4 learners on how to use prepositions in the writing process.
8.	READ's language programme assists Grade 4 learners to use adjectives correctly in the writing process.	Grade 4 learners are capable of using adjectives correctly in the writing process.	To find out whether the READ programme assisted Grade 4 learners to use adjectives correctly in the writing process.
9.	READ's training programme enables Grade 4 learners to use pronouns correctly in the writing process.	It is anticipated that Grade 4 learners are expected to use pronouns correctly in the writing process.	To establish whether the READ programme enabled Grade 4 learners to use pronouns correctly in the writing process.
10.	READ's training programme guides Grade 4 learners on how to use adverbs correctly in the writing process.	Grade 4 learners are capable of using adverbs correctly in the writing process.	To determine whether the READ programme guided Grade 4 learners on how to use adverbs in the writing process
11.	Since the implemen-tation of READ's language programme, Grade 4 learners have been able to use the correct tense when completing written	Grade 4 learners will be able to use the correct tense when completing written activities.	To establish whether the READ programme guided Grade 4 learners on how to use the correct tense in the writing process

	Statement	Assessment	Reason for asking
	activities.		
12.	READ's language programme enables Grade 4 learners to use punctuation marks correctly in sentences.	Grade 4 learners are capable of using punctuation marks correctly in sentences.	To determine whether the READ programme enabled Grade 4 learners to use punctuation marks correctly.
13.	READ's language programme enables Grade 4 learners to give opinions and express feelings in writing.	Grade 4 learners are capable of giving opinions and expressing feelings in writing.	To find out whether the READ programme enabled Grade 4 learners to give opinions and express feelings in writing.
14.	READ's language programme ensures that Grade 4 learners are capable of answering questions in writing.	Grade 4 learners are capable of answering questions in writing.	To determine whether the READ programme assisted Grade 4 learners to answer questions in writing.

	Statement	Assessment	Reason for asking
15.	READ's language programme enables Grade 4 learners to write stories.	It is anticipated that Grade 4 learners would be able to write stories after receiving support through the READ programme.	To check whether the READ programme enabled Grade 4 learners to write stories.
16.	READ's language programme contributes to Grade 4 learners' ability to recognize and correct the sequence of sentences.	Grade 4 learners are capable of recognizing and correcting the sequence of sentences	To establish whether the READ programme contributed to Grade 4 learners' ability to recognize and correct the sequence of sentences
17.	READ's language programme guides Grade 4 learners on how to respond to instructions when doing written activities.	Grade 4 learners are capable of responding to instructions when doing written exercises.	To determine whether the READ programme guided Grade 4 learners on how to respond to instructions when doing written exercises.
18.	READ's language programme improves Grade 4 learners' writing skills in general.	It is envisaged that the READ programme would improve Grade 4 learners' writing skills.	To find out whether the READ programme has improved Grade 4 learners' writing skills in general.
19.	The quality of language teaching in our school has improved a lot since the implementation of READ's language programme	It is anticipated that the READ programme would improve the quality of language teaching in the primary schools	To establish whether the READ programme has improved the quality of language teaching in primary schools
20.	READ's language programme has	It is envisaged that the READ programme	To check whether the READ programme has

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	improved the quality of language learning in our school.	would improve the quality of language learning in the project schools.	improved the quality of language learning in the project schools.
21.	The involvement of language educators in READ's training programme enhances the overall effectiveness of language teaching in our school	It is anticipated that the READ programme would assist in the enhancement of effective language teaching.	To determine whether the READ programme assisted in the enhancement of the overall effectiveness of project schools.

The responses to this questionnaire address the second research sub-question in this investigation, namely what are the perceptions of Grade 4 language educators towards language programmes offered by organizations such as READ Educational Trust on the achievement of the curriculum outcomes ?

A discussion of how the questionnaire was piloted follows.

A report on the outcomes of a pilot study

The questionnaire was piloted in this investigation. A group of 20 Grade 4 language educators participated in the pilot study. All the participants came from READ project schools, namely Dumazi Primary School and Ithuteng Primary School. Both schools are in the Mahwelereng District.

The outcomes of the pilot study indicate that:

▪ The questionnaire was user-friendly;
▪ Questions were clear and simple to answer; and
▪ The structure of the questionnaire was also easy to follow.

The following changes were made to the questionnaire after it was piloted:

▪ The column for the school number, i.e. variable two on the questionnaire, was expanded to accommodate three numbers as some schools are allocated three digit codes; and
▪ A missing scale was inserted in Question 40.

A return rate of 100% was attained in this investigation. An explanation for this could be that the sampling procedure reduced the number of questionnaires which the researcher could hand out and collect back personally.

5.5   QUANTITATIVE STRATEGIES APPLIED DURING THE INVESTIGATION

Bailey (1994:378) defines data analysis as the culmination of the long process of hypothesis formulation, instrument construction and data collection. He recognises that the goal of data analysis is to further the overall goal of understanding social phenomena. Data analysis has to do with statistical analysis through the process of description, explanation and prediction. According to Babbie (1995:396), data analysis is the process of putting questions to and getting answers from one's data. He goes on to explain that quantitative analysis may be descriptive or explanatory, and that it may involve one, two or several variables.

Data analysis can be defined as a process whereby the investigator has to choose objective data from large amounts of subjective impressions with a view to re-arranging them in particular ways, performing additional operations on them as needed, and arriving at a conclusion about the data and the events in real life to which these data refer (Babbie, 1995:396). Data analysis (in the quantitative paradigm) entails that the analyst breaks down data into constituent parts to obtain answers to research questions and to test research hypotheses (De Vos, 1998:200).

5.5.1   Analysis of Varience (ANOVA)

According to Popham and Sirotrick (1992:14), Analysis of Variance is a statistical method for testing the statistical significance of differences between the means of a given variable in two or more groups. One-way Analysis of Variance was used to analyze the achievement data. Rather than the researcher using multiple t-tests to compare all possible pairs of means in a study of two or more groups, ANOVA allows the researcher to test the differences between all groups and make more accurate probability statements than when using a series of separate t-tests (McMillan & Schumacher 2001:373).

ANOVA addresses the question; "Is there a significant difference between the population means?" If the computed F-value is greater than the critical value, then the null

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hypothesis (meaning there is no difference among the groups of Grade 4 learners) can be rejected with confidence. When using ANOVA, a probability level (also referred to as a p-value) is provided. In the social sciences, a null hypothesis would be rejected if the p-value is equal to or less than 0.05 ($p \leq 0.05$).

5.5.2 Factor Analysis

Factor analysis is a statistical technique that identifies items or statements that are measuring the same underlying factor. In conducting a factor analysis of the questionnaire responses, a principal component approach and a Varimax rotation method are used. Initially a scree-plot is used to identify the most significant factors. Items for the various factors were selected if they had Eigenvalues equal to or greater than 1. The rotation is used to improve on the interpretability of the results. Items with the highest factor loading on a given factor were identified. An item was allowed to belong to only one factor.   By studying the construct being measured by the items forming each factor, interpretable labels were derived.

A principal component factor analysis with a varimax method of rotation known as the PROFACTOR Procedure (SAS/STA User's Guide 1990:774-814), was applied to selected data sets to extract possible factors. The factor analysis was preceded by a principal components analysis (a method of extracting the initial factors), with the intention of producing principal components and common factor scores with variance equal to the corresponding eigenvalue (Kervin, 1992:507). The procedure was concluded by using a varimax method of rotation. The purpose of the varimax method was to obtain as many high positive and near zero loadings as possible (Fraser *et al.,* 1995:219).

5.5.2.1 The extraction of factors and estimation of reliability

Five techniques were applied to determine the possible number of factors accounted for in the investigation. They are the following:

- The weighting and retaining of eigenvalues to the point where an additional factor accounted for less variance than a typical variable, that is, less than 1 **eigenvalue** (Kachigan, 1991:246, SAS/STA User's Guide 1990:1242);

- The interpretation of the **scree test** in terms of the percentage of total variance (variance of a set of scores equals the square standard deviation) accounted for by each of the successful extracted factors (Cattell 1966: 245-276);

- The consideration of the total variance accounted for or "explained" by the factors (Kachigan, 1991: 1967:303);

- Child's (1970:45) suggestion that factor-variable correlations of 0,30 and higher should be taken seriously when assessing the **degree to which each of the variables correlations with each of the factors** (Anastasi; 1982: 364; Guildford 1956:466-467; Kachigan 1991:243); and

- Factor-variable correlations of 0.30 and higher were taken seriously when assessing the perceptions of educators towards the impact of READ's language programmes in respect of the five factors in this study.

5.5.2.2 The reliability estimation of the questions/items in the educators' questionnaire

The Chronbach correlation coefficient alpha formula was used to estimate the reliability of the selected sets of question (sub-tests) on which the factor analyses were based (see Anastasi, 1982:117, Ebel and Frisbie, 1991:85, and Nunnally, 1967:210). It provides a reliability estimate for sets of two or more construct indicators (Hair, Anderson, Tatham and Black, 1992:428).

5.6 QUALITATIVE RESEARCH METHOD

Qualitative research, according to Snape and Spencer in (Ritchie & Lewis, 1999:2), is defined as a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that makes the world visible. These practices turn the world into a series of representations including field notes, interviews, conversations, photographs, recordings and memos to self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This implies that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them. According to the above-mentioned, it can be concluded that in conducting qualitative research, different researchers, having researched the same issue and using the same information, can arrive at different conclusions or opinions.

Snape and Spencer (in Ritchie & Lewis, 1999:2), postulate that there is a fairly wide consensus that qualitative research is a naturalistic, interpretative approach concerned with understanding the meanings which people attach to phenomena (actions, decisions, beliefs, values etc.) within their social worlds. Bryman (1988:8), in his support of the above, notes that the way in which people who are being studied understand and interpret their social reality is one of the central motives of qualitative research. This definition by Bryman focuses on some key aspects of methodology as a defining characteristic of qualitative research (Mabala, 2006:3).

Phahlamohlaka (2003:81) states that qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. In this regard, Phahlamohlaka identifies examples of qualitative research methods such as action research, case study research and ethnography (Mabala, 2006:3).

While the above definitions of qualitative research still hold, some authors define qualitative research in terms of what it is not. For instance, Strauss and Corbin (1998:11) delineate qualitative research as any research not primarily based on counting or quantifying empirical material. They further postulate that the term "qualitative research" means any type of research that produces findings not arrived at by statistical procedures or other means of quantification.

Some data collection methods have also been identified with qualitative research, examples of which are observational methods, in-depth interviewing, group discussions, narratives, and the analysis of documentary evidence. These methods derive their results from responses by individuals or from observation of particular activities (Mabala, 2006:3).

5.6.1 Qualitative Research Designs

Babbie and Mouton (2001:279) highlight three qualitative research designs namely enthnographic studies, case studies and life histories. The authors describe ethnography as the data of cultural anthropology that is derived from the direct observation of behaviour in a particular society. Handel (1988) (in Babbie and Mouton, 2001:281) defines a case study as an intensive, in-depth investigation of a single unit. Leedy (2001:157) states that "the purpose of a case study is to understand one-person situations or perhaps a very

small number of cases in great depth." The focus is on one case or a few cases within its / their natural setting. It uses observations, interviews, written documents and / or audiovisual material as methods of data collection. The methods of data analysis used in case studies are categorization and interpretation of data in terms of common themes, and synthesis into an overall portrait of the case(s)". Plummer (1988) (in Babbie and Mouton, 2001:283) defines life history research as "the full length book account of one person's life in his or her own words" usually gathered over a number of years with gentle guidance from the social scientists, the subject either writing down episodes of life or tape-recording them.

READ Educational Trust is a case in this investigation as an intensive study has been conducted on Grade 4 educators' opinions of its language programme and the extent to which it impacted on their classroom practices and professional development. The study also seeks to assess the impact of READ Educational Trust's language programme on Grade 4 learners' writing skills.

5.6.2   **Sampling**

For the purpose of the quantitative research, a sample of 500 Grade 4 language educators was selected. The cases comprised mainly of educators who were involved in the implementation of intervention programmes offered by READ Educational Trust. This initial design of the sample had to be modified. Before distributing the questionnaires to the various project schools, the researcher discovered that unexpected expenses in the production of the questionnaires made it impossible to cover travel costs. As a result, one third of the numbering labels of the questionnaires were systematically selected, with a random start, for inclusion in the sample. Thus the sample for the study was reduced to about 150. Because the excluded educators were systematically omitted from the initial systematic sample, the remaining 150 educators could still be taken as reasonably representative of the study population. Following is a sample for the qualitative research.

The population of 80 schools that participated in the quantitative study was divided into three sub-groups according to the following categories:

- Category 1 = READ project schools in the urban areas
- Category 2 = READ project schools in the rural areas
- Category 3 = READ project schools in deep rural areas

A total number of twenty READ project schools were randomly selected as a sample for this study. A sample of eight schools was randomly selected from urban schools and a sample of nine schools was randomly selected from the rural schools. Three of the participating schools were randomly selected from deep rural schools. Schools were randomly selected from a population of 401 READ project schools. A number was assigned to each school and random numbers were generated and those schools were selected. About forty Grade 4 educators who participated in the quantitative study were involved in the qualitative research. Two Grade 4 educators per school were involved in both the quantitative and qualitative studies. The sample was representative and convenient to involve as 500 educators who participated in the quantitative study were randomly selected from a population of 401 READ project schools or a pool of 802 Grade 4 language educators. The Researcher managed to conduct 40 interviews through the assistance of two (2) research assistants.

Moreover, a sample of seven READ staff was randomly selected from a population of 44 READ coordinators. Basically, five READ trainers, two project coordinators and the training manager were included in the sample for the qualitative study. It was also imperative for the researcher to involve principal staff in the qualitative research in order to draw accurate data on the roll-out of READ's training programmes. The main idea was to link their responses to the findings of the quantitative study. It is also worth mentioning that the sample was representative and convenient for the researcher to conduct all the interviews herself.

5.6.3   Data Collection

Structured one-on-one interviews were used as the data collection method. De Vos *et al.,* (2002:298), postulate that at the root of structured interviewing is an interest in understanding the experience of other people and the meaning they make of that experience. The researcher interviewed a total of forty Grade 4 language educators in order to understand each respondent's perception of READ's training programmes and to do an implementation / application analysis. Questions were asked one after the other. The researcher involved two research assistants during the qualitative research process.

5.6.3.1   Data collection procedure(s)

To facilitate the data collection process, the researcher requested permission from the provincial department of education in writing to conduct the study at the schools. The researcher was also given permission to visit the school principals to make arrangements to interview the two respondents attached to each school. The researcher also requested written permission from the school managers.   However, all principals said that permission from the provincial Department of Education was sufficient and that the researcher was allowed to conduct research at schools. The interviews were conducted in English.

The researcher obtained verbal consent from all the participants to use the tape recorder to capture information that the researcher would otherwise forget, because the researcher ensured them anonymity.

The researcher requested the principals to organize a special classroom for that purpose to avoid any disturbances and to create an atmosphere that was conducive to making the respondents feel free to express their views. De Vos *et a*l., (2002:301) suggest that unstructured interviews can be exhausting and should not continue for more than an hour. Hence the researcher spent approximately 45 minutes with each respondent.

In the light of this, the researcher finished the interviews at each school within a day. The researcher took notes during the process as she was asking some open-ended questions.

5.6.3.2   Development of the interview schedule

The researcher developed an interview schedule for the qualitative study. The first part of the interview schedule was used to assess Grade 4 educators' ability to implement READ's training programmes as well as their general perceptions of the READ programme. The second part of the interview schedule was used to assess the business impact of the READ training programmes on organizational growth and sustainability. The researcher used the second part of the interview schedule to interview READ staff.

5.6.3.3   **Content validation of the interview schedule**

Section A of the interview schedule deals with level 3 of the conceptual framework, namely impact of READ's training programmes on Grade 4 educators' application/ implementation skills. The term "LLC" was used in the interview schedule so that Grade 4 educators could easily understand the questions. Grade 4 educators are used to the term "LLC" as READ's language programmes were implemented in schools long before OBE was introduced in South African schools. The researcher interviewed Grade 4 educators who were involved in the implementation of the READ programme and Section B addresses level 4 of the conceptual framework namely, business impact. READ's staff was interviewed to check whether the programme had any impact on READ's growth and sustainability as a service provider or not.   Content validation of section A of the interview schedule is presented first.

SECTION A: GRADE FOUR (4) EDUCATORS

Content validation of the interview schedule	Reason for asking	Sources
Question 1: Do you implement the READ programme as an alternative to your traditional language teaching practise or do you integrate the programme into traditional classroom practises?	To determine whether Grade 4 educators used the most effective methods for implementing the READ training programme or not.	Kirkpatrick, 1998:17; Glenny, 2005:14; Rae, 2004:5.
Question 2: Explain how you have been trained on the implementation of READ's training programmes	To determine whether Grade 4 educators know what language teaching skills to apply and how to do it.	Kirkpatrick, 1998: 21; Rae, 2004: 2.
Question 3: In what ways did READ's training programmes impact on your teaching practice?	To establish the extent to which change in behaviour has occurred because the participants attended READ's training programmes.	Kirkpatrick, 1998: 20.

Content validation of the interview schedule	Reason for asking	Sources
Question 4: What are some notable changes at the school that could be attributed to READ?	To measure the actual results achieved by Grade 4 educators after going through READ's training.	Brown and Seidner, 1998: 107.
Question 5: To what extent	To gauge Grade 4 educators'	Belzer, 2005:34.

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has the READ training programmes had an influence on your own professional development?	reaction to READ's training programme in terms of their professional development.	
Question 6: What according to you , is the most significant influence the READ programme has had on the writing skills of Grade 4 learners?	To gauge Grade 4 educators' perceptions of the impact of READ's training programmes on Grade 4 learners' writing competences.	Kirkpatrick, 1998:20; Kirkpatrick, 1998:1.
Question 7: What does READ do to ensure that its training programmes are effectively implemented?	To assess the general coordination of READ's training programmes.	Kirkpatrick, 1998:170; Glenny, 2005:15.
Question 8: What type of incentives did you receive as a token of appreciation for your ability to implement READ's training programme?	To check whether Grade 4 educators were being rewarded for implementing READ's training programmes as one of the conditions for level 3 of the conceptual framework (ROI Model).	Kirkpatrick, 1998:21- 22.
Question 9: What writing skills as it relates to language teaching did you have to acquire on your own that READ's training did not provide?	To determine whether READ has to improve specific areas as identified in this study.	McNeil, 1985: 227; Kirkpatrick, 1998 :17;, Rae , 2004:3.
Question 10: On which teaching and learning theories are READ's training programmes based?	To determine whether READ's training programmes are based on some teaching and learning theories or not.	READ Educational Trust, 2006:10.
Question 11: What are the challenges facing you as READ managers and trainers?	To establish whether Grade 4 educators work in the right climate as one of the conditions for level 3 of the conceptual framework.	Kirkpatrick,1998:21; Monyai and Nieman; 2006:159;, Rae, 2004:6.

SECTION B: READ STAFF

Question 1: What does READ's mission statement say about the development, implementation and maintenance of training in schools?	To determine whether READ's mission statement articulates and take into account the diversity of general and public interests and values that are related to the concept of training.	A & A Guiding principles for Evaluators, 2004: 14, Basarab and Root 1992:4.
Question 2: How effective are the READ language programmes in achieving the aims and outcomes specified by the National Curriculum Statement?	To check whether READ's language programmes are effective in achieving the aims and outcomes specified by the National Curriculum Statement.	Basarab and Root, 1992:6; Brown and Seidner 1998:97; READ Educational Trust, 2006:3; READ Educational Trust 2000:27.
Question 3: What are some tangible or measurable results in the last three years of organisational success?	To establish whether READ has achieved tangible or measurable results through its training programmes or not.	Kirkpatrick, 1998: 3; Brown and Seidner 1998:106; Rae, 2004:6-7.
Question 4: What are the differences between READ's approach to language teaching and that of the traditional school?	To establish whether there are differences between READ's approach to language teaching and that of the traditional school or not.	READ Educational Trust, 2006:3.
Question 5: Which aspects of writing do READ cover at Grade 4 level?	To establish whether READ's training programmes cover all aspects of writing at Grade 4 level or not.	READ Educational Trust, 2000:35.
Question 6: How does READ ensure effective implementation of its training programmes?	To asses the general implementation of READ's training programmes.	Glenny, 2005:15; Kirkpatrick, 1998:17.
Question 7: Which system of monitoring does READ use to sustain its training programme?	To check whether READ has a monitory system in place to sustain its training programmes.	READ Educational Trust, 2006:10.
Question 8: What are some notable examples in the last three years of organizational success in acquiring new projects?	To assess the impact of READ's training programmes on organizational growth.	Brown and Seidner, 1998:106-107; READ Educational Trust, 2006:3.
Question 9: Tell me about the success stories linked to READ's language interventions in school.	To determine whether there are susses stories that could be linked to READ's language interventions in schools.	Brown and Seidner, 1998:106-107; READ Educational Trust, 2006:10.
Question 10: On which teaching and learning theories are READ's training programmes based?	To determine the basis as well as the nature of READ's training programmes.	READ Educational Trust, 2006:10.
Question 11: What are the challenges facing you as READ managers and trainers	To establish the challenges facing READ trainers and managers.	Kirkpatrick, 1998-21; Monyai and Nieman, 2006:159; Rae, 2004:6.

5.6.4   Ethical Considerations

Neuman (1997:443) stipulates that ethics define what is or is not legitimate to do, or what moral research procedure involves.   Therefore, on the basis of this, the researcher considered all the ethical principles of research, namely voluntary participation, privacy, anonymity and confidentiality, avoiding deceiving the subjects and causing no emotional harm to the participants. To avoid emotional harm to the respondents, the researcher showed love and sympathy to some of the respondents who could not answer the questions properly during the interviews. For example, the researcher repeated some questions several times. The researcher sought permission from the respondents to make use of the tape recorder and still assured them of confidentiality and anonymity. Lastly, the researcher, consistent with the aim of the study, ensured them that the results of the study would be sent to the schools under investigation and would be discussed through the debriefing process only after the research report has been approved by the university. The driving goal was to have practical payoffs or uses of the results by the educators, educational planners and policy-makers and READ as the service provider.   The provincial Department of Education would also receive a copy of the Research Report.

5.6.5   Data Analysis

According to Charles (1995:118), the purposes of data analysis are to describe the data clearly; identify what is typical and atypical of the data, bring to light differences, relationships and other patterns existing in the data; and ultimately answer research questions or test hypotheses. Babbie (1989:278) defines data analysis as how one observes and formulates one's analytical conclusions on the basis of the data collected. A researcher interprets the collected data for the purpose of drawing conclusions that reflect on the topic or problem under investigation. The researcher's analytical procedure was done in the following manner. Firstly, the researcher organized data and read all the respondent's answers and then identified categories, that is bigger sub-themes such as Grade 4 educators' perceptions on READ's training programmes, its impact on the development of Grade 4 learners' writing competencies, and others. These categories helped the researcher to understand the respondent's perceptions of READ's training programmes, their ability to apply the acquired knowledge, and their impact on READ's business as the service provider. Lastly, the researcher quoted the interview statements when discussing the results.

5.7   TIME SCALE AND RESEARCH DESIGN

A realistic time schedule is equally important for both qualitative and quantitative research. The time frame also forms an important aspect of the research design and methodology. The existence of deadlines typically necessitates careful budgeting of time (Gay, 1992:110). A time schedule ideally includes a listing of major activities or phases of the proposed study and a corresponding expected completion time for each activity. Such a schedule in a research plan enables the researcher to assess the feasibility of conducting a study within existing time limitations. It also helps the researcher to stay on schedule during the execution of the study. It is therefore very important for the researcher not to cut the time schedule too thin when developing the research design.

In this investigation, the research was conducted from the beginning of November 2005. The time-frame for this investigation was planned as follows:

- Fieldwork was done in November 2005 and the researcher aimed to distribute questionnaires to 150 language educators who were involved in the implementation of language programmes offered by READ;
- The educators completed all questionnaires by themselves and the researcher returned to the various schools and collected them. The collection of completed questionnaires was done by the end of November 2005;
- The researcher started with data analysis during the first quarter of 2006;
- Qualitative research was conducted in June 2007; and
- The researcher started with data analysis and interpretation of results in July 2007.

5.8   SETTING

Qualitative research was done in twenty primary schools of Limpopo. Forty Grade 4 language educators who participated in the quantitative study were involved in the qualitative research. READ's training manager, two project coordinators and five trainers participated in the qualitative study. In addition, the completion of questionnaires by 150 Grade 4 language educators was done in the quantitative study.

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5.9   CONCLUSION

This fifth chapter covers important aspects of the research design and methodology such as design classification, the conceptual framework, selection of cases or sampling, methods of data collection, data analysis and time frames. This section also shows how the various aspects of the research design and methodology link to the research problems.

The next chapter deals with data analysis and the interpretation of results.